

**BARRIERS AFFECTING STUDENTS AT THE CHANCELLOR COLLEGE'S ACCESS TO
INFORMATION**

BY

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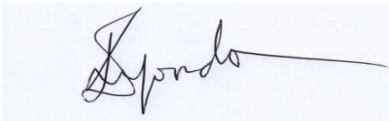
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MARCH, 2021

DECLARATION

Student Number 4321-481-9

I declare that “Barriers affecting students at the Chancellor College’s access to information” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

A handwritten signature in black ink on a light blue background. The signature is cursive and appears to read 'Dyondo'.

SIGNATURE

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ABSTRACT

The purpose of the study was to explore the barriers encountered by Malawian students registered at Chancellor College in accessing library resources at the institution. Further objectives were to establish the actions these students take to overcome the barriers they encounter and the effect these barriers have on their learning or research. Four research questions in line with the objectives of the study were formulated. Through the literature review, concepts such as information access, internal and external information barriers, as well as what is understood by user and information source related barriers were clarified. A qualitative survey design was adopted. Data was collected by means of a self-administered questionnaire. The findings showed that certain characteristics of the Chancellor College Library act as barriers limiting students' ability to access information for academic purposes. These barriers include a lack of useful resources, the presence in the collection of obsolete resources, poor stock organisation, poor connectivity, inadequate information search skills on the part of library staff, poor staff attitude, limited reading space, vandalism of information resources, theft and unavailability of appropriate resources for users with disabilities. In addition to the library related barriers, library anxiety also seems to affect students' ability to access information. Recommendations were put forward for improving services relating to information access.

Keywords: Information access, Information barriers, Information behaviour, Information needs, Information seeking, Qualitative studies.

IsiZulu

KAFUSHANE NGOCWANINGO

Inhloso yalolu cwaningo kwabe kuwukuphenya ngezithiyo abahlangabezana nazo abafundi baseMalawi abafunda ekolishi i-Chancellor College ekufinyeleleni emithonjeni yolwazi kanye nezinsiza zomtapo wolwazi kulesi sikhungo. Ezinye izinjongo zocwaningo kwabe kuwubheka nokuthola kuthi yiziphi izinyathelo nemizamo esetshenziswa yilaba bafundi ukugudlula lezi zithiyo abahlangabezana nazo kanye nomthelela walezi zithiyo ezifundweni zabo noma ocwaningweni lwabo. Kwakhiwa futhi kwahlanganiswa imibuzo emine ngokuhambisana nezinjongo zocwaningo. Ngokubuyekeza imibhalo nezincwadi eziphathelele nalokhu, kwachazwa futhi kwacaciswa imiqondo-msuka enjengokufinyelela olwazini, izithiyo zolwazi ezingaphakathi kanye nalezo ezingaphandle, ngokunjalo futhi nokuthi kusuke kukhulunywa ngani uma kuthiwa umsebenzisi kanye nezithiyo ezihlobene nomthombo wolwazi. Kwasetshenziswa idizayini yocwaningo olukhwalithethivu. Idatha yaqoqwa ngokusebenzisa amaphephamibuzo alawulwa futhi agcwaliswe ngumbambiqhaza ngokwakhe. Imiphumela yocwaningo yabonisa ukuthi kunezici-bunjalo ezithile zomtapo wolwazi we-Chancellor College eziyizithiyo eziphazamisa futhi zinciphise ukufinyelela kahle kwabafundi olwazini abazolusebenzisela ukufunda. Lezi zithiyo zibandakanya ukungabikhona kwezinsiza kanye nemithombo yolwazi ewusizo, ukuba khona kwemithombo yolwazi esiphelele yisikhathi, ukungahlelwa ngononina kwemithombo yolwazi ekhona ngaphakathi emtapweni wolwazi, ukuxhumana okungekho neze ezingeni elifanele, abasebenzi bomtapo wolwazi abanamakhono okuthungatha ulwazi angekho neze ezingeni elifanele, abasebenzi abadelelayo, indawo yokufundela encane, ukucwiywa nokucekelwa phansi kwemithombo yolwazi, ukuntshontshwa kanye nokungatholakali kwemithombo yolwazi efanelekile eqondene nabasebenzisi bomtapo wolwazi abakhubazekile. Ngaphezu kwezithiyo eziphathelele nomtapo wolwazi, ukwesaba umtapo wolwazi nakho kunomthelela ongemuhle ophazamisa abafundi bangakwazi ukufinyelela olwazini ngendlela efanele. Kunezincomo ezenziwa okuhloswe ngazo ukuphucula nokwenza ngcono izinsizakalo eziphathelele nokufinyelela olwazini.

Amagama asemqoka: Ukufinyelela olwazini, Izithiyo eziphazamisa ukufinyelela olwazini, Ukuziphatha okuphathelele nokuthola ulwazi, Izidingo zolwazi, Ukuthungatha ulwazi, Izincwaningo ezikhwalithethivu.

Afrikaans EKSERP

Die doel van die studie was om die struikelblokke te ondersoek wat Malawiese studente ervaar wat by die Kanselierskollege (Chancellor College) geregistreer is, om toegang tot die biblioteek se hulpbronne by die instelling te kry. Ander oogmerk sluit in om vas te stel wat hierdie studente doen om die struikelblokke wat hulle teëkom die hoof te bied en wat die uitwerking van hierdie struikelblokke op hulle leer of navorsing is. Vier navorsingsvrae wat met die doelwitte van hierdie studie ooreenstem, is geformuleer. Met behulp van die literatuuroorsig is begrippe soos inligtingstoegang, interne en eksterne inligtingstruikelblokke, asook wat verstaan word met gebruiker- en inligtingsbron-verwante struikelblokke, verduidelik. 'n Kwalitatiewe ondersoekontwerp is gebruik en data is deur middel van 'n selfgeadministreerde vraelys ingesamel. Die bevindinge het gewys dat sekere kenmerke van die Kanselierskollege se biblioteek as struikelblokke dien wat die studente se vermoëns beperk om inligting vir akademiese doeleindes te bekom. Hierdie struikelblokke sluit die volgende in: 'n gebrek aan bruikbare bronne, die teenwoordigheid van verouderde bronne in die versameling, die swak organisering van die voorraad, 'n gebrek aan samehangendheid, onvoldoende vaardighede om inligting op te spoor aan die kant van die biblioteek se personeel, die personeel se onbehulp same houding, beperkte leesruimtes, die beskadiging van hulpbronne, diefstal en die onbeskikbaarheid van toepaslike bronne vir gebruikers met gestremdhede. Bykomend tot die struikelblokke wat met die biblioteek in verband gebring kan word, beïnvloed biblioteekangs ook die studente se vermoëns om inligting te bekom. Aanbevelings word gemaak om die dienste wat op toegang tot inligting betrekking het, te verbeter.

Sleutelwoorde: inligtingstoegang, inligtingstruikelblokke, inligtingsgedrag, inligtingsbehoefte, inligtingopsporing, kwalitatiewe studies.

DEDICATION

This thesis is dedicated with great reverence to my mother, Bathsheba Namkonda.

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Special and profound thanks go to the University of South Africa for the provision of financial resources for the entire coverage of this study. *Nkhupalizya nu moyo ghosi. U Chala wachisa naloli.* (I am wholeheartedly thankful and appreciative. God is truly merciful).

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ABBREVIATIONS AND ACRONYMS

ALABR	American Library Association’s Bill of Rights
ERIC	Education Resources Information Centre
ICTs	Information and Communication Technologies
RFID	Radio Frequency Identification
RIN	Research Information Network
RINPRC	Research Information Network and Publishing Research Consortium
RUSA	Reference and User Services Association
UNUDHR	United Nation’s Universal Declaration of Human Rights

CHAPTER 1

GENERAL INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Access to reliable information is important for students studying at any tertiary institution. The concept “information,” covers all instances where “people interact with their environment in any such way that leaves some impression on them” (Bates 2009:2381-2391). As such, Bergeron (1996:295) and Citroen (2011:494) explain information has a life cycle that has to be harnessed and managed; it has value and a cost which should be defended and measured with the organisation and it has significance for strategic planning.

Unfortunately, the introduction of multiparty politics in Malawi in 1994 led to the proliferation of local publishing and ushered a quest for information access for both print and electronic resources. Furthermore, information and communication technology developments brought with it the Internet and digitised information, journal articles and web based information. Despite allowing for easy access to information, these developments also brought some barriers to information access. Tortora and Heslop (2014:215) contend that such barriers create gaps between what users want and what libraries provide. According to them, users are then frustrated due to the information deficiencies they encounter.

The researcher observed that most students cannot afford to buy learning and research resources. Although inter-library agreements encourage inter-library resource sharing, some libraries are reluctant to share their resources with other libraries. Ferris and Cornelius (2008:262) underscore the fact that libraries prohibit external access for fear that the home library would lend out more resources than what they borrow from external libraries. As a result, libraries are concerned that their budgets would benefit external users more than their own users (Steinberg 2010:259). In view of the existing barriers to access information, information technologies now present users with other platforms of getting access to information. The objective of this study was to explore the barriers that affect Chancellor College students’ access to the information that is relevant to their studies.

1.2 BACKGROUND

Malawi has four public universities of which the University of Malawi is one. This university and its library, known as the Chancellor College Library were established in 1964 by the University of Malawi

Provisional Act. The act was later replaced by the Malawi Act of 1974. The Chancellor College Library was opened on 6 October 1965 at Chichiri in Blantyre (University of Malawi 2015: 2).

In 1973, the College moved to the Zomba District to form the present Chancellor College (University of Malawi 2007:49-50). Its initial book stock was 8,000 books. The stock comprised mainly of gifts and books transferred from Dedza Secondary School and Junior College at Livingstonia in the Rumphi District (University of Malawi 1965: 3). Over the years the library book stock has grown to 300,000 volumes and a number of electronic journals (University of Malawi 2016: 1). The library subscribes to various online databases. Through the Programme for the Enhancement of Research Information (PERI) the library provides access to scientific and scholarly information through electronic means. This includes over 10, 700 full text online journals, current awareness database and document delivery of major scientific, technical, medical, social science and humanities materials from a wide range of sources. Some of the databases the library subscribes to include Africa Journal Online, Agora, American Institute of Physics, Cambridge Journals, ELDIS, Eric, Open Access Journal Repository, Oxford Reference Online, World Bank, Sage Journals Chancellor College Library Resources n.d). The library has WiFi which provides users with the opportunity to connect to the internet. With these resources, the library endeavours to achieve its core objective which is to support the academic courses that are offered through the provision of information for learning, teaching, research and consultancy.

The Chancellor College has 285 academic and administrative staff and an enrolment of over 4,500 students. Some students reside on campus while others live off campus. The Chancellor College Library now serves students from 25 departments, which fall under the following faculties: the Faculty of Education, Faculty of Science, Faculty of Law and the Faculty of Humanities (University of Malawi 2007:16). Postgraduate students in all the faculties require adequate print and electronic information for their intensive research (University of Malawi 2007: 214-215). Therefore, the library supports courses offered at both undergraduate and postgraduate levels for both residential and non-residential students.

The library serves users with different needs. This is because the Chancellor College is a national and an international university. It is co-educational with students selected from all three regions of the country based on a quota system. Also, students with varied physical disabilities are pursuing courses at both undergraduate and postgraduate levels. In addition, it offers various parallel courses for generic and mature students (University of Malawi 2007:13). Registered persons and institutions from the surrounding community also use the library.

The Chancellor College Library censored resources deemed politically seditious for 25 years and this was in compliance with the Malawi Censorship Act (1968:8-9). The purpose of the Censorship Act was “to regulate and control the making and exhibition of cinematographic pictures, the importation, production, dissemination and possession of undesirable publications, pictures...” This act was repealed by parliament in 1993.

In the 2015 Budget Statement, the Malawian government allocated an amount of K2.4 billion (Malawi kwacha) to the four public universities for infrastructure development (Gondwe 2015: 26).

When compared to the 2015 budget of the University of Zambia (9.4 billion 20.2%) (Chikwanda 2015:32) and Zimbabwe (US\$4.8) (Chinamasa 2015:43), Malawian universities and their libraries are under funded. Ghaul and Penn (2008: 305) believed that limited funding has an adverse effect on the proper running of libraries which are seen as peripheral entities. Egbert and Malcolm (2009: 204) are of the view that limited funding incapacitates libraries to acquire appropriate learning and research resources. These resources include current books and information and communication technology infrastructure.

Barriers to accessing information are against the tenets of information retrieval. The tenets prescribe that accurate information should be accessible in good time and in the desired format (Vorster & Quinn 2011: 215). Libraries in Malawi ought to be part of the global network or village in the free provision of information to its users. According to Pavv and Schudmit (2011: 121), barriers to information access impede freedom of access to information which is retrogressive for independent education and lifelong learning.

Students are overwhelmed with challenging academic courses that require information. The removal of barriers will therefore remove gaps, save users’ time and enable them to successfully complete their academic tasks. If access to information remains difficult, users will experience problems in completing their assignments and hinder the library from achieving its core objective of providing and disseminating information.

On the premise of the foregoing, the following aspects emerge:

- Considering the limited funding the Chancellor library receives, different types of barriers could exist. These include: limited funding to buy books and journals, to provide the necessary information technology (IT) infrastructure to support students, to acquire suitable furniture to store resources and to accommodate students and to motivate staff through training.

- The library has a critical function in student's academic work and it is important that information should be smoothly accessed. However, due to factors bordering on limited funding and organisational barriers the library finds it difficult to achieve this goal.
- The library stocks a variety of books, printed and electronic journals but these appear to be less accessible. The reason is that although the library has 300,000 volumes of books, a large number of books are obsolete and the library cannot afford to buy new and additional resources. Furthermore, the library lacks printing facilities and experiences erratic power supply. These infrastructural shortcomings contribute to poor accessibility of resources. In essence, students that reside off campus are more disadvantaged when it comes to the use of library resources than students who reside on campus.

The library serves a variety of users who pursue different disciplines of study and therefore have different information needs in terms of discipline, depth and currency of information. First year students need concise information for limited periods while post graduate students need complex information for extended periods. Also some students need current information whereas other students need historical information for extended periods of study and some students need both current and historical information.

1.3 STATEMENT OF THE PROBLEM

In consideration of the background discussion, the students using the Chancellor College Library experience some barriers to access information. The problem statement can, therefore, be formulated as follows: An investigation into the barriers to information access at the Chancellor College Library, Malawi.

1.3.1 Research question

From the background discussion it seems as if students who use the Chancellor College Library experience some barriers prohibiting them from accessing information. These barriers could frustrate the students and could have an effect on their academic work. These barriers also hinder the library from achieving its goal of disseminating vital information.

Therefore, the main research question is: What are the barriers affecting students using the Chancellor College Library to access information?

1.3.2 Research objectives

The objective of this study is to explore the barriers to information access at Chancellor College library.

The research will be guided by the following specific objectives:

- To identify the types of information barriers encountered by students.
- To establish actions students take to overcome the barriers they encounter during information access.
- To establish information areas or resources where students encounter most barriers.
- To establish the effect information barriers have on students' learning or research.

1.3.3 Sub problems

In order to explore the core question and achieve the identified objectives, it will be necessary to address the following sub questions:

1. What types of information barriers are encountered by students?
2. In what information areas or resources do students encounter most barriers?
3. What actions do students take to overcome the barriers they encounter?
4. What is the effect access to information barriers have on students' academic work?

1.4 LITERATURE REVIEW

The purpose of the literature view is to acquire an understanding of the concept 'barriers to information' and how these barriers affect the students' access to the information they require for learning purposes. For this purpose a literature search was conducted in the National Library Service catalogue. Secondly, databases such as ERIC, Nexus and Pro-Quest were also searched. The World-Wide-Web too was searched by using Google Scholar. The University of Malawi Union Database was also searched. Keywords used in the literature search included information barriers, information obstacles, information constraints, information impediments and information limits.

1.5 SIGNIFICANCE OF THE STUDY

An in-depth understanding of the barriers that affect users' access to information will support university library administrators in Malawi to identify and overcome the barriers to information access. In so doing, the study will enable Malawian university libraries to join the global networks of the developed world and become part of the information age. It will offer practical solution to the information access constraints in academic libraries and increase the use of the information resources to promote learning, research and teaching.

This study may also act to influence librarians' current thinking about barriers to information access in the libraries and change the way they have been offering services to users. As such, this study will contribute to the body of knowledge pertaining to the information barriers students enrolled at the Chancellor College experience. Also, it could benefit library administrators and researchers to improve the services.

The study also provides a platform for students to state their views and ideas on areas that are important for their studies.

Lastly, the study identifies recommendations and areas requiring further research.

1.6 RESEARCH METHODOLOGY

Since information behaviour studies tend to be qualitative studies, this study followed a qualitative research approach. Qualitative research is defined by Braun and Clarke (2013:335) as “a method of qualitative data collection consisting of a series of open-ended questions that participants write for analysis”. A sample of twenty two (22) respondents was drawn from the target population consisting 2,278 undergraduate and postgraduate students. A questionnaire was administered to 22 respondents.

1.6.1 Ethical considerations

Ethics is defined by Cardwell, Clark and Meldrum (2010:215) as “fundamental principles that respect the rights and feelings of those taking part in research”. As Schutt (2012:68-80) explains, ethics are critical to developing moral standards that can be used in situations where there could be actual harm or potential harm to the respondents. However, what might be regarded as moral and ethical in one society may be regarded as immoral and unethical in another society in similar contexts. According to Creswell

(2013:174-175) and Gray (2014:73-79), ethical issues in research fall into the following categories: right to privacy, protection from harm, anonymity, honesty, voluntary participation, informed consent and clearance.

In observance of ethical issues, the researcher received ethical clearance from the University of South Africa. He also received consent from the respondents and assured them that he would respect their privacy, their right to consent and protection from disclosure of information. Also, the researcher ensured that he adhered to the Unisa Policy on Ethics (2007). In addition, the researcher ensured accuracy in data collection and processing, the use of appropriate research methodology, interpretation of data and accurate reporting as suggested by David and Sutton (2011:43-48) and Kumar (2014:284-290).

1.6.2 Delimitation of the study

The study focused on the students enrolled at the Chancellor College to explore the barriers to information that shape their information seeking behaviour. The study did not comprehensively address all factors that have the potential to influence students' information needs and seeking behaviour. In addition, only students visiting the library were requested to respond and students who access the library from home were not included in the study. Furthermore, the study was restricted to students enrolled at the Chancellor College and did not address the barriers to information students enrolled at the other public universities in Malawi encounter. Also, librarians were not included in the study as the objective of the study was to explore the barriers to information access students encounter and their experiences of dealing with such barriers.

1.7 DEFINITION OF TERMS

The definitions of terms are not only subjective to the understanding and perspective of this study but also to other fields because the study of barriers to information access takes a multi-disciplinary dimension.

1.7.1 Access to information

Buckland (1991) defines access to information as “the means to enable an inquirer to learn from, to become informed by a source pertinent to an inquiry, to accede to the evidence that result in acquiring the knowledge desired” Article 19 of the United Nation’s Universal Declaration of Human Rights (1948) recognises the importance of access to information to help citizens’ access education and build their capacity, among other importance.

1.7.2 Cognitive access to information

Jaeger and Bowman (2005: 68) define cognitive access to information as the equal opportunity to understand the cognitive contents and ways to follow to obtain the information contained in documents of different formats. When applied to the information needs and seeking behaviour of students, cognitive access to information is reflected in the students' ability to use the information they had sought in order to successfully complete an academic task.

1.7.3 Economic barriers

According to Peiris and Morgan (2010:228), economic barriers are conditions and setbacks arising from limited financial resources on the acquisition, management, and access and sharing of information. According to the interpretation of the American Library Association's Bill of Rights (2019), just as economic issues may create challenges on the library's ability to meet its mission; economic barriers may also threaten user's access to information of their choices. Economic barriers have cross-cutting effects inter alia on acquisitions of reading resources, infrastructure development, furniture, information communication technology and on human resource development.

1.7.4 Information and communication technology barriers

Information and communications technology (ICT) barriers impede ease of access to information. The barriers inhibit the enormous benefits of enhancing efficient access and better services in an information environment (Kihishu & Hwao Ho 2008:243).

1.7.5 Information barriers

Crackson (2010:139) defines information barriers as "conditions, rules and policies, or attitudes that prevent, delay, make difficult or hinder access to information presented in different formats". Engelbert (1974:13-25) and Nelson (2010:67) describe information barriers as "manifestations of the objective reality that obstruct, impede or prevent the flow of information from the system to information users". These barriers affect information users to accomplish their tasks.

1.7.6 Information-seeking behaviour

Wilson (2000:49) defines 'information-seeking behaviour' as "the purposive seeking for information as a consequence of a need to satisfy some goal." Information-seeking therefore becomes active only when users realise that they need information to address a specific problem and they then proceed to seek

information. Students are registered for difference courses at the Chancellor College and experience a need for different types of information.

1.7.7 Information literacy

The Chartered Institute of Library and Information Professionals (CILIP) (2018) defines information literacy as “the ability to think critically and make balanced judgements about any information we or [individuals] find and use”. Information literacy empowers individuals to develop informed views and to engage fully with society. Therefore, information literate students should be able to search, locate and select suitable information from a huge collection of resources which would support them in completing their academic tasks and make them independent and life-long learners.

1.7.8 Infrastructural barriers

According to Reitz (2010:1), infrastructural barriers encompass barriers on all the components that support a particular activity especially the permanent systems and structures that constitute its foundation. These may include furniture, unfriendly or inaccessible buildings and information resources.

1.7.9 Institutional barriers

Savolainen (2016:55) defines institutional barriers as those barriers that are commonly applied to customs and behaviour patterns important to a society, as well as to particular formal and established organisations of the government and public services. In essence, institutional barriers that prohibit access to information include rules and regulations, governance policies and collection development policies that do not take care of the information needs of all users.

1.7.10 Library anxiety

Jiano, Onwuegbuzie and Lichtenstein (1996:151-152) define “library anxiety” as “an uncomfortable feeling experienced in a library setting which has cognitive, affective, psychological and behavioural ramifications”. It is characterised by “ruminations, feelings of tension, fear, uncertainty and helplessness, negative thoughts and mental disorganisation all of which are debilitating to ones information literacy.” Its manifestations include withdrawal or avoidance of accessing information even when the information needs have not been met.

1.7.11 Library services

Novaran and Gaath (2009:9) define library services as those services aimed at the provision of integrated services enabling academic institutions to enhance and achieve the quality of instruction, learning and research. Library services include advisory services, support services and reference and enquiry services (Brophy 2000). In academic libraries such as Chancellor College Library such services are offered to support the academic courses through learning and research.

1.8 STRUCTURE OF THE DISSERTATION

The chapters are organised as follows:

CHAPTER 1: Introduction to the study

This chapter introduces the study and provides some background information on the context in which the study was conducted. The chapter also includes the problem statement; the objectives of the study, the significance of the study and the plan for organising the whole report are outlined. It also defines key concepts used in this study.

CHAPTER 2: Barriers to information access

This chapter conceptualises barriers to information access and considers how barriers to information affects students' information needs and seeking behaviour.

CHAPTER 3: Research methodology

This chapter presents the research method followed in the execution of the empirical study. An account of practical procedures undertaken before embarking on the field study and during the empirical study is presented.

CHAPTER 4: Barriers to students' information access

Here empirical data is analysed and interpreted with a focus on barriers that affect information access.

CHAPTER 5: Summary, conclusion and recommendations

In this chapter important points are summarised and a conclusion is drawn based on the research findings. Recommendations and areas requiring further research are indicated.

CHAPTER 2

BARRIERS TO INFORMATION ACCESS

2.1 INTRODUCTION

Information is a strategic resource for learning, teaching, research and development. Shinnick (2009) posits that information is panacea to solving problems and to achieving goals in all human contexts. The development of information technology has led to the exponential growth of available information in different formats. This has had a huge negative effect on users' information needs and the access they have to information that is relevant to their information needs (Farhadi 2012:6). Academic libraries serving a multidisciplinary student body strive to provide quick and easy access to information. Therefore, knowledge about their users' needs, the manner in which they seek and access information helps librarians to organise their services in such a manner that they best meet their users' needs (Anwar 2007; Bhatti, Mahood & Khan 2014: 2-3).

The purpose of this chapter is to discuss access to information and the barriers student users encounter when they search for information. The barriers they encounter can be internal (i.e. personal) or external barriers.

2.2 BACKGROUND

The academic environment is multifaceted and influences students' behaviour, which in turn affects their accomplishments, contentment and successes (Palmgren & Chandratilake 2011:151). As such, free access to information will support students in developing their critical information analysis skills, comprehension and understanding of information, information evaluation skills as well as decision making to ensure balanced learning (White & Wiseman 2012:211). Therefore, understanding the barriers to students' access to information is a big step towards improving their ability to access relevant information that would support their learning, research and innovation.

2.3 INFORMATION ACCESS

Information access is defined by Jaeger and Burnett (2005:465) as "the presence of a robust system through which information is made available to citizens and others." The Reference and User Services Association's (RUSA) Access to Information Committee (1999) defines information access as "the ability to obtain the resources necessary to satisfy an information need." According to Whiteley's (1994) definition, "information access" is not only "the ability to obtain information" but also is the ability to

“use the information obtained.” From the foregoing definitions, one discerns that Jaeger and Burnett’s (2005) definition has a systems approach whereas the RUSA (1999) and Whiteley (1994) definitions address information access from the user’s point of view. Considering these three definitions, information access can be defined as “the ability to obtain and effectively use information that was retrieved from information infrastructures, user friendly bibliographic systems, communication technologies and other information systems”.

Burnett, Jaeger and Thompson (2011:6) observe that access to information is facilitated by physical, cognitive and social aspects. These three forms of information access will now be explained.

2.3.1 Cognitive access

Cognition is defined by Cambridge Cognition (2015) as “the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.” Therefore, cognitive access could mean the ability to perceive and react, process and understand, store and retrieve information, make decisions and produce appropriate responses. According to Cambridge Cognition (2015), cognitive functioning is critical for day-to-day life, governing students’ thoughts and their actions in accessing information. In turn, Jaeger and Bowman (2005: 68) define cognitive access to information as an “equal opportunity to understand the cognitive contents and ways to follow to obtain the information contained in documents of different formats”. Pitts and Stripling (1990:245-246) posit that intellectual access to the documents containing information takes place only if individuals have the required information to engage in critical and objective thinking.

Cognitive access depends on users’ ability to understand the information they had identified and obtained. Cognitive access, therefore, requires the cognitive ability to understand the source (Jaeger & Bowman 2005). The issues of cognitive access involve an understanding of how the information contained in various formats is presented to the people seeking it and the impact such presentation has on the information seeking process (Pitts & Stripling 1990:249). This explanation offered by Pitts and Stripling (1990) is similar to Burnett, Jaeger and Thomson’s (2008) explanation. According to them, users’ information seeking behaviour is influenced by their cognitive ability, language, education and technical literacy. Each of the cognitive factors identified by Burnett et al. (2008) has the potential to influence whether an information user can access the information presented in a source. Also, cognitive access requires users to be able to read and understand the language and dialect in which the source is presented and the knowledge of the specific vocabulary (Jaeger & Bowman 2005:70).

Jaeger and Bowman (2005: 69) believe that intellectual access to information includes how information is categorised, organised, displayed and presented. They further posit that an understanding of intellectual access can support libraries in ensuring that there is a smooth interface between the users and the available information in the library.

2.3.2 Physical access

Physical access to information is defined by Svenonius (2000:122), Pitts and Stripling (1990) as “the process of getting to the desired documents”. Burnett, Jaeger and Thompson (2008:57) posit that physical access includes the physical structures that contain information, the electronic systems that contain information and the channels that are followed to obtain the information. Burnett et al. (2008:57) opine that issues of physical access relate to the location and format of documents, technologies or abilities required for retrieving the documents. They further believe that physical access to information is an institutional issue because it depends on the effectiveness of an institution’s structures that are in place. Institutional structures can be physical, electronic or virtual structures. Accessible structures or locations ensure that users easily retrieve information resources in a format they prefer and that are available for use. Burnett et al. (2008) and Savolainen (2016:55) indicate that geographical issues such as distance and institutional issues such as inaccessible storage facilities, incompatible and not user-friendly computers and restrictive policies, a lack of funds and disability affect information access.

According to Pitts and Stripling (1990:464-465), physical access depends on knowing that the information is stored, retrievable and usable. As such, users have to know that the information exists, where it could be found and how to use the institutional structures to access it (Svenonius 2000:124). These views corroborate with Culnan’s (1985) and McCreadie and Rice’s (1999:51) views. According to them, the mere presence of accessible institutional structures such as storage facilities, bibliographical tools and computers are not enough to realise full access. Culnan (1985) and LeComte (2009) argues that full access is only possible if individuals have the ability to locate the information they require and have the skill to synthesise and utilise the information to accomplish their defined goals.

2.3.3 Social cultural access

Burnett and Chatman (2001) used the “theory of normative behaviour” to analyse and discuss the social aspects affecting information access. According to them, the theory of “normative behaviour” posits that information behaviour is rooted within the norms and attitudes of a particular social world and these may

include constrained environments and information rich environments such as the virtual world (Burnett, Besant & Chatman 2001:537).

The elements in particular social worlds that inhibit information access that were identified by Chatman (1999:207-208), Hepworth (2007) and Savolainen (2015) include:

- The formal and informal information context boundaries. The boundaries that exist in the information contexts create some form of control in connection with the flow and use of information. This includes the interaction between the context and the outside world (Chatman 2001:207-208; Savolainen 2015).
- The existence of a diversity of contexts that include socio-economic conditions, communities and their organisations with their structures and cultures, work roles and tasks (Talja, Kesob & Pietilainen 1999).
- Hepworth (2007) mentions power structures, hierarchy and social-cultural forces. The forces are practiced by individuals and act as contextual elements influencing or affecting access to information.
- According to Burnett, Besant and Chatman (2001), full access to information is achieved when users use all three components of information access, namely intellectual access, physical access and socio-cultural access. Burnett et al. (2001) further note that the different forms of information access are equal, that they complement each other and that the interaction between physical, intellectual and social-cultural access to information shapes the nature of the information that is accessed at both an individual and at a group level.

Intellectual, physical and social information access is dependent on the prevailing factors that range from accessibility, users' competencies, users' context, information resources and organisational or institutional behaviour.

2.3.4 Users' information context

Context, as described by McCreadie and Rice (1999:58), refers to "the larger picture in which the user operates, the larger picture in which the information system is developed and in which the potential information exists". Hepworth (2007) states that users' contexts constitute circumstances (situations), cultural environments, organisations, tasks, systems and technologies. According to Meyer (2009), the contexts include social, physical, personal and occupational contexts (subject discipline, work context and task performance). It is the user's interaction with the elements in these contexts that give rise to

information needs and then, drives them to access information to satisfy their contextual information needs (Hepworth 2009).

Chatman (1999) and Savolainen (2016:15-16) believe that the contexts in which users seek information can be formal or informal and could exist temporarily. Some of the elements within context will be discussed in more detail in section 2.6.

2.3.5 Information access barriers

The South African Concise Oxford Dictionary (2002:90) defines “barrier” as “a fence or material obstruction of any kind erected to bar the advance of persons or things or to prevent access to a place”. In Communication Science, Gaziano (1997) noted that barriers have an internal or external origin. In the information seeking behaviour literature, Savolainen (2016:52) also observed that barriers could be internal or external. According to him, internal barriers arise from inside an individual. He divides internal barriers into cognitive and affective barriers. In contrast to internal barriers, external barriers originate from outside individuals and are imposed on them (Savolainen 2016:52). Based on Gaziano’s (1997) and Savolainen’s (2016) observations, this discussion is approached by first looking at which internal barriers prevent access to information. Thereafter, the external barriers and social barriers receive attention. This is followed by a discussion on barriers that are connected with users and information sources.

2.4 INTERNAL BARRIERS PROHIBITING INFORMATION ACCESS

The internal barriers to information access derive from three mental structures of the user. These are the users’ cognitive, affective and conative (or sensorimotor) structures (Du Preez & Meyer 2016). Gaziano (1997:245) believes that internal barriers are cognitive (intellectual) and social and that they have to do with the individual’s personality, motivation, interest and involvement with others.

2.4.1 Cognitive barriers

Cognitive barriers are described by Savolainen (2015:614) as “barriers in information access that deal with attention, memory, and activities such as producing and understanding language, reasoning, analysing, concluding, planning, evaluating, problem solving and decision making”. Cognitive barriers encompass personal knowledge, subject knowledge, task knowledge, learning styles, unawareness of relevant information sources and poor search skills (Brennan, Kelly & Arguello 2014; Savolainen 2015:614; Savolainen 2016:52-53).

In his description of cognitive barriers to information, Savolainen (2015:616-618) identified certain cognitive information barriers. He aligned the barriers he identified to three major stages in the information seeking process, namely: the identification and articulation of information needs, the identification and selection of potential sources of information and the accessing of information sources. The cognitive barriers he identified that are related to the identification and articulation of information needs are:

2.4.1.1 Unwillingness to see one's needs as information needs

Information needs are understood as individuals' desire to locate and obtain information to satisfy a conscious or unconscious need (Steinberg 2010:264). According to Batley (2007), conscious needs are when the user becomes aware of the need for information while an unconscious need is the actual, but unexpressed need. However, users are sometimes unwilling to acknowledge their information needs. According to Savolainen (2015:616), such users then suppress their need to seek for complementary information. Savolainen (2015:616) explains this barrier in terms of the assumptions of a cognitive dissonance theory. Cognitive dissonance is the psychological discomfort of simultaneously holding two beliefs about oneself (Breedlove 2015:651). As Savolainen (2015:616) explains, people tend to avoid or reject information that contradicts their beliefs or information that may cause them discomfort. Consequently, this creates a cognitive barrier because people are demotivated to access suitable information to solve their problems. Savolainen (2015:616) further states that an unwillingness to see one's needs as information needs can stem from the understanding that the information is unworthy or too complex to satisfy an individual's needs. He further says that unwillingness to approach one's needs as information needs also derives from the understanding that the costs of accessing information are higher than the accrued benefits arising from the information.

2.4.1.2 An inability to articulate information needs

Information users' inability to articulate their information needs to the information professional assisting them creates a cognitive barrier (Mumo 2007; Savolainen 2015:616-617). This is because their inability to articulate their information needs impedes information professionals from guiding them to the information systems where they might find the information they require (Mumo 2007; Savolainen 2015). According to Batley (2007:19-20), this happens because of a breakdown in the communication process between the user and the information system and the system is then unable to provide the required information.

In order for users to successfully interact with the information system, individuals must be aware of their knowledge gaps, be aware of the information system's ability to assist them in filling their knowledge gap and then be able to effectively communicate what information is needed (Batley 2007: 20).

Secondly, the inability for users to articulate their information needs can appear while trying to search for information from the information system. The main feature of this cognitive barrier is where the users' knowledge of the topic is insufficient resulting in their inability to specify the information they need to resolve their problem and improper use of search terms (Savolainen 2015:616). Savolainen (2015:616) further states that the poor design of technological systems can also make it difficult for users to articulate their information needs. According to Savolainen (2015:616-617), poorly designed information systems present difficulties for users to access the right information in time. This is so because users encounter difficulties to search, locate and retrieve information that is appropriate to their needs and this becomes a barrier to information access.

Batley (2007:21) notes that when users' knowledge and understanding are dynamic, their information needs are also dynamic. She observes that as users start finding information and understand their problem better, they are better able to articulate and clarify their information needs. Savolainen (2015) supports this view when he explains that users are most likely to express their need for information in the form of questions that relate to their existing knowledge in the early stages of an information search. He further explains that users are only able to express their needs in more specific terms once they are able to identify specific gaps in their knowledge.

2.4.1.3 Unaware of relevant information resources

The term "unaware" means a person is not knowing or realising that something is happening or that something exists (Oxford Advanced Learner's Dictionary 2010:1616). Information unawareness is defined as "unconsciousness that results from a lack of knowledge or information about the availability of information medium" (Parker & Steinbeck 2012:23-26). In the context of this study, information unawareness can be defined as the extent to which information users do not know of the existence of (or are not familiar with) information resources in various formats. The concept "information awareness" also includes an awareness and knowledge of the access skills and techniques that are required that would support them in satisfying their information needs and in making decisions.

Library resources are no longer restricted to physical formats such as printed books and journals. As Okezie (2016) explains, libraries and information centres have transformed into digital and virtual

libraries where books, journals and magazines have changed into e-books, e-journals and e-magazines. So, libraries have embraced the use of information and communication technologies (ICTs) to provide a good service with regards to the multifaceted information resources libraries stock (Okezie 2016). Furthermore, Okezie (2016) asserts that electronic resources do not replace printed resources but facilitates the smooth access to various types of library resources. Therefore, a lack of awareness of these information resources and the information and communication technologies (ICTs) that facilitate their access and their usage prohibits, limits or delays information access (Atanda & Ugwulebo 2017; Lilley 2010:82). This then becomes a barrier to information access.

2.4.1.4 Information skills

Information skills are defined by Behrens Olën and Machet (1999:312) as “the abilities which enable a person to use information effectively; these abilities include finding information, analysing and evaluating it, and applying it to solve a problem.” Information skills are transferable to any context requiring the use of information. According to the Association of College and Research Libraries (2000), Behrens et al. (1999:24-25) and Cahoy (2002:15-16), information literate users need to be capable of recognising or determining when they need information and how to use it effectively to achieve their specific goals.

Information users need to master key information literacy skills such as information search skills to conduct successful information searches in information systems (Porter 2011:267-285). According to Shenton (2007:280-283), poor information search skills act as cognitive barriers to information access because users’ inadequate information literacy skills hindered their understanding of bibliographic tools. Poor search skills manifest when individuals do not know how to conduct a search in an information system (Swigon 2011). Borovik and Shemberko (2016) believe that a lack of knowledge among users about the search techniques and insufficient knowledge of the key principles of queries and search strategies formulation affects negatively on information users.

The knowledge users require to effectively search for information include computer literacy, the ability to choose suitable search terms, ability to formulate search statements, the ability to analyse results, selection of suitable sources, synthesis and use of information (Savolainen 2015). Behrens et al. (1999:312) refer to the competencies identified by Savolainen (2015:618) as information literacy skills.

According to them, information skills are “the abilities which enable a person to use information effectively; these abilities include finding information, analysing and evaluating it, and applying it to solve a problem.”

In addition, poor search skills may also prevent individuals from starting an information search and this leads to a premature closure of an information search process (Savolainen 2015; Warwick 2009). Nonetheless, individuals’ learning styles and personality can influence their search strategy formulation; their selection of information sources as well as their decisions on whether or not to proceed with the information search (Limberg 1999). Therefore, users’ lack of proper information skills creates barriers to information access. The discussion in section 2.6.4 will reflect on how the lack of information literacy training as a library service creates a barrier to information.

2.4.1.5 Prior knowledge

Users’ prior knowledge of the subject may influence them to access information to confirm or to add on what they already know about the subject (Chapman & Heston 2010:127). However, Chapman and Heston (2010) are quick to point out that users’ prior knowledge may also discourage them from seeking information if they do not believe in continuous learning and this therefore acts as barrier to information access.

2.4.1.6 Information overload

Information overload can be defined as “a condition in which information inflow exceeds an individual’s processing capacity” (Robbins & Judge 2017:404). According to Mansourian and Ford (2007:680-681), information overload appears in two forms. These are:

- Outcome overload: This is when the individual’s mental capacity is unable to process large chunks of information in order to determine which information is relevant to the task. Outcome overload occurs when individuals are unable to formulate search limits thereby capturing massive information.
- Textual overload. This overload manifests when individuals are unable to read the information they have identified as being relevant to their tasks.

The two forms of information overload occur simultaneously and information users experiencing information overload have multiple cognitive impediments (Mansourian & Ford 2007:680-681). Outcome

overload and textual overload hinder the selection of information, compel users to ignore information searching and compromise information searching, retrieval and use (Savolainen 2015).

As Weinstein and Mayer (1986) and Breedlove (2015:308-311) posit learning is about linking new information to the existing knowledge in long term memory in order to make new information useful. According to the learning theory, the human cognitive process includes three aspects namely: attention, storage and retrieval. Chun-Yin Chen (2003) states that information overload occurs in the attention, storage and retrieval processes of human cognition and it has the following effects on learning:

- When information overload occurs in the attention process, students are prevented from assimilating and internalising new information and as a consequence, they lose it.
- When information overload occurs in the storage process, students are prevented from transferring information from working memory into long-term memory. As a result, students are unable to remember the information.
- When information overload occurs in the retrieval process, students cannot recall prior knowledge to working memory thereby preventing them from connecting new information to prior knowledge.

In essence, information overload takes place in the attention process, storage process and retrieval process of the human cognitive processes. As discussed, information overload prevents students from synthesising and internalising information as well as constructing vital knowledge for their academic learning.

2.4.2 Conative phenomena

Conative phenomena are defined as “the motivation and skill to oppose self-criticism and self doubt that are acted by uncertainty and temporary failure (Bandura 1997:734). According to Meyer (2016), an important attribute of conative phenomena is its ability to set the information users’ action in motion. These include recognising information needs, making decisions and planning. Meyer (2016) further states that the conative phenomena are activated at a stage when individuals realise that there are gaps in their state of knowledge. Furthermore, Meyer (2016) noted that when users experience a knowledge gap, they are motivated to either seek the information they need to fill the existing knowledge gap or to confirm their existing knowledge. She further believes that attributes such as norms, values and preferences are crucial when individuals decide on the value or relevance of the

information. Consequently, this influences users' decisions to accept, avoid or reject the information.

Another important conative phenomenon is low self-efficacy.

In the psychology literature, Breedlove (2015:631-632) defines self-efficacy as "the beliefs of people that they are capable of doing something effectively and competently". However, whereas high self-efficacy is advantageous to information access, low self-efficacy acts as a barrier to information access. Savolainen (2015:617-618) explains this when he states that individuals may have the cognitive ability to identify information resources but the process of accessing the resources could be hindered by low self-efficacy. According to him, a cognitive barrier emerges when individuals are convinced that the information resources for their defined needs are difficult to find in the information system. This is so because of the user's inability to carry out successful searches and the belief that the problem to search for information is challenging. Furthermore, he believes that low self-efficacy is a result of individuals' negative attitudes that restricts them to interface with information sources.

2.4.3 Affective phenomena

An affective phenomenon is defined by Hayes (1995:993) as "the aspect of an attitude which is concerned with feelings and emotions which are directed towards the attitude's target". Emotion then refers to brief episodes of behavioural changes that facilitate a response to an external or internal event of significance for the organism (Savolainen 2016). As observed by Savolainen (2016), negative emotions tend to act as information access barriers. He further explains that the explanatory power of emotions in behaviour formation is difficult to define due to their fluid nature. The strongest emotional encounters occur in individuals when the three components of emotion, namely, physical arousal, conscious awareness and outward expression occur at once (Savolainen 2016).

Lambert, Loiselle and Macdonald (2009), state that emotions can have either a positive effect or a negative effect on information users. Savolainen (2016) suggests that emotions can motivate users by triggering them into action by consulting or avoiding information resources. He further indicates that positive emotions are associated with starting and expanding information seeking but could also limit information seeking or prompt users to stop an information search. Furthermore, he noted that emotions such as anxiety could motivate users to identify a need and to initiate a search for information. Some of the affective barriers that stem from negative emotions include fear, uncertainty and library anxiety. These barriers are discussed below.

2.4.3.1 Fear

Fear is defined as “an unpleasant emotion caused by the belief that someone or something is dangerous or likely to cause pain or a threat” (The New English Oxford Dictionary 2001:670). Fear affects information behaviour in that it inhibits the trigger to seek information (Nahl 2007). The reason Chea (2011) and Nahl (1997:276-277) offer for this phenomenon is that fear is characterised by tension, helplessness and withdrawal and these fear related characteristics lead people to avoid accessing information.

2.4.3.2 Uncertainty

Feelings of uncertainty act as a barrier to information access (Kuhlthau 1993; 2004). Uncertainty is the “the state or condition in which something (such as the probability of a particular outcome) is not accurately or precisely known or a lack of confidence or clarity in one’s ideas, decisions, or intentions.” (American Psychological Association online Dictionary 2020). According to Kuhlthau (1993; 2004), uncertainty stems from a cognitive phenomenon, which in turn gives rise to affective symptoms such as irritation and frustration. Kuhlthau (1993; 2004) observed that users, because of a lack of knowledge, experience feelings of uncertainty during the early stages of the information search process. However, as the users proceed with their search, they recognise their information needs and are motivated to search for information that is relevant to their tasks (Savolainen 2011). In other words, because the users’ information needs are unclear and not well defined, uncertainty could derail or prevent information seeking at the initiation stage of the information searching process.

2.4.3.3 Library anxiety

Mellon (2015) coined the term “library anxiety”. She describes library anxiety as a phenomenon that involves users being shy, frustrated, embarrassed and feeling discomfort in the use of libraries and librarians. Jiao, Onwuegbuzie, and Lichtenstein (1996:151-152) aptly referred to library anxiety as “an uncomfortable feeling experienced in a library setting which has cognitive, affective, physiological and behavioural disadvantages” Erfanmanesh, Abdullah and Karim’s (2013:47-49) study has expanded the term “library anxiety” to include the term “information-seeking anxiety”. According to them, library anxiety manifests when users are searching for information in information systems or even when they are contemplating or preparing to launch the search process. Therefore, library anxiety is a barrier that affects individuals from starting the search and it affects the ways and approaches users take in the information search process. Mellon’s (2015) study revealed that college

students in particular are prone to library anxiety. The reasons she gives is that college students believe their research skills are inadequate, which makes them feel ashamed and unwilling to talk to the very librarians who might be able to support them.

Jiao and Bostick (2004) corroborate that tension and feelings of hopelessness are associated with the search for information resources in academic libraries appear to be among the most common anxieties students experience. This is because most of the students are required to conduct an information search and use information resources to conduct research which forms part of their academic tasks. They noted that students who experience these feelings are dismally disadvantaged because they cannot complete their academic tasks without access to information. Robertson (2011: 12) observed that studies focusing on graduate students' link library anxiety to undeveloped or poor search skills and procrastination to do or complete assignments. Notwithstanding, Erfanmanesh (2011:13), Swigon (2011), Van Kampen, (2004:29-32) and Anwar, Al-Qallaf, Al-Kandari and Al-Ansari (2012:36-46) posit that factors such as users' age, the complexity or nature of academic tasks, gender, library personnel and users' poor skills to use information and communication technologies give rise to library anxiety.

Although affective barriers are construed to cause obstacles to information access, Savolainen (2016) suggests that the difficulties users encounter may motivate them to seek alternative sources of information for their tasks. For example, students might ask a fellow student for support or a lecturer instead of searching a database themselves.

2.4.4 Reflection to internal barriers to information

Internal barriers (especially cognitive barriers) negatively affect users' access to information. These barriers delay, frustrate, impede or prevent the flow of information from the information system to users because these barriers hinder users to identify, locate, retrieve and use information for their contextual information needs. The next discussion focuses on external barriers that prohibit information access.

2.5 EXTERNAL BARRIERS PROHIBITING INFORMATION ACCESS

Certain social and situational factors act as external barriers to information access (Gaziano 1997). These factors include socialisation and identity issues, membership of socio-economic and ethnic groups as well as access to information sources. As Savolainen (2016:52) observes, the factors that act as external barriers to information originate from individual users' external environment and are imposed on them.

He highlights three external barriers. These are: spatial barriers that are associated to long distances between the user and an information infrastructure; the temporary barriers that exist due to time limitations imposed on users when accessing information resources and some socio-cultural barriers that are linked to bureaucracy. Sligo and Jameson (2000:859-860) believe that although it is good to clarify and differentiate between internal and external barriers, these barriers overlap in many ways in that external barriers may also be internalised by individuals and become potential internal barriers to information access and use.

As pointed out in section 2.3.4, some of the contextual elements that act as barriers to information include library services, the online public access catalogue (OPAC), information literacy training, accessibility, interpersonal interaction, institutional or organisational barriers, censorship, language barriers and language with bibliographic tools and information and communication technologies. These contextual elements will now be discussed.

2.5.1 Library services

The resources and activities that are provided by libraries to address their users' information needs can be described as library services.

Academic libraries now operate in an environment where they need to provide their users with both print and non-print sources and resources. Therefore, Shonfeld (2018) stresses the need for academic libraries rethink their services portfolio to ensure their services are aligned with the mission of the parent institution in order to continue serving their users well. With this in mind, Brophy (2000), Hammond and Powell (2009:131) and Schonfeld (2018) outlined some of the key service areas that are provided by academic libraries and which are aligned with the mission of an academic institution:

- Services that are focused on supporting instruction, facilitating learning, improving users' information literacy competencies, and maximise retention, progression, graduation, and later life success.
- Rendering support to off-campus users. This is because academic libraries should provide equitable access for part-time students, distance and online learners, and other principally off-campus or non-campus or remote users.
- Academic libraries should facilitate information access by enabling the discovery and usage of information resources and by providing for the preservation of general collections.

- Foster scholarship and creation by providing services and expert assistance that support research and creative work.
- Provide reference and enquiry services that are focused on supporting users with their information enquiries. Such services should be focused on providing users with authoritative information.
- Preserve and promote unique collections such as valuable archival collections. Such a service would ensure the long-term stewardship of rare materials and special collections and maximise their usage.
- The provision of physical spaces where users can sit and study, collaborate with fellow students and receive technology-enhanced instruction for learning purposes.
- Provide support services such as current awareness service (CAS) or selective dissemination of information (SDI) for special group researchers and scholars.
- Other services such as internet access and printing services. For example, the Chancellor College Library offers Internet, printing and binding services.

Academic libraries offer a wide range of services to facilitate learning and research. However, it is important that libraries should respond to changes, adapt themselves to their environments and maintain sufficient stability to survive by providing satisfactory services (Schonfeld 2018).

Unfortunately, a lack of library services, or inadequate library services can act as a barrier to information. In his study, Shonhe (2019) outlines a number of challenges libraries face. The first challenge he identified pertains to the lack of a library policy which is supposed to offer guidelines for actions and decisions in the running and management of the library. According to him, librarians will find it difficult to effectively and efficiently manage a library if there are no written guidelines on how to do so. Poor staffing practices is the second challenge he identified. According to him, libraries that do not have qualified librarians experience challenges in acquiring relevant information resources and in cataloguing and classifying classified resources. The reason he gives is that information sources are difficult to find if they are not properly catalogued and classified. Malanga (2017) also observes that poor staffing leads to lack of information literacy skills among student users. Unqualified librarians also result in inadequate marketing of library services and raising awareness on its role. The third challenge Shonhe (2019) identified pertains to a lack of adequate funding which in turn leads to the inadequate availability and accessibility of information resources, infrastructure and poor staffing

2.5.2 On-Line Public Access Catalogue

The concept Online Public Access Catalogue (OPAC) refers to the library's catalogue which is online available for the users of a library to search for information resources of their choice. Therefore, they are information searching tools. Unfortunately as Tagliacozzo (2012:126) observed, many users find it difficult to search for information in the OPAC. Ruzegea (2012) attributes this problem to the OPAC's interface features in that the design of the interface does not support users when they search for information. She observed that the interface designs in some university libraries' OPACs are less user-friendly and does not allow users to interactively search for information. According to her, such OPAC interfaces render the OPAC less effective, makes them inefficient and users are less satisfied. She is also of the view that some of the problems users face when searching a library catalogue pertain to their lack of computer literacy skills and knowledge.

According to Tagliacozzo (2012:96-98), OPAC designers can ensure the smooth usability and user-friendliness of the tool by putting the following measures in place:

- consistency in terminology
- shortcuts for experienced users
- informative feedback about the search
- usability to undo or modify action
- user control in specifying parameters
- clear error messages and correct errors easily
- alternative interfaces for expert and novice users

An OPAC have certain inherent advantages over conventional catalogues and these advantages include: the provision of search facilities that allow for of searching by author, title and subject as well as providing for complex searching through the use of Boolean such AND, OR and NOT. Sadaf (2009) also regards the inclusion of features such as the availability sources and users' ability to make reservations as being advantageous. For example, the Chancellor College Library OPAC has search features that range from author, title and subject. Apart from these features, it also links the information resources recorded in the OPAC to where the users can access them on the open shelves. It is, therefore, an important bibliographic tool for users of information resources in an academic library.

The manner in which information resources are described in an OPAC or any other information system contribute to how the information is organised. This, therefore, may influence users negatively or positively when they access information resources (Glushko 2010). If the classifier or indexer for instance, does not bring related subjects together, the classification system can then act as a barrier to information as the user will find it difficult to locate the relevant information. Savolainen (2016:52-54) states that barriers arising from poor or inadequate classification causes failure of access to information sources and a slowing down of the information-seeking process. Savolainen (2015:617) believes that if user concepts are not represented in the information system, users finds it difficult to manipulate and retrieve the information. Good information organisation also includes good shelving and therefore facilitates and promotes information accessibility (Chege 1993; Norris 2019). In consequence of this, accessibility is discussed in detail in the next section.

2.5.3 Accessibility

Accessibility is defined by Culnan (1985:303-304) as “the ease with which information users can gain access to information resources, taking both the social, economic and physical costs of use into consideration”. Blijham, Borgers, Eussen et al (1993:35-44), McCreadie and Rice (1999:51) and Swigon (2011) agree that a fundamental requirement for information access and use is that sources of information should be readily accessible in the form required by users.

As Ugah and Okpara (2007) explain, it is not enough that the resources are available in a library or even bibliographically accessible, but what is important is that they must be physically accessible to users. Culnan (1985:304) identifies three dimensions of information accessibility, namely physical access to sources, the translation of information needs into the information system’s language, as well as the information system itself. This view supports Agulu and Aguolu (2002) when they note that information resources may be available in an information system but the users may not be able to access them. Chawinga and Zozie (2016) reported similar findings. They found that 65.8% of their respondents lacked access to relevant information for their courses of study. This then renders the information inaccessible and it acts as a barrier to information access. In turn, Lilley (2010) noted that information resources that are not available in an information system are inaccessible and the unavailability of information amounts to an information access barrier.

2.5.4 Information literacy training

The discussion in section 2.4.1.1 focused on information literacy skills as a cognitive barrier to information access. However, information literacy skills training is a library service which has the potential to create information barriers. The US National Commission on Library and Information Science (2003:1) recognises that information literacy encompasses “knowledge of one’s information concerns and needs, and the ability to identify, locate, evaluate, organise and effectively create, use and communicate information to address issues or problems at hand.” Naik and Padmini (2014:94) believe learners become information literate when they are able to use online resources, access information completely, evaluate the information to ensure the accuracy thereof, its pertinence for each information need and effectively use the retrieved information. According to them, learners who learn these information literacy skills have acquired lifelong learning skills. Borovik and Shemberko (2016) reckons being information literate also means having the ability to think critically and ethically and evaluate and use information.

Many academic libraries currently organise their instructional programs around information literacy (Exner 2014:460). Bennett (2007:165), Breivnik (2005), Cannon and Jarson (2009:46) and Proter (2011) stress the need to include faculty members as active participants in promoting information literacy training. This is because, as Breivik (2005) and Porter (2011) indicate, information literacy training attempts to strengthen students' information literacy skills in university need to happen at the institutional, curriculum and classroom levels.

Conducting an information search requires cognitive skills – an internal barrier to information. Unfortunately, poor search skills resulting from a lack of information literacy training, may also prevent individuals from starting an information search. According to Savolainen (2015) and Warwick (2009), this leads to a premature closure of an information search process. Nonetheless, the individual users' learning styles and their personality can influence their search strategy formulation; their selection of information sources as well as their decisions on whether or not to proceed with the information search (Limberg 1999). Therefore, users' lack of proper information literacy skills and a lack of information literacy training in libraries could create barriers to information access.

2.5.5 Interpersonal interaction

Interpersonal interaction is defined by Ismail (2014) as “a communication process that involves the exchange of information, feelings and meanings by means of verbal and non-verbal messages between

two or more persons”. Social barriers arise when the source of information is a person or when interpersonal interaction is needed to gain access to another kind of information source (Blijham et al. 1993:36-38). Khan (2017) believes that social ties and interactions play an important role in accessing and exchange of valuable information. According to him, this is true among users who have social connections with those who possess similar attributes such as education, age, sex and race. As Swigon (2011) explains, barriers to information access become imminent when users seeking information cannot interact with some individuals holding information due to differences in personal characteristics such as education, age, religion and race.

Jiao and Onwuegbuzie (1997) believe that students’ avoidance to interact with library personnel creates barriers to information access. However, Otieno, Otike and Rotich (2015) emphasise that library staffs’ attitudes influences the use of library services as users require assistance from librarians to help them in tracing information resources from the library system.

2.5.6 Institutional barriers

Savolainen (2016:56) identified institutions as a socio-cultural barrier to information, but this barrier can also be linked to barriers that are connected to information sources. According to him, institutional barriers come into existence when organisations such as government offices and libraries knowingly or unknowingly prevent information seekers from obtaining the information they require that would support their information needs. This could manifest due to authoritarian control such as censorship, the insufficient allocation of resources to libraries, outdated resources and a lack of information retrieval tools. Savolainen (2015:55) also links institutional barriers to information seeking to inadequate resources that are allocated to libraries. Because of this, appropriate resources of various formats become unavailable. This includes a lack of access to databases.

Swatgard (1999:174), Paolou (2010:96), and Emerson and Cassau (2012:139) are of the view that some library rules and policies are restrictive to the provision of information to users. These rules and policies act as blocks to information access because they either deny users the information they require or delay users from accessing the required information. This confirms Handson and Jenkin’s (2009:234) and Swigon’s (2011) assertions that some rules and procedures frustrate users in their quest for information. LeCompte (2009:264) also agrees that organisational rules and policies remove the freedom of users to choose and retrieve the information for their needs.

Another notable barrier is the imposition of fines on library resources and services (Mumo 2007). According to Ikwoh and Zowoh (2009:213), libraries impose fines on its services to defray expenses from the loss or damage of resources. According to them, the notable fines include fees on Internet, electronic databases, over due books and photocopying and scanning services. Phelps (2015:96-97) and Sung and Tolppanen (2013-506:511) are of the view that whilst library fines compel users to return borrowed resources, these fines damage the reputation of the library and create barriers to information access. This is because fines scare users away from the library to seek for information. The American Library Association (1993:1) also opposes the charging of user fees by all libraries that receive their support from public funds.

Lastly, in a Malawian study focusing on students in a distance learning environment, Chawinga and Zozie (2016) found that the students living in remote parts of the country were unable to travel to Mzuni [Mzuzu University] to get access to library resources. The fact that the library had no arrangements in place to support these students further contributed to the barrier to information the remote students experienced. Furthermore, although the library subscribes to full-text databases had no off-campus access to these resources. As a result students were unable to access and use these information resources. Therefore, this ruling also acts as a barrier to information.

2.5.7 Censorship

As indicated in section 2.6.4, censorship can also be viewed as an institutional barrier to information access. Censorship is the suppression of words, images, or ideas construed or deemed offensive (American Civil Liberties Union 2006). According to Savolainen (2015:55), censorship limits or restricts users to certain information and it affects information access negatively. Censorship dilutes the value of information as it renders it incomplete thereby creating information gaps (Bourke 2010:13). Censorship impacts negatively on information seekers because the resources they want to access are entirely removed or some content from the resources are removed (Percy & McIntare 2013:128). This is a barrier to information access. However, institutional information systems that do not practice censorship provide complete information and this supports users in that they are able to access the information they require.

2.5.8 Language barriers

Some of the factors that cause language barriers to information access that were identified by Nelson (2010:137-138) include the following:

- Poor knowledge of the language in which the information is presented.

- Inability to select and apply the full range of linguistic tools that would support users in describing their information needs.
- Inability to formulate search statements with suitable terms.
- Inability to expand or narrow a search query with suitable terms.

Also, Thomson (2003) observes that the language in which the information is presented has an effect on the social value of users of information. According to Thomson (2003) and Savolainen (2015), language problems make it difficult for users to understand, comprehend and search for information. Therefore, Savolainen (2016:56) believes that barriers which arise due to language problems have a negative effect on information seeking because it excludes individuals from important information.

Borovik and Shemberko (2016:3) found that users encounter the following language barriers while searching for information in the databases:

- Terminology barriers. This barrier is caused by the inadequate knowledge of the language of the subject. This affects users when they formulate search queries in order to search databases. In addition, users are not able to read the information they retrieve from databases.
- Semantic barriers. These barriers are caused by individual users' cognitive abilities in the understanding, selection, interpretation, analysis and use of the terms in the information system.
- The cognitive (intellectual) access to the content of the library is inadequate due to poor indexing system in the catalogue or of the library collection itself (Ugah & Oppara 2007).
- Non-uniformity of the language. This has a negative effect on interpersonal interaction, notably in communities where there is a reliance on gatekeepers to supply information and in searching the databases for information (Lilley 2010:83).

The use of clear language and simple terminology are critical in facilitating access to information resources in databases and catalogues because these foster understanding, facilitate ease with which valuable information is searched and retrieved.

2.5.9 Information and Communication Technologies (ICTs)

Information and communication technologies (ICTs) facilitate the provision of information. Users access information through the Internet, online databases, comprehensive statistical databases and content page services (Singh 2015:754). However, information and communication technologies (ICT) can present

library users with information barriers. Okeke and Osinyi (2009) and Singh (2015:768-769) outline these barriers:

- Poor connectivity. Okeke and Osinyi (2009) observed that the majority of the libraries included in their study had poor connectivity due to inadequate bandwidth.
- Virus, malware and worm attacks. These attacks cause adverse damage to information and prevent users from accessing ICT facilities (Singh 2015:755).
- Power outages. Irregular power outages disrupt the normal running and use of ICT facilities and sometimes cause damage to the facilities (Singh 2015:768).
- High cost. ICTs provide the infrastructure through which users can access the Internet but some libraries may not be able to pay their Internet subscription fees on time due to the costs involved (Okeke & Osinyi 2009:129).
- Librarians' lack of skills to use ICTs affects users when they need to access information (Singh 2015:754).
- Lack of proper hardware and software and power backup equipment compounds the situation for users to access information (Singh 2015:768-769).

In his case study focusing on the implementation of computers in five schools in the Makana and Somerset East Districts in South Africa, Prince (2007:66-69) noted that a lack of computer literacy skills contributed to users' misuse of computers in different forms. Such computer misuses could range from theft, locking up computers with personal passwords, accessing pornography and unauthorised transfer or copying of data.

Combinations of factors create barriers to information access. Nonetheless, reliable ICT infrastructure helps to improve libraries' service delivery.

2.5.10 Criminal barriers

Okogwu and Nnam (2013:4-5) define crime as "acts that violate the core values, rules and regulations that govern the operations or services of particular institutions". In the context of the library, crime can be described as illegal acts employed by information users and staff to gain access to library resources. According to Constantinou (1995:497-507), theft of library materials can be traced to 539 BC in Egypt when the Persian warriors illegally removed "Papyri scrolls" from the library of Pharaoh Ramses II from circa 41BC. Okogwu and Nnam (2013) observe that library crimes include forging of library

identification particulars, vandalism, pilfering, theft or stealing and fraud. Mullar's (2010:20-21) study documented some of the following causes of library crime: poor security, reduction in budgets, selfishness on the part of some users and a lack of vigilance on the part of librarians to properly check out the resources. Supporting the foregoing assertion, Ogunyade (2005) found that library crime is caused by inadequate resources, poverty among some students, short loan periods and selfish students who hide library resources. Ajayi and Omotayo (2003:1) have similar arguments. They feel that insensitivity to the needs of other users, selfishness, the high cost of books, non-detection of previous acts of theft; incessant power failures and limited resources are some of the factors responsible for theft and vandalism of library resources. Ajayi and Omotayo (2003:4) further note that students acknowledge that vandalism and theft prevent effective use of the library and deprive others of vital information.

2.5.11 Socio-cultural phenomena

Socio-cultural phenomena are defined by Savolainen (2016:52-53) as "a set of values, norms, roles, language, symbols, customs, moral and religious beliefs, taboos, perceptions, and preferences acquired by the members of a community during the socialisation process". According to him, these phenomena function as standards defining the boundary between acceptable and unacceptable behaviour. Furthermore, he notes that these kinds of barriers appear in societal, institutional and organisational contexts but could also be specific to local communities or small groups.

Savolainen (2016:52-59) says socio-cultural barriers can hinder information seeking in information use contexts by limiting or delaying the range of information choices individuals have. For example, in an educational context, Shenton and Dixon (2008:230) observed students' reluctance to contact teachers for information because they considered them as being unfriendly and hostile.

The foregoing section looked at external barriers. The external barriers included socio-cultural phenomena, interpersonal interaction, institutional barriers and language barriers.

2.5.12 REFLECTION

External information access barriers that can be encountered include socio-cultural phenomena, interpersonal interaction, institutions, language and information and communication technology. External barriers to information access are important variables that play a key role in hindering the effective access to information. It is, therefore, important that information managers should understand these barriers as

the basis for planning and establishing effective information services for users. A discussion on barriers connected with information users and information sources follows.

2.6 USER AND INFORMATION RESOURCE RELATED BARRIERS

Barriers connected with users and information sources emanate from users' characteristics, the nature of information sources, organisational, social cultural, economical, geographical and political in nature.

2.6.1 Economic barriers

Economic barriers manifest at both individual and institutional levels (Savolainen 2016:56). According to Savolainen (2016:56), individual economic barriers can be put to a shortage of economic capital that puts individuals at a disadvantage to access information. Houston and Westbrook (2013:1694-1696) and Chawinga and Zozie (2016) believe that barriers occur when individuals cannot obtain information from one another due to the differences in social or economic status. According to them, individuals with low or poor social economic status feel inferior while individuals with sound social economic status feel superior and they do not freely share information.

Martin (1994) and Nebert (2009:14-15) observe that limited funding coupled with shrinking world economies continues to hamper libraries in the attainment of their objectives and as such create barriers to information. The reasoning for this assumption could be put to the fact that due to the limited funding libraries receive, they are unable to acquire adequate and useful information resources that would support their users' needs. Users who have no other access to information sources are then compelled to use the out-dated and sometimes inadequate resources that are available in the library.

According to Preston and Keita (2008:96), the funds libraries receive are not only meant to acquire resources but are also meant to pay staff salaries, buy furniture and meet maintenance needs. As such, funding for libraries remains insufficient to acquire the appropriate resources for the users. Further, Johnstone (2012:11-12) agrees that insufficient funds libraries receive makes it difficult to acquire suitable books and journals whose prices are high. Davies (2014:149) believes insufficient funds make it difficult for academic libraries to have a balanced collection of information resources.

2.6.2 E-journals and licensed content

The Research Information Network's (RIN) (2009:7) study of Scottish institutions reported that 49% journal volumes or 28% of back files of particular journals were not electronically available in the participating institutions. The libraries neither had nor purchased a license for the content because of

budgetary constraints. In addition, inexperienced researchers, a lack of search skills combined with a lack of authentication and navigation skills can become major barriers to information access (Nuridin, Stockdale & Scheepers 2011). Lindowolf and Camille (2008:317) state that a lack of immediate access hinders researchers' progress because important information is not accessed and used.

2.6.3 Journal articles and conference papers

The non-availability of digitised content in a library is one of the most common barriers to information access. Libraries sometimes do not have hard copies or digital copies of journals available in the library (Taylor and Francis Group 2013:19). The Research Information Network (RIN) and the Publishing Consortium (2011:6-10) also observed that, despite not being able to access the required journal articles in their libraries, researchers are not willing to pay for the articles they require.

The Research Information Network and Publishing Research Consortium (2011) and Taylor and Francis (2013) chronicle some of the common barriers that researchers face in accessing scholarly journals. These include the following:

- Lack of awareness of the resources that are available to them.
- Lack of access to appropriate hardware and software.
- Information not available digitally or in an inconvenient digital format.
- Information being available only in an early version rather than the version of the record.
- Content and form in a format that is not suited to their needs.
- Lack of membership of a library that has purchased a license.
- Conflict between the intellectual content creators (authors) or publishers' rights and the way the content should be used by the researchers.
- The circulation policy of the library is inefficient, shelving methods are poor and guides to the library collection are not available (Ugah & Okpara 2007).

When considering this discussion in section 2.8, it seems as if some of the most important barriers to information access users encounter when accessing scholarly electronic journals derive from policy issues, administrative issues, staff's low expertise, users' inadequate search skills, limited finance, publisher's of content restrictive policies, lack of reliable archiving for free content and comprehensive indexing of free resources.

2.6.4 Unfriendly user facilities

The available facilities in libraries do not necessarily cater for physically disabled users' needs. Kempthorne (2013) highlights that some of the major problems faced by users with disabilities have to do with the design of library space, furniture and signage. For instance, narrow aisles and steps prevent free mobility, rigid and unadjustable furniture prevents comfortable sitting and head level signage hinders access. Tall shelves hinder retrieval and access by serendipity. Another barrier that prevents access to information is a lack of audio books and assistive technologies for hearing and visually disabled users (Schedlitzki & Sossou 2013:17-18). In addition, Michaud (2013:25-26) observes that electronic resources that are available for users with disabilities may also not be accessible if they are incompatible with adaptive software.

2.6.5 Obsolescence of information resources

Obsolescence is described as the decline over time in validity or utility of information (Gapen & Milner 1981; Paolou 2010:103). In the developing world's libraries, many resources are obsolete due to a lack of funds to acquire new resources. As a result, the library resources are not suitable to support users' information needs and the users, therefore, stop consulting them (Khan, Khan, & Bhatt 2011). This is because, as observed by Nelson (2010:108), obsolete information is prone to yield poor and erroneous results. Although this hinders further information seeking, it also encourages users to seek alternative ways of accessing useful information from the information infrastructure.

2.6.6 Information format

Information appears in varying formats such as textual, pictorial, graphical, and digital formats (Akande 2013). Akande (2013) explains that an information format could undermine the pattern upon which students use such information. According to him, students' affinity for a particular format in which the information is packaged affects their source selection. Odunewu and Omagbemi (2008) observe that students tend to show a preference for information in an electronic format and that they occasionally use textual, pictorial and graphical information.

2.7 DISCUSSION

Information access is a combination of intellectual, physical and socio-cultural elements that affect the availability of information to individuals. The barriers that affect users' access to information can be

internal or external to the user. The prevalence of barriers in the information entities has a threefold impact:

- First, barriers are a denial of access to ideas, views and opinions that are held by other people.
- Second, barriers suppress the individual's freedom of expression and articulation.
- Third, barriers restrict or marginalise people's participation in economic, political and socio-cultural activities because they cannot participate without being equipped with information, which enables them to understand and articulate issues from informed backgrounds.

As such, an understanding of different barriers enables information planners and managers to plan and implement effective information systems that easily benefits information users in different contexts.

It is a general perception that barriers have a negative affect on information access. However, barriers could also motivate information users to access alternative sources of information from the information infrastructure.

Information access is crucial to resolve the inadequacies that exist in people due to knowledge gaps or uncertainties. It has also exposed the different components of information access that information users can choose to access information. Besides, it has also revealed that no single information component is sufficient to provide the information on its own. It has further spelt out various factors influencing information access, some of them being contextual, geographical, environmental, personal or situational.

2.7 CONCLUSION

The focus in this chapter was on information access and the barriers that prohibit users in getting access to information. In order for intellectual access, physical access and social cultural access to be successful, the resources must be accessible. Accessibility of information is possible if the users are aware of the information and have adequately mastered fundamental information searching skills. However, internal and external barriers have a negative effect on the smooth access of information. Internal barriers are present in the cognitive and affective phenomena of the individual user while external barriers originate from an individual's external environment. The external barriers include socio-cultural, interpersonal interaction, language barriers, economical barriers, institutional barriers, unfriendly user facilities and the information format.

Information is a strategic resource. It is, therefore, important that information managers should create an environment that enables users to access information with ease in order to satisfy their contextual needs.

Although a number of studies focusing on information access and use in academic libraries have been conducted, few studies have focused on the barriers information users encounter while accessing information resources in the university libraries – that is in developing countries such as Malawi. Since student users require resources for research and writing their assignments they need timely access to the information sources and resources they require. Therefore, the barriers they experience to access the required information could negatively impact on their academic progress. Chapter 3 focuses on the research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The present chapter explains the research methodology that was employed in the study. The chapter includes the following elements: the study design, the study area, the research methods, the study population, the sampling technique and the research instruments, data collection techniques, the procedure for data collection, methods of data analysis and interpretation.

3.2 BACKGROUND

Research methodology is defined by Silverman (2013:446) as “the choices a researcher makes about appropriate models, cases to study, methods of data gathering, forms of data analysis etc. in planning and executing a study”. Bazeley (2013:8-9) notes that research methodology embraces philosophy, assumptions about validity and preferred methods that serve as the rationale of a study and the standards for interpreting data and reading the conclusions.

A study can follow a qualitative, quantitative or a mixed methods research approach (Kothari 2009). Qualitative research is about an understanding of the phenomenon as opposed to quantitative research which is focused on confirming something (Denzin & Lincoln 2011:3). Mixed method research is about combining different methods of data collection or data analysis within a single study (Braun & Clarke 2013:333; Kumar 2014:375).

The choice of a research approach is crucial to the success of the study. Creswell (2014) corroborates that the choice of the research approach for a study is influenced by the philosophy of the study, objectives and research design. Furthermore, Denzin and Lincoln (2010:23) recommend that it is important for researchers to select a research approach that is applicable to their discipline and further asserts that the choice of a research method should be determined by the phenomenon being studied and the objectives of the study. This view is supported by Sutton (2009:4383) when he states that the nature of the study will determine the research approach and the research methods that are employed. Information behaviour studies tend to be qualitative studies. The subject literature reported on in chapter 2 that employed a qualitative research approach includes:

- Savolainen's (2016; 2015) studies on "approaches to socio-cultural barriers to information seeking" and "cognitive barriers to information seeking: a conceptual analysis."
- Ugah and Okpara's (2007) studies on "obstacles to information access and use in developing countries".
- Swigon's (2011) study on "information barriers in libraries".

Since this study intends to acquire an understanding of the information access barriers which affect students' information seeking behaviour, this study will employ a qualitative approach.

3.3 QUALITATIVE RESEARCH

Qualitative research is a social science research that studies things in their natural occurrences and attempts to make sense or interpret phenomena in terms of the meanings people attach to them (Crossman 2017). It emphasises description and narration of people's feelings, perceptions and experiences they encounter in their lived environments (Kumar 2014:379).

Padgett (2017:31-44) cites phenomenology, grounded theory, ethnography, case study analysis, narrative inquiry, action research and community-engaged research as the six primary qualitative research approaches. As Creswell (2013:255-257) explains, the phenomenological research approach is essentially used to yield meaning from the phenomena and it, therefore, falls within the interpretative, constructivist or post-positivist paradigms. These paradigms emphasise the importance of insiders' viewpoints to understanding of human social reality (Bazeley 2013:20-25). In their discussion of the different qualitative research paradigms, Braun and Clarke (2013:6-8) and Creswell (2013:19-23) and Flanagan and Berry et al. (2016: 234) identified the following assumptions:

- Human beings construct meaning as they engage with the world they are interpreting. To achieve this, qualitative researchers use open-ended questions so that respondents can freely share their views and feelings (Braun & Clarke 2013:6-8).
- Human beings engage with their world and make sense of it based on their historical and social perspectives. Therefore, qualitative researchers seek to understand the context of their respondents by visiting their contexts and gathering information. They interpret what they find through their experiences and background (Creswell 2013:19-23).

- The generation of meaning is always social, arising in and out of interaction with a human community (Flanagan & Berry et al. 2016:234). The researcher generates meaning inductively from the data collected from the setting.

In social science, these paradigms emphasise the importance of insiders' viewpoints when endeavouring to understand social realities. Meaning is constructed through human beings interacting with each other and playing a central role in defining a situation to make sense of it (Ellis 2016:13-14; Padgett 2017:32-43). Therefore, since the purpose of this study is to acquire an understanding of the barriers students experience when seeking information, this study followed a phenomenological research approach. It aimed to collect data on students' opinions and experiences about information access in their library.

Furthermore, qualitative research is concerned with a qualitative phenomenon relating to quality or kind. Within the context of studying the social phenomenon, Beazely (2013:20-32), Creswell (2018:255-260), Kothari (2009) and Rubin and Babbie (2008:428-430) identify the following purposes of qualitative research:

- Qualitative research aims at investigating the meaning that people attribute to their behaviour, actions and interactions with others (Kothari 2009).
- Qualitative research seeks to build an understanding of phenomena of human behaviour, cultural or social organisations (Creswell 2018:45-46).
- Qualitative research is designed to reveal the meaning that informs the actions or outcomes that are measured by quantitative research. As such, qualitative research explores meanings, interpretations, symbols and processes and relations of social life by producing descriptive data (Rubin & Babbie 2008:428-430).
- Qualitative research creates new theories using inductive methods which can be tested further by quantitative research. In other words, quantitative research thrives on theories produced by qualitative research as it generates ideas and hypotheses for later quantitative research (Bazeley 2013:336).

Qualitative studies aim at building realities or meanings from the peoples' experiences in their natural phenomena. Qualitative approach does not alter the human phenomenon and it is flexible to execute.

3.3.1 Characteristics of qualitative research

In consideration of what qualitative research is, researchers such as Creswell (2013:46), Denzin and Lincoln (2011:3-4), Gray (2014:161-185), Kothari (2009) and Rubin and Babbie (2008:134-135) identified the following characteristics of qualitative research:

- Qualitative research enables the researchers to collect rich data in the field at the site where participants experience the issues or problem under study (natural setting).
- The researchers gather rich information by interacting directly with the people within their context (Denzin & Lincoln 2011:3-4).
- Qualitative research is descriptive and is presented in a narrative form; the narrative captures the atmosphere of the setting (Kothari 2009).
- The researcher is the key instrument. Qualitative researchers collect rich data themselves through examining documents, observing behaviour and interviewing participants (Creswell 2013:46; Rubin & Babbie 2008).
- Participants use their natural language to understand or articulate their world (Creswell 2014). Qualitative research uses multiple methods for triangulation. The types of triangulation include: data, researcher, theory, methodological and analysis triangulations. Methodological triangulation is a commonly preferred method. The selection of methods is determined by the research question (Gray 2014: 184-185).
- Qualitative research builds its own categories, patterns, and themes from the bottom up approach (inductive) by organising the data inductively into abstract units of information. This involves researchers working back and forth between the themes until they establish a comprehensive set of themes (Kothari 2009).
- Qualitative research constructs meaning of a natural human context in the holistic sense (Sutton 2009:4385).
- The researchers keep a focus on learning the meaning that participants hold about the problem, not the meaning that the researcher brings to the research (construction of meaning). The participant's meanings further suggest multiple perspectives on a topic and diverse views (Creswell 2013:53-54).
- The research process is flexible. This means that the initial plan for research cannot be tightly prescribed, and that all the phases of the process may be altered or shifted after the researchers enter the field and begin to collect data (Kothari 2009; Schutt 2012: 282-286).

- Qualitative research develops a complex picture of the problem under study. It involves reporting multiple perspectives, identifying the many factors involved in a situation. The researcher tries to understand a phenomenon within its social, cultural and historical context. (Braun & Clarke 2013; Neuman 2008).
- Qualitative research is scientific and cannot be replicated until another research is done in a specific phenomenon (Fidel 1993:231).
- Qualitative researchers do not enter the phenomena seeking data to test prior hypotheses but rather develop the hypotheses as they gain the understanding of the situation under study (Creswell 2018).

Qualitative research enables both respondents and the researcher in the construction of meaning through interaction. The purpose of an information behaviour study is to acquire an understanding of information users' information needs and seeking behaviour. Therefore, a qualitative study will be the best research approach for the current study as it will allow the researcher to acquire an understanding of why some of the Chancellor College library users experience barriers to information access.

3.3.2 Advantages and disadvantages of qualitative research

Every research approach presents strengths and weaknesses and qualitative research is no exception. Atieno (2009), Berg and Lune (2012), Clarke (2013:35-37), Creswell (2013; 1994), Denscombe (2010), Gray (2014:181-186), Harry and Lipsky (2014), Kothari (2009), Padgett (2017:70), Neuman (2006), Rubin and Babbie (2008) and Silverman (2010) opine that qualitative research manifests the advantages and disadvantages presented in Table 3.1.

TABLE 3.1
QUALITATIVE RESEARCH

TABLE 3.1 QUALITATIVE RESEARCH	
ADVANTAGES	DISADVANTAGES
Rich, in-depth data is yielded from phenomena (Berg & Lune 2012).	The findings are not always generalisable to wider populations (Harry & Lipsky 2014).
Researchers are closer to the settings they are trying to research therefore perceptions of individuals are considered (Gray 2014:186).	It leaves out contextual sensitivities and focuses more on meanings and experiences (Silverman 2010).
Appropriate for situations in which detailed	It raises the issue of unreliability of results to due to

TABLE 3.1
QUALITATIVE RESEARCH

ADVANTAGES	DISADVANTAGES
understanding is required. Events are seen in their proper context (Atieno 2009).	smaller sample size (Harry & Lipsky 2014).
Issues and subject covered can be evaluated in depth (Creswell 2013:53-55)	Data interpretation and analysis may be more complex and time consuming (Berg & Lune 2012:4-5).
Interview questions are open ended allowing respondents to provide information from their perspectives (Kothari 2009).	Qualitative research findings is sometimes not accepted and understood especially within scientific communities (Rubin & Babbie 2008).
The direction and framework for research can be revised quickly as soon as fresh information and findings emerge (Rubin & Babbie 2008).	The presence of the researcher in the data collection process is unavoidable and can therefore affect or influence the responses from subjects [respondents] (Gray 2014).
Data is collected from few individuals-it requires a small sample size of 6-10 participants (Padgett 2017:70).	Issues of confidentiality and anonymity can pose problems during presentation of findings (Gray 2014:180-181).
It is good at simplifying and managing data without destroying complexity and context (Neuman 2006)	
Data is gathered without altering or destroying the cultural, historical or natural environment (Braun & Clarke 2013:35-37)	It is extensive and time consuming to collect and analyse data (Creswell 2013:49)
It allows for ambiguities or contradictions in the data, which is a reflection of social reality (Denscombe 2010).	It is rarely replicable (Newman 2006:157)

However, despite the shortcomings of qualitative research this research approach still remains the best research approach for the current study. This is because the participants are able to share their views and experiences of using the Chancellor College library to search for information that would support their academic related information needs. As such, the participants' shared experiences can be indicative of the problems they experience when they seek information from the library. In turn, the problems the participants experience act as barriers to information access. An understanding of the problems the participants experienced could support the library in improving the services rendered to their student users.

3.4 RESEARCH DESIGN

Research design, reflects the overall strategy that was followed by the researcher when conducting the research. It entails the decisions that were made about the topic to be studied, on what population, with what methods and for what purposes to achieve the study objectives (David & Sutton 2011:204-207; Gray 2013:32-34). The current study is descriptive, and therefore qualitative in nature. The choice of qualitative design and method was based on the fact that a qualitative research design is suitable for the exploration of human behaviour in relation to the barriers users experience when they need and seek information.

The research design of a study considers the methods employed to collect data (including acquiring consent) and data analysis. This will be the focus of the following discussion

3.5 DATA COLLECTION

Data collection is referred to by Creswell (2013:145) as “gaining permission, conducting a good qualitative sampling strategy, developing means for recording information both digitally and on paper, storing the data and anticipating ethical issues that may arise”. Creswell (2013:145-146) states that data collection involves a number of steps. These are consent, identifying the target population, sampling, the data collection instrument, and reliability and validity considerations. These steps will be the focus of the following discussion.

3.5.1 Consent

Consent is defined by Richards and Curzon (2011:98) as “compliance with or deliberate approval of a course of action and it is not binding if obtained by coercion, fraud, or undue influence”. Richard and Curzon (2011) identified two types of consent, namely direct consent and substitute or third party consent. Direct consent is sought personally from the people who are involved in the study. Substitute or third party consent requires a researcher to secure consent from a legally authorised representative for prospective participants unable to consent.

In this study, the researcher sought direct consent from the respondents. The consent letter is in compliance with Unisa’s requirements. A copy of the letter of consent appears in Appendix A. The researcher also ensured that all ethical procedures were followed during the process of data collection using a semi-structured questionnaire. The information provided was protected by the observance of

confidentially. Confidentiality refers to the safeguarding of any information about one person that is known by another (Fink 2013:17).

3.5.2 Population

Population is defined by Mugenda and Mugenda (2012:123-125) as “a group of or set of elements from which a sample is drawn, about which a researcher wishes to draw conclusions”. Bailey (1994:82) explains the reason for sampling. According to him, researchers use a sample of the population when the target population is too large to handle the study effectively. The Chancellor College has a population of 2278 students. Since the objective of the current study was to explore and acquire an understanding of the barriers to information access students as users of the Chancellor College library, the student population of this institution was the targeted population of the current study. However, in view of the requirements of a qualitative study and considering the size of the population, the researcher needed to sample the study’s respondents.

3.5.3 Sampling

Sampling is defined by Rubin and Babbie (2008:538) as “the selection of respondents from a sampling frame for inclusion in the sample to represent the entire group.” Rubin and Babbie’s (2008) definition is similar to Nicola and Jansons’ (2009:204) definition. They defined sampling as “a subset of measurement drawn from a population.” Furthermore, sampling allows the researcher to feel confident about the representativeness of the sample which in turn allows the researcher to make broader inferences (Silverman 2013:448).

Kumar (2014:234-235) identified different sampling techniques that are aligned with qualitative research. These techniques include snowball sampling, convenience sampling and purposeful sampling. This study employed convenience sampling. Convenience sampling is a method that selects those elements that are willing and easily accessible until the sample reaches the desired size (Braun 2013:329). This is because convenience sampling is the least rigorous strategy and also the least costly in terms of time and resources (Creswell 2013:158). The researcher identified and targeted two groups of students: that is undergraduate and postgraduate students. Since the focus of the study was to acquire an understanding of the barriers the student library users experience when accessing information in the library, library staff or librarians were not included in the sample as they did not form part of the targeted population.

The study consisted of a sample of twenty two (22) respondents. As Braun and Clarke (2013:55) and Padgett (2017:70) assert, qualitative studies require a small sample. For this purpose, the researcher approached students who used the library on a particular day. The Table 3.2 provides a profile of respondents.

TABLE 3.2
RESPONDENTS' PROFILE

TABLE 3.2			
RESPONDENTS' PROFILE			
RESPONDENTS	COURSE	DISABILITY	QUESTIONNAIRE PRETESTERS
Respondent A	Bachelor of Laws (Hons)		
Respondent B	Bachelor of Arts (Humanities)		
Respondent C	Bachelor of Science		
Respondent D	Bachelor of Laws (Hons)		
Respondent E	Bachelor of Education (Science)		
Respondent F	Bachelor of Arts Communication & Cultural Studies		
Respondent G	Bachelor of Science		
Respondent H	Bachelor of Arts in Political Science		
Respondent I	Bachelor of Science in Food and Nutrition		
Respondent J	Master of Arts (Economics)		
Respondent K	Bachelor of Laws (Hons)		
Respondent L	Bachelor of Arts Theology		
Respondent M	Bachelor of Education (Science)		
Respondent N	Master of Arts in Sociology		
Respondent O	Bachelor of Education		

TABLE 3.2
RESPONDENTS' PROFILE

RESPONDENTS	COURSE	DISABILITY	QUESTIONNAIRE PRETESTERS
	(Languages)		
Respondent P	Master of Education (Social Studies)		Postgraduate
Respondent Q	Bachelor of Arts Theology		Undergraduate
Respondent R	Bachelor of Education in Social Science		Undergraduate
Respondent S	Bachelor of Arts (Humanities)		Undergraduate
Respondent T	Bachelor of Social Science	Visually impaired	
Respondent U	Bachelor of Arts Communication and Cultural Studies	Physically disabled	
Respondent V	Bachelor of Science in Gender Studies	Physically disabled	

3.5.4 Data collection instrument

A data collection principle is that the data collection method employed should be related to the type of information sought (Smith, Flowers & Larkin 2012:55-56). Patton (1990:165) says that the methods should allow the researcher to study issues in depth. There are many methods that can be used to collect data from respondents in a study. According to Gray (2014:352-355) and Rubin and Babbie (2008:124), some of the popular data collection methods that are aligned with qualitative research include interviews, questionnaires, focus group discussions and observation. Therefore, a semi-structured interview schedule was used to collect data from respondents. As such, the respondents articulated their responses in writing when they completed the questionnaire in their own setting.

A questionnaire is a printed document that contains instructions, purposeful questions (structured or unstructured) and statements that are devised to obtain answers from respondents in a study (Denscombe

2017; Mason 2013:124). As Kothari (2009) explains, a semi-structured questionnaire is a qualitative method of gathering data and it is a combination of a predetermined set of open questions (i.e. questions that require explanation) and closed questions (i.e. a kind of yes or no questions, or questions requiring the selection of an option). According to Crossman (2017:231), the main attraction of semi-structured questionnaires are that they gather in-depth information from responses if administered to a literate and experienced sample. This enables the researcher to develop a real sense of a person's understanding of a situation (McLeod 2017). Neuman (2006) and Creswell (2013) state that semi-structured questionnaires do not limit respondents to a set of predetermined answers and enables a mix of qualitative and quantitative information to be collected.

3.5.4.1 Advantages and disadvantages of a questionnaire

Breakwell and Smith (2012), Charmaz (2014:48), Denscombe (2017), Ellis (2016:108), Kothari (2009), Kumar (2014:181), Neuman (2006) and Rubin and Babbie (2008) believe that qualitative research obtains great amount of reliable information which in turn forms the hypotheses for quantitative research. Table 3.3 tabulates some of the advantages and disadvantages of semi-structured questionnaires that were identified by them.

TABLE 3.3
ADVANTAGES AND DISADVANTAGES OF A QUESTIONNAIRE

TABLE 3.3	
ADVANTAGES AND DISADVANTAGES OF A QUESTIONNAIRE	
ADVANTAGES	DISADVANTAGES
Respondents have enough time to give conscientious answers (Kothari 2009:231)	Its application is limited to a population that can read and write, it cannot also be used on a population that is very young, very old or handicapped (Kumar 2014:181)
It yields massive standardised information as respondents answer the same questions (Sapsford 2007:110)	The researcher cannot modify or reword a question once it is asked. Also, the researcher cannot follow up on a statement or ask a related question (Charmaz 2014:48)
They yield reliable and consistent information (Rubin & Babbie 2008)	Issues cannot be clarified or verified with respondents as there is no researcher rapport and empathy (Neuman 2006; Sapsford 2007:110)
It is convenient and inexpensive (Kumar 2014:181)	It is possible to expect higher non-response rate (Sapsford 2007:110; Saldana 2011)

TABLE 3.3**ADVANTAGES AND DISADVANTAGES OF A QUESTIONNAIRE**

ADVANTAGES	DISADVANTAGES
It is easy to maintain respondents' anonymity and confidentiality (Breakwell & Smith (2012)	Other people can influence the responses (Kumar 2014:182)
There is no interviewer interference and it helps to increase the likelihood of obtaining accurate information (Kumar 2014:181)	It is difficult to gauge honesty or truthfulness of the responses (Ellis 2016:108)
Data are easily quantified by either a researcher or through the use of a software package (Denscombe 2017)	

Using a questionnaire seemed more practical and easier to collect data. As pointed out in Table 3.3, one of the biggest advantages of using a questionnaire pertains to its cost effectiveness and the time that it saves. The respondents could also express their feelings freely and accurately without being influenced by the researcher. Furthermore, due to civil unrest in Malawi following the results of the presidential elections, the researcher had limited time available to collect data.

The questionnaire consisted of five sections and had 10 questions. Section A included a question to establish the respondents' field of study. Section B included questions to establish the barriers students encounter. Section C included questions to establish actions students take to overcome the barriers they encounter. Section D included questions to establish information areas where students encounter most barriers. Section E included questions to establish the potential effects barriers have on students' academic learning or research. The questions were specifically open ended questions focused on collecting qualitative data.

As shown in Table 3.3, using questionnaires have some disadvantages. One of the disadvantages Kumar (2014:181) identified proved to be problematic when administering the questionnaire. That is that the application of questionnaires is limited as the use of questionnaires to collect data excludes people who cannot read and write, such as visually impaired individuals. In order to deal with this problem, the researcher engaged an assistant who read out the questions and recorded the responses on behalf of the respondent. The assistant also made an audio recording on his phone which was used by the researcher when analysing the data to ensure the written responses were according to what the respondent had said. These measures ensured the honesty and truthfulness of the responses captured by the assistant.

3.5.4.2 Pre-testing of the questionnaire

Babbie and Mouton (2001) and Kothari (2009) state that no matter how accurately the design of a data collection instrument is, it will still manifest some shortfalls. As such, pre-testing is a remedial measure to identify potential shortfalls in the data collection instrument. Pre-testing a research instrument entails a critical examination of the understanding of each question by respondents on a limited number of elements to ascertain its usability, relevance, accurateness and comprehensiveness (Kumar 2014:191). In this study, the researcher pre-tested the questionnaire on four people, comprising two males and two females. The pre-testers were selected by using a convenience sampling method. The data collection instrument was given to them at Chancellor College as they were entering the library on a particular day. The data collection instrument was completed and returned within twenty minutes. This necessitated the researcher to make some corrections. A copy of the adjusted data collection instrument appears in Appendix B.

3.5.5 Collecting data

Many students study in the Chancellor College library. Data was collected from the respondents when they were studying in the library. Copies of the data collection instrument were conveniently administered individually and was returned to the researcher after completion. In ensuring that participation was voluntary and not by coercion, the researcher, as stated in section 3.5.1, attached an informing covering letter that sought respondents' consent to the questionnaire. The letter further explained the aim and significance of the study. However, data was collected during the time the respondents were preparing for their examinations. This was due to the unstable political situation following the presidential elections in Malawi and the resulting changes to the Chancellor College semester calendar. The calendar changes unfortunately resulted in the fact that the examination took place at the time the researcher had planned to collect data. Also, many students were planning to participate in demonstrations following the High Court's annulment of the Presidential Elections. Due to the pending unrest and uncertainties as to when the political situation would stabilise, the researcher decided not to postpone plans to collect data. The introductory letter and consent form appears in Appendix A. The researcher's decision to collect data using a questionnaire rather than conducting interviews enabled him to collect data on one day. The completed questionnaires were kept in a secure manner to ensure the participants' privacy. The next topic for discussion is reliability and validity.

3.5.6 RELIABILITY AND VALIDITY

The issues of validity and reliability of the data collection instruments are important to the ultimate findings of any research. In this regard, Neuman (1997:137-138) emphasises that validity and reliability concern the way in which measures are designed for a construct and guarantees the study outcomes. This section explains each of these terms and identifies the different types of validity applied in the study of information seeking behaviour.

3.5.6.1 Reliability

Reliability refers to the degree to which a measurement tool produces consistent, repeatable results (Breedlove 2015:G17). Reliability is mainly concerned with achieving stability, dependability accuracy and consistency of research instruments. The main type of reliability according to Phelan and Wren (2006) used in human phenomenological studies is called the inter-rater reliability. This reliability entails that different people in a setting are tested or measured using the same test.

In order to achieve the desired reliability a questionnaire was used to collect data as opposed to interviews. The questionnaire was pre-tested for clarity, completeness and relevance before it was administered on a representative sample of undergraduate and postgraduate students who regularly visit the library. This approach was in line with the advantages Creswell (2018) highlighted of using questionnaires. According to him questionnaires achieve reliability as opposed to interviews because interviews are open to bias and misconceptions between respondents and the researcher.

3.5.6.2 Validity

Validity is defined by Gray (2014:692) as “the degree to which data in a study are accurate and credible”. According to him, social science literature reveals two types of validity namely, internal validity and external validity. Internal validity refers to the extent to which an investigation is actually measuring what it is supposed to measure. In turn, external validity refers to the extent to which findings can be generalised to other populations or circumstances beyond that of the study concerned (Flanagan & Berry et al. 2016:66). In the current study, the preliminary testing of the questionnaire was focused on ensuring that the questions asked were clear. Therefore, pretesting the questionnaire supported the researcher in ensuring the validity of the empirical data.

3.5.6.3 Credibility

Credibility refers to the degree to which the research represents the actual meanings of the research participants, or the “truth value” (Lincoln and Guba 1985; Padgett 2017:210-211). Therefore, a credibility criterion involves establishing whether the results of a qualitative study research are credible or believable from the perspective of the participant in the research. Credibility can *inter alia* be demonstrated through strategies such as data triangulation (Creswell & Miller 2000, Padgett 2017:211-112; Bazeley 2013:405-409). In the current study, the researcher ensured credibility by comparing the responses of individual respondents as well as comparing the empirical data to what was reported on in the literature.

3.5.6.4 Transferability

According to Bazeley (2013:410) the term ‘transferability’ was introduced by Lincoln and Guba (1985) as an alternative to generalisation, specifically to refer to case-to-case transfer of knowledge. Transferability is a type of external validity and refers to the degree to which the results of qualitative research can be generalised or transferred to wider or different populations (Braun & Clarke 2013: 280-282). The findings in the current study could be transferred to reports in the literature on how barriers to information access affect users’ information needs and seeking behaviour.

3.5.6.5 Rigour

Rigour is defined by Smale and Fowlie (2015:135) as “the strict adherence to normal rules or procedure both in the conduct of research and in the analysis and reporting of results”. Angus (2014) defines rigorous research as “the research that applies the appropriate research tools to meet the stated objectives of the investigation”. According to him, rigour is achieved if data collection tools are able to do the following things: yield information that is appropriate for the research questions, generate the appropriate level of detail needed for addressing the research questions, maximise the chance of producing data with discernible patterns and the analytical techniques that are able to discover the full range of relevant and important topics and relationships among themes. As Ellis (2016:50) asserts, the consistency and quality of the data collection processes, the manner in which data are recorded and transcribed, and the quality of data analysis and its transparency add to the rigour that a study can be said to have. In order to achieve rigour, the researcher ensured the correctness of the data collection tools, that the data was collected in a consistent manner and handled properly. Furthermore, the data analysis was analysed inductively, a data analysis method which ensures rigour. Data analysis is discussed next.

3.6 DATA ANALYSIS

Various methods can be used to analyse qualitative data. In the current study, the data was analysed using an inductive coding method. Padgett (2017:163) supports coding method because according to him it produces the building blocks and scaffolding for the study's interpretive findings. Qualitative data analysis is defined by Corbin and Strauss (2008:1) as a "non-numerical process of examining and interpreting of data in order to elicit meaning, gain understanding and develop empirical knowledge". Qualitative data includes data generated from the semi-structured questionnaires that were used to collect the empirical data for this study. Accordingly, Cardwell, Clark and Meldrum (2010:232) assert that this kind of data are not in the form of numbers and requires the adoption of a qualitative data analysis method.

David and Sutton (2011:619) define inductive coding methods as methods that "generate theory from evidence, rather than generating testable theory from rational extensions from existing theory". Bazely (2013:336) and Ellis (2016:31-32) and Padgett (2017: 163-164) identify the following advantages of the inductive coding method:

- The inductive method is convenient for analysing data obtained from questionnaires.
- The inductive method achieves the exploratory and descriptive goals of a study.
- The inductive method supports the researcher in establishing patterns, concepts, and relationships from the collected data.
- The inductive method is not based on a pre formulated hypothesis (the data collected leads the researcher to the understanding of the phenomena under study).
- Induction generates information or knowledge for quantitative or statistical research (researchers can use this information for hypotheses in quantitative research).

Induction is characterised by careful and detailed inspection of data. It is a bottom-up approach that commences at detailed level and moves through recording, recognition, and rethinking towards a higher level of abstraction (Silver & Lewins 2014:162-165). Inductive analysis is convenient to employ on data generated by experienced respondents. It aims at the identification of trends in the data and then goes further to find patterns, themes, concepts, correlations and explanations (David & Sutton 2011:83-84).

In order to inductively analyse the data, the researcher compared the responses to the individual questions to establish if the responses provided similar answers. Where there were differences, the researcher selected those quotes that captured the essence of what the students said best. The researcher also linked

the comments that seemed to contradict. In some cases, the researcher matched the responses with relevant citations already discussed or with new citations. Trends of responses that are in majority or outstanding were highlighted first before responses that are in minority. However, the researcher encountered two challenges. The first challenge the researcher experienced was to select relevant facts from some emotional responses to the research questions. The second challenge he experienced was to establish systematic trends from the responses that presented both positive and negative sides to some questions. Despite the challenges he experienced, the researcher did manage to identify those barriers that affected the respondents' access to information and how they dealt with the challenges they experienced in gaining access to the information they required.

3.7 CONCLUSION

This chapter explained the research method that was executed in the study. The decision on the appropriate method for the study was based on the methods that were used by other researchers in the information behaviour studies. A qualitative research approach was employed. The sampling method used was a convenient sampling. A questionnaire was employed to collect empirical data which was in turn analysed inductively. The purpose of the next chapter is to analyse and report the research findings. .

CHAPTER 4

BARRIERS TO STUDENTS' INFORMATION ACCESS

4.1 INTRODUCTION

Chapter 3 discussed the research methodology used to explore the students' barriers to information access. The different qualitative designs that were used to explore users' information behaviour were identified and the most appropriate research design selected for this study. Twenty two (22) respondents participated in the study.

In this chapter, the empirical findings pertaining to the barriers that affect students' access to information at the Chancellor College's Library are reported and the discussion shows how these affect on students' access to information.

4.2 IDENTIFICATION OF BARRIERS

As pointed out in chapter two, many types of information barriers exist in academic libraries. These barriers create different challenges to users as they endeavour to access information for their academic tasks. As such, respondents were asked to identify the barriers they encounter when trying to access the information that would support their information needs. The question was formulated as follows: "Do you experience any problems in accessing information in the Chancellor College Library?" "If yes, what problems do you experience?"

4.2.1 Library infrastructure

Infrastructural related issues such as "network connectivity", "shortage of computers", and "intermittent power supply" seemed to present the respondents with problems in accessing information that is online available. Respondent A noted that the computer network was slow and not reliable whereas Respondent B commented on how intermittent power supply affects her ability to retrieve the required information. On the shortage of computers in the library, Respondent H said, "I am unable to utilise the Internet because of the limited number of reliable computers in the library." These findings are similar to the

findings reported on by Okeke and Osinyi's (2009) and Sigh's (2013:768-769) which reported on a lack of bandwidth, shortage of computers and an irregular power supply.

4.2.2 Locking up computers with personal passwords

In ensuring that all students use the computers with ease, students log on using their usernames and passwords. After use, they simply log off. However, some students lock the computers with their personal passwords after use.

To use the computers, other users then have to get the administrator's assistance to sign onto the computer or they need to restart the computer. The habit of locking computers with passwords acts as a barrier to information access. It creates a situation where computers become non-user friendly as it creates restrictions to access information. According to Respondent T, this kind of behaviour is both stressful and frustrating. As he explains, "It gives me stress to find the computer I want to use locked up as if library computers are personal."

Mumo's (2007:72) study applauds the use of personal passwords by users to improve access to electronic resources. However, this study has established that the use of personal passwords to lock computers after use hinder the smooth access to electronic information by other information users. This poses as a restriction and wastes users' time.

4.2.3 Lack of relevant books and journals

Relevant reading resources are crucial to support student's academic related information needs. Most of the respondents commented on the problems they experience in finding books that are relevant to their individual subject fields. Respondent C said, "...the library has many resources and yet not relevant to my courses..." In turn, Respondent N noted that the required information for some courses is available whereas this was not the case for other courses. Respondent C's comments could be viewed as being indicative of a library collection which does not adequately provide for all subject fields. These findings support Frahadi's (2012:6) findings indicating that a lack of relevant books and journals could be a barrier to information access.

When considering the discussion in section 1.2, the Chancellor College Library lacks funding to adequately develop the library collection. The reported lack of relevant books and journals could therefore be a direct result of the funding issues experienced by the library. This view is supported by

Davies' (2014:149) findings pertaining to the difficulties academic libraries experience to build balanced collections when they have insufficient funds.

4.2.4 Librarians who are not knowledgeable

Librarians' knowledge and skills could become a barrier to information access. This view is supported by Respondents B and C's comments. According to them some of the librarians at Chancellor College lack the knowledge and competency to support users in satisfying their information needs. As Mumo (2007:64) asserts "... librarians need to be more knowledgeable in order to remove the users' perceptions that they cannot answer their questions."

However, respondents B and C's comments could also be a case of not being able to properly formulate their information needs, as Respondent Q reported. As he explains, "Yes I have problems to communicate to some librarians on what I need and have ended up not being helped..." As a result, a communication gap manifested between the respondent and the librarian and the communication gap that arose became a barrier to information. The foregoing finding supports Savolainen's (2015) views reported on in section 2.4.1.4.

Respondent M's comment reflected a different issue concerning librarians. According to Respondent M, "...it is not easy to find the information because the attitude of some librarians is not helpful at all..." This comment corroborates with Otieno, Otike and Rotich's (2015) study discussed in section 2.6.3 in which they commented on how library staffs' attitudes influence users to use library services. According to them, users often require assistance from librarians to help them in tracing information resources from the library system. So, negative staff attitudes affect service delivery on information users (Mutwiri & Jain 2005).

4.2.5 Information literacy skills

Information literacy skills are important because they provide abilities in recognising when information is needed and the approaches users should take to find and evaluate information to effectively answer their needs.

Respondents E and F's comments show that they lack information literacy skills to access information through the use of the library catalogue. Similarly, Respondent H said "... I also have problems to use the catalogue so that I can know where to find the books I need for my assignments." In contrast, Respondent

J said “No, the information is accessible. Librarians too assist me a great deal but I had problems to access information when I was doing my undergraduate degree course.” This comment is indicative of the problems undergraduate students encounter when trying to access information. The problems the undergraduate students experience could be put to a need for information literacy training as opposed to the postgraduate students who were able to properly formulate their information need and which made it possible for the librarians to better support them.

The findings pertaining to a lack of information skills among students to independently search for information, confirms Shenton’s (2007:280-283) findings cited in section 2.4.1.4. According to him poor information search skills act as cognitive barriers to information access because users have inadequate skills hindered by a lack of understanding of bibliographic tools. Also, Savolainen (2015:613-623) noted that the selection and access to information sources can be hampered by individual’s poor search skills due to a lack of procedural knowledge about how to conduct the information seeking process through the catalogue. Therefore, Garner (2005) and Mutwiri (2005:124) suggested that libraries should continuously teach information literacy skills to all users.

4.2.6 Institutional barriers

Information access can also be hampered by institutional barriers (Savolainen 2016:52-59). The Respondents identified the following institutional barriers that hamper their access to information:

- Reading space: “...secondly there is critical shortage of reading space in the library” (Respondent L).
- Loan duration: “...the period you are allowed to use the books in the library and for overnight [use] is too short” (Respondent D).
- Tall book shelves: Whereas Respondent E said, “I always have difficulties to check for books on the tall shelves”, Respondent F said, “My height disadvantages me to find books because the shelves are high up.” These views reveal that problems shorter respondents experienced when trying to physically access books on the library shelves exist. Inaccessible shelves hinder and limits information users to find books serendipitously.
- Restricted movements for disabled users: Two respondents commented on how their movements are restricted in the library. According to Respondent U, “I am unable to access the book shelves because the steps prevent my movement.” Also Respondent V said, “it is not possible to see what

the books are there on the shelves because my movements are restricted to our study room in the library.” These findings support what was discussed in section 2.8.4.

It is noteworthy that barriers to effective information access also include restricted movements and non user-friendly storage facilities which librarians should work hard to remove.

4.2.7 Book shelving

Shelving is the act of organising books by call numbers in a sequential order and placing them in their correct locations on the library shelves (Busayo 2014). Shelving is a daily routine in academic libraries and accurate and timely shelving facilitates and enhances services to information users. Returned books that are not shelved in time can be barriers to information access. The respondents in the current study complained that the books they needed were often not available on the shelves.

Respondents O and S’s comments in this regard revealed that the books were not shelved in the appropriate places in time. This corroborates Chege’s (1993) study that found that books were not properly shelved in academic libraries and were left lying on desks and trolleys. Books that are not shelved remain inaccessible and renders them being non-used by information seekers. Busayo (2014:116-121) and Norris (2019) made similar comments. They noted that some users do not seek specific titles and locate their resources by browsing the shelves. Prompt re-shelving of returned resources from circulation ensures the availability of resources on the shelves thereby providing information users with a wider selection of browsing (Chege 1993; Egbert & Malcolm 2009:89).

4.2.8 Anxiety

Library anxiety is an important barrier to information access. Some of the comments made by the respondents in the current study are indicative of how library anxiety acted as barriers to their ability to access information. Respondent G’s responses best explains this. He said, “...the library is quite [a] scary place. I rely on my friends to help me find information. If a helper is not available then I have serious problems with my assignments.” This comment confirms Savolainen’s (2015:617-618) observation in section 2.4.2 that individuals may have the cognitive ability to identify information resources but the process of accessing the resources could be hindered by low self-efficacy. Nahl’s (1997:276-277) report supports the foregoing comment that fear inhibits motivation to seek information because it is characterised by tension, helplessness and withdrawal and these fear related characteristics lead individuals to avoid accessing information. This view is supported by Mellon’s (2015) observation that

college students are prone to library anxiety because the students believe their research skills are inadequate, which makes them feel ashamed and unwilling to talk to the librarians for help. Respondent G's reliance on his friends support is a way of dealing with fear.

4.2.9 Information resources for the disabled users

The inadequacy of appropriate resources in the library for the visually impaired users is a barrier to access information. Respondent T's explanation supports this view. She said, "No, because the books and journals written in Braille and audio visual books are limited. So, my studying pace is slowed down because I have to wait for the librarian's help and this could not be the case if the resources in Braille were enough and available." As stated in section 1.2, limited provisions of financial resources to academic libraries make these libraries unable to acquire important information resources to satisfy all categories of users.

4.2.10 Summary of barriers identified by respondents

As discussed in chapter 2, barriers that prohibit information access appear in different forms. The researcher has, therefore, aligned and categorised the barriers that the respondents mentioned under internal barriers, external barriers and barriers associated with users and information resources. These barriers are indicated below.

TABLE 4.1 SUMMARIES OF BARRIERS

TABLE 4.1			
SUMMARY OF BARRIERS			
TYPES OF BARRIERS			
INTERNAL BARRIERS	EXAMPLES FROM THE FINDINGS	FEATURES OF BARRIERS	EFFECTS ON INFORMATION ACCESS
Cognitive barriers	-Poor search skills -Information overload -Lack of prior subject knowledge -Inability to articulate information needs to librarians -Lack of information	-Dependence on friends and librarians -Inadequate language competencies. -Inadequate information skills -Difficult to filter useful information	-Hinders access to information -Compromises selection of information -Prevents information use -Compromises information searching -Delays access to

TABLE 4.1
SUMMARY OF BARRIERS

TYPES OF BARRIERS			
INTERNAL BARRIERS	EXAMPLES FROM THE FINDINGS	FEATURES OF BARRIERS	EFFECTS ON INFORMATION ACCESS
	skills	-Dependence on gatekeepers -Indecisiveness -Lack of focus and confidence -Uncertainty to search for	information. -Restricts access to information. -Delays access to information. -Prevents access to information. -Prevents access to information. -Encourages to seek alternative resources - Difficult to find information
Conative phenomena	-Self-doubt to search for information	-Trial approaches -Uncertainty	-Negative affective reactions such as withdrawal
Affective phenomena (Library anxiety)	-Frustration/stress	-Withdrawal/self-rejection	-Manifestation of negative affective feelings such as fear and abandonment to search for information.
EXTERNAL BARRIERS Institutional barriers:	-Information organisation -Censorship -Language problems	-Disorganisation of resources -Miss-shelving of resources	-Delays information access -Encourages seeking alternative resources -Disrupts access to information -Suppresses intellectual creations -Hinders access to information. -Delays access to information. -Difficult to find information
USER AND	-Impassable steps	-Restrictions on	-Hinders

TABLE 4.1			
SUMMARY OF BARRIERS			
TYPES OF BARRIERS			
INTERNAL BARRIERS	EXAMPLES FROM THE FINDINGS	FEATURES OF BARRIERS	EFFECTS ON INFORMATION ACCESS
INFORMATION RESOURCES RELATED BARRIERS	-Vandalism and theft -Inaccessible resources -Obsolete resources	movements -Missing parts of information -Poor organisation of resources -Avoidance of usage	information access -Creates information gaps -Hinders access to information. -Prevents access to information.
ECONOMIC BARRIERS	-Inability to subscribe to electronic databases -Inability to increase bandwidth -Inability to buy adequate resources (books, journals, ICTs, Braille)	-Insufficient economic resources	-Hinders and prevents access to information -Delays access to information -Prevents access to information

Table 4.1 above reveals that the barriers encountered by students of Chancellor College Library range from cognitive barriers, conative phenomena, affective phenomena, user and resources related barriers and economic barriers. The effects of these barriers on information access are the same. The following discussion focuses on establishing areas or sources where students encounter most barriers.

4.4 INFORMATION AREAS OR SOURCES WHERE STUDENTS ENCOUNTER MOST BARRIERS

The ability to establish areas or sources where there are barriers depends on users' cognition. As discussed in section 2, Jaeger and Bowman (2005) recognise that "users require the cognitive ability to understand the source of information" and this is corroborated by Pitts and Stripling (1990:249) that "users should be able to read and understand the language and dialect in which the source of information is presented."

Therefore, in establishing information areas or sources where students encounter most barriers, the following questions were asked: “Which information sources are important to you?” “Why do you prefer these sources?” “Based on your experience, does the library provide access to current sources in your subject field?” Please explain your answer.” The responses are analysed below:

4.4.1 Books

Books have remained traditional sources of information after the scrolls and codex since A.D 868 (DeSalvo n.d). Students’ perception of the value of books has not changed; hence some respondents still value books as important sources of information. For example, Respondents D and O view books as being important sources of information because they provide detailed information and are easy to cite and convenient to read. In turn, respondents E, I, S and U are of the view that books contain credible information. Respondent D said, “Library books are simple and straight forward to use.” Further, Respondent H said, “Hard copy books are convenient because with issues of power blackouts, I can be able to read the books and use the information I need.” These comments echo Hannah’s (2009) and Alexander and Singer’s (2017) findings that books have earned a trusted spot in our culture as legitimate and accurate sources of information that are vetted by experts.

4.4.2 A combination of information resources

The information students need for academic purposes can be accessed from different resources as long as such information is relevant to users’ needs. As such, the respondents’ responses revealed that some students access various resources to seek for information that would support their academic information needs. For example, Respondents F and L’s comments indicated they preferred using books as opposed to online resources. Similarly, Respondents Q and U stressed the importance of books and the Internet as sources of information. Respondents C and R’s comments show that Google [Internet resources] and journals are important resources because it is possible to evaluate several sources at once and select the best source. Respondents J, N and P indicated that books, journals, Internet and professional people are important sources of information. They are of the view that books are written by experts and, therefore, contain credible information. Journals provide up to date information while the Internet provides them with current information. They acknowledged that the information retrieved from the Internet may be inaccurate. Professional people provide very good information from their expertise, know-how and experiences. On the basis of these comments, the following aspects emerge:

- Respondents J, N and P are postgraduate students and as such they realise the importance of reading different types of information sources to obtain information from different viewpoints.
- The existence of students with adequate library skills, which may be lacking in some students.
- The existence of some students who do not see the book as the only important source of information.

The use of different resources of information indicates most probably that some of the users want to use information that is from different viewpoints.

4.4.3 Law reports and journals

Law reports and journals are important sources of legal information because these provide both current and past court case decisions. This view is supported by Respondents A and K's comments that law reports and journals provide them with detailed relevant explanations and illustrations on how legal decisions on different aspects were interpreted and applied.

4.4.4 Computers

As discussed in section 2.6.7, computers are valuable tools as they facilitate access to information.

Respondents B and C are also of the view that computers in the library are important information resources. Their views are based on the reasons that computers enable them to obtain new and supplementary information that is pertinent to their studies.

4.4.5 Audio books

The use of audio visual resources cannot be underestimated as important sources of information. For example, Respondent T, a visually disabled student said, "Audio books, because I get all the information through hearing. I can pause and listen again." It is important that all information users, including the visually disabled students have access to the specific information they need for their studies. Audio visual resources create a stimulating and interactive environment which is more conducive to learning (Ode 2014: 433-445). The next aspect to discuss is the use of library's online catalogue or full text databases.

4.4.6 Currency of information

Current information is important because it is credible to answer users' tasks. Therefore, on the question, "based on your experience, does the library provide access to current sources in your subject field?" The

respondents provided the following responses: Respondents A, D, K and O's comments indicated to dispute that the library provides adequate current information which seems to compromise the quality of information they seek. Similarly, Respondents F, L and J's comments showed that the library falls short of providing enough current information. Whilst Respondent E succinctly said, "For the years that I have been a student here, I have not used many up-to-date books." Respondent E said, "No, the library does not provide current books and this has affected my studies..." whereas Respondent S commented, "There aren't enough books in the library with current information on my course."

The forgoing comments are indicative of a library that does not stock current sources of information and as stated in section 1.2, this could be attributed to inadequate funding that the Malawian universities and their libraries receive for acquisition of information resources. The next aspect to discuss is the use of library's online catalogue or full text databases.

4.5 THE USE OF LIBRARY'S ONLINE CATALOGUE OR FULL TEXT DATABASES

The online catalogue or full text databases provide an interface to search and retrieve the required information. Henslop and Keith (2012:226) opine that online catalogues and databases are gateways to larger and current information systems. In order to establish the use of the library's online catalogue or full text databases by students, the following questions were asked: "Do you use the library's online catalogue or any of the full text databases to search for information? If yes, "which of these information resources do you use?" Please explain your answer." The respondents' comments on how they search for information are indicated below.

4.5.1 Library online catalogue

Online library catalogues are vital tools that enable users to access a list of the holdings of the library. Respondent G said, "Yes, I check certain titles" whereas Respondent B said, "No, [to online catalogue] because it just provides the titles of the resources." Similarly, Respondents N, P and R's comments indicated that they do not use the library online catalogue. The foregoing comments suggest that users do not regard online catalogues as useful tools to obtain their information.

4.5.2 Full text databases

Full text databases provide both full bibliographical details, summaries to the entries and a link to the full text of the document. On the use of full text databases, Respondent A said, "Yes, journals on Social Science, these give current information although it is hard to open. They provide links to other titles".

Respondent G also commented, “Yes, soft copy books, economics journals and reports.” Furthermore, Respondent B said, “Yes, articles and research papers for my education program.”

Respondents L, O, S and U’s opinions seems to agree that they use full text databases for the reason that they are able to access information on food and nutrition contained in the journals. Respondents N, P and R’s comments indicated that they access full text databases for theses, dissertations, reports, electronic books and journals. In addition, Respondents’ K and D’s views showed that they use full text databases to access law reports and law articles. Their comments further indicated that it is easy to compare publications through links to other useful publications. As such, the majority of respondents revealed that they use full text databases as opposed to online catalogues as tools to search for information. The respondents’ explanations for their preferences for full text databases are summarised below:

- Full text databases provide current information through various resources for example: e-journals, e-books, reports, theses and dissertations and resources on general information.
- Full text databases provide links to related information resources.
- Full text databases make the comparison and evaluation of retrieved information from different resources easier.
- Information retrieved from full text databases is convenient and easy to select and archive for reference and future use.

The majority of the respondents agree that the library online catalogue is just a guidance tool to information resources and, therefore, many respondents avoid searching on it. Full text databases offer both searching functions and the retrieval of the required information and facilitate further searches through links. The respondents’ overall impression reflects Lin’s (2009:46) observation that full text databases provide relevant content and full bibliographic information of the resources as opposed to online catalogues. A discussion on information resources and where they are accessed follows. The following analysis centres on information resources and where respondents access it.

4.6 INFORMATION RESOURCES AND WHERE RESPONDENTS ACCESS IT

When users discover that their library does not provide them with useful information, they do not remain silent but are motivated by the existence of library cooperation or association to access information in other information centres or services. The information centres or services they use include institutional libraries, national libraries, archival repositories and libraries, information centres, homes, personal

libraries and professional individuals. Ossai-Ugbah (2013:99-102) observes that library associations provide good conditions for users of a particular library to access information resources of another library without incurring economic costs. According to him, this enhances and facilitates learning. Therefore, in order to establish where the respondents access information resources, the following question was asked: “Do you access these information resources in the library or from elsewhere, for, example, home?” Please explain your answer. The responses are analysed below:

It is important to note that the National Archives of Malawi, the National Library and the Zomba Theological College Library are situated near Chancellor College Library. Also the term “home” refers to students’ halls of residence.

4.6.1 Chancellor College Library

Libraries in academic institutions are the source of information for all categories of students.

Respondents A, B, C, E, F, H, I, K, M, N and O indicated that they access the information resources in the library. Their views that information is accessed in the library are also shared by Respondents U and V. In support, Respondent T also said, “I access the resources in the library.” This shows users value their library as the main provider of information.

4.6.2 Other libraries

Respondents A, I, J, P and R comments indicated that they access information in other libraries namely, the National Archives of Malawi and the National Library. Respondents L and Q’s (two theology students) comments showed that they access theology related resources at Zomba Theological College Library most of the time. Therefore, it seems as if the students who are enrolled for Theology studies prefer to use the Zomba Theological College Library when they seek information. These comments are evidence that although students rely on the Chancellor College Library for information, they are not able to access all the information they need for their tasks and hence, they resort to accessing information in other libraries. These comments underscores Svenonius’ (2000:124) findings that when users realise that the information they seek is not accessible, they do not hesitate to seek information in other institutional information agencies. The foregoing comments bring to light the following aspects:

- The inaccessibility of information resources in the Chancellor College Library serves as a motivator to seek information in other information infrastructures within the users’ locality.

- Good cooperation exists between Chancellor College Library and other libraries in the locality.

The Chancellor College Library, The National Library Service and the Zomba Theological College Library play complimentary roles in the provision of information.

4.6.3 Home

Respondents A, B, I, M and S also access the information resources they need in their homes. They download journal articles on their smart phones if the network is available. In turn Respondents E and H said:

- “I access both in the library and at home although there is poor network” (Respondent E.)
- “I access in the library. I also access at home (halls of residence) when I have enough data bundle on my smart phone” (Respondent H.)

These comments reveal that accessing information at students’ homes is conditional to the availability of good network.

4.6.4 Academic and professional staff

Academic and professional staff are custodians of useful and sometimes rare information which can be shared through personal interaction. The findings revealed that some of the respondents, for example, Respondents J, N, P, R and N tend to ask academic and professional staff for information. These respondents seemed to realise that professional and experienced people are also important sources of information. These comments support Egbert and Malcolm’s (2009:264) findings that people with specialist expertise and experience can be sources of valuable information.

The foregoing analysis reveals the different means the respondents employ to access information. Nevertheless, the majority of respondents still prefer using the library when they seek information that would support their academic related information needs. The next discussion focuses on the types of devices respondents use to access online resources.

4.7 TYPES OF DEVICES RESPONDENTS USE TO ACCESS ONLINE RESOURCES

According to Omekwu (2013:105), online resources that are available on the Internet include “documents, databases, e-books, e-journals and multimedia materials and when these resources are stored, transmitted and accessed over a Local Area Network (LAN), Wide Area Network (WAN),

Intranet or Internet, are referred to as online resources or e-resources.” Users use different types of devices to get access to online resources. In order to establish which devices are used to get access to online resources, the question was phrased as follows: “Which devices (for example computers, tablets, smart phones) do you use to access online resources? Please explain your answer.” “For what reason do you use these devices?” The responses are outlined below.

4.7.1 Library computers

Computers are used for various reasons. One of the main reasons why students use computers in the library is to conduct online searches on the databases the library subscribes to as well as websites on the Internet. Respondents F and M indicated that they cannot afford laptops or smart phones. Respondents B, G, Q, S, U and V indicated that they also use library computers. Respondent T further explains this when stating: “[I use] computers that are in our library reading room because I am unable to access library books for assignments and exams for my Social Studies Gender Studies.”

4.7.2 Personal devices

Personal devices such as smart phones, tablets and laptops are devices that enhance interaction, management and access to information at the respondents’ convenience.

4.7.3.1 Smart phones and tablets

Respondents A, D and R’s comments indicate that they use smart phones because of the congestion at the library computers. Since the library’s computers are always occupied, Respondents E and H’s prefer using their tablets. The reason they gave was that useful books are scarce in the library and using their tablets to access online sources was an alternative way of finding relevant information for their courses. Furthermore, Respondents B, G, Q and S and Respondents U and V (who are physically challenged) also indicated their use of smart phones. According to them, they access current information on smart phones and are, therefore, able to compare the information they read in books and handouts. These responses are indicative of how the students use alternative resources to get access to information.

4.7.3.2 Laptops

Respondents N, P and J use their personal laptops in the library. As they explained, they are able to retrieve useful information from published on-line theses and dissertations for their master’s studies. Also, they noted that online resources provide links for further research. As shown in Table 3.2, these

respondents are postgraduate students that require current and advanced information for their studies. Respondents I, K and C's comments indicated they use smart phones and laptops to access information for their studies. Their responses to question 7(d) showed that they needed information for their Bachelor of Arts Communication and Cultural Studies, Bachelor of Social Science and Bachelor of Education courses.

The respondents' use of library computers, personal devices such as smart phones and laptops as devices to access online resources for their academic tasks helps them to obtain useful and current information. These findings support Omekwu's (2013:105-106) findings that the use of online resources for research and educational purposes by students (undergraduate and postgraduate) means that they benefit from the works of experts in the different fields of study. The next discussion centres on the use of library catalogue or online databases.

4.8 THE USE OF LIBRARY CATALOGUE OR ONLINE DATABASES

One of the most important bibliographic tools that facilitate the smooth access to information resources in a library is a library catalogue or online database. In order to establish the reasons why the respondents do not use that the library catalogue and online databases, the following question was formulated: "If you don't use the library catalogue or online databases to search for information, please explain why not?"

The respondents' choices on the use of the library catalogue or online databases are analysed below.

4.8.1 Library catalogue

The main role of library catalogues is to facilitate the identification of information sources that are available in the library and to establish where they are located. Respondents G, J and M's used the library catalogue once. Unfortunately, they were unable to find the books on the shelves and they felt they had wasted their time. Respondents L and O maintain that they rarely find the books on the shelves after obtaining the book titles and their shelf numbers from library catalogue. The respondents' non-use of the library catalogue is attributed to the following reasons:

- The library catalogue does not provide instant information.
- Some respondents do not find the books on the shelves after consulting the catalogue and feel it is a time wasting procedure of finding books.

The foregoing comments reflect bad shelving or books that are hidden which mean there are too few copies to meet the needs of users. These findings endorse Chege's (1993) findings.

4.8.2 Online databases

Online databases provide access to non-print information resources. The majority of the respondents indicated that they prefer using online databases as opposed to using the library catalogue. Their reasons appear to centre on two reasons. The first reason is that they are able to access current and multiple sources and have wider choices in selecting the most relevant information. The second reason is that databases have links that enable them to retrieve alternative sources of information on subjects of their choices. In other words, online links facilitate further research.

4.9 LIBRARY TRAINING REQUIREMENTS

Library skills training is important to ensure the library users are able to orientate themselves in the library and able to effectively search the library catalogue and online databases. Library skills' training enhances information searching and the evaluation of sources. In order to establish students' perceived need for library skills training, the following question was asked: "Do you require any library training on how to access online library resources? Explain your answer."

In response to this question, Respondents A, R and T indicated a need for library training so that they are equipped with the knowledge and skills to search for information. Respondent B also said "Please, we do. We are not oriented properly in first year on how to find materials; we rely on friends' help." Similarly, Respondent I said "Yes, some of the areas are sensitive and need to be equipped with some knowledge before using them. First year orientation is not done in detail."

Respondents G and Q's comments indicate they lack skills to use computers and, therefore, encounter difficulties to search for electronic information on the online databases because some of the students have no experience on how to use computers. Whereas Respondent K said "I struggle to access online resources on my own...", Respondent H said "I access information due to the help of some librarians and my friends."

Respondents M, N, P and T's comments indicate that they require library training because training would empower them to find information on their own. Respondents C and U also agree that library training is required in order for them to have easy access to information. Respondent V said, "Training is necessary because it gives [me] confidence."

As pointed out in section 2.4.1.4, cognitive barriers include poor search skills which prevent individuals from carrying out a successful information search and lead to a premature closure of an information search process. The respondents' comments on the importance of training also resonates with Egbert and Malcolm's (2009:126) assertions that training equips information users with skills to find credible information from complex information resources for their studies.

In view of a need for information skills training and to establish whether the respondents attended training in the library, the following questions were asked: "If your library does offer training on how to access online library resources, have you attended the training?" "What are your experiences of attending the training? Do you need more training on how to access online library resources? Please explain your answer." The responses are presented below.

Respondents G and O indicated that training on how to access online resources was offered during their first year. Respondents A, B, C, D, H, L, R, Q, T, U and V's also noted that library orientation (training) is conducted when the students are in their first year. The respondents' seemed to have had poor training experiences as they deemed the training content inadequate as they did not acquire the knowledge and skills to access the information they need with ease. Respondent I said "I only learnt about some library skills during orientation in the first year and honestly I did not follow it well because we were being taught in big groups..." The foregoing comments resonate with the postgraduate respondents comments. Respondents J, N and P indicated that they had attended library orientation in their first year. They further indicated that the training on how to access online resources would have been useful at undergraduate and postgraduate levels if it was covered in more depth in terms of content and then repeated during the next year of study.

The request for a repeat in training opportunities raised by Respondents J, N and P are echoed by respondents F and M. They indicated that they joined the Chancellor College late during their first year of study and they did not have the opportunity to attend library orientation. Therefore, offering additional training to students for the second time would ensure that all students acquire some library skills on how to access information in the library. The next discussion centres on establishing actions students take to overcome barriers they encounter.

4.10 ACTIONS TAKEN TO BRIDGE INFORMATION ACCESS BARRIERS

As pointed out in section 2.4.3.3, students undertake actions to overcome information access barriers when they cannot access information in the library. In order to establish the actions the students take, the following question was asked: “What do you do when you are unable to access important information in the library?” This question yielded the following responses:

4.10.1 Use of Google

Google seems to provide a valuable platform for accessing current and scholarly information. The following comments made by some of the respondents support this view:

- Respondents A and F rely on Google to search for information.
- Respondents E and O also commented that they Google on the Internet in the library.
- Respondent T also commented, “I always use Google to search [for] information that is not available in books and journals of the library.” Respondent T further commented, “I search information by using Boolean method and short statements....”

The reported comments endorse Georgas’ (2013:165-185) findings on the use of Google as a platform to search for scholarly information.

4.10.2 Use of smart phones

The use of smart phones as a tool to access information is also adopted by some of the respondents. Respondent B said, “I struggle on my own to find money and buy data bundle to use on my smart phone to download the information.” This comment reveals the importance students attach to information and their determination to ensure that they access information for their academic success.

4.10.3 Vandalism of information resources

Vandalism of information resources is a way users employ to overcome barriers to access information. Respondent C revealed that he mutilates pages from books. He said, “I...sometimes (and some of my friends too), I am attempted to remove some pages from some popular books and use for my studies”. Whereas Respondent N complained that “...some documents in the ‘Malawiana’ library have some pages missing or removed...these [documents] provide me with incomplete information.” He complains further that “some documents’ print in the ‘Malawiana’ library has faded off or torn off so it is difficult to read and comprehend the content.” Should Respondent N’s suggestion that some pages were removed be

correct, this could indicate criminal activities which render the resources void of complete information. Ogunyade (2005) contends that criminal acts in libraries are costly and disruptive to the library as theft and vandalism in particular have adverse effects on users. Vandalism of resources was discussed in section 2.6.8 as having negative effects on the use of the library because it deprives other users of important information (Ajayi & Omotayo 2003:4). However, considering Respondent N's comment, missing pages, fading print and torn pages could be suggestive of the age of some documents and the frequent use that has been made of them over the years. Irrespective of the reason for why pages are missing in these sources, the mere fact that the pages were removed causes a barrier to information access.

4.10.4 Theft of resources

Users resort to theft of resources to overcome barriers they encounter to access important information in the library. For example, Respondents E and O revealed that they deliberately delay returning some popular books they had borrowed from the library so that they can own the books once the librarians declared them lost and had charged them for the books. These comments could be indicative of the students' desperation to access relevant information and of their selfish attitudes pertaining to the handling of public information resources that are supposed to be protected and responsibly shared. As discussed in section 2.6.8, criminal acts manifest in theft, vandalism, concealment and defacement of information resources. Furthermore, Ike and Oshu (2011:19-21) observe that "theft and vandalism of information materials in academic libraries are caused by library users or patrons." As a consequent of this, library users contribute to some of the barriers that hinder the smooth access to information and to the non-availability of some useful resources in the library.

4.10.5 Databases

Bibliographic databases such as the full-text databases libraries subscribe to are valuable sources of current information. The findings revealed that the respondents, when they were unable to access important information in the library, accessed the required information from the library's databases. Respondent G stated, "I search for soft copy journals on the college's peri-e-journals site or download information on the Internet..." This comment shows that the respondents interpreted their information searching in bibliographic databases as a means of dealing with an information access barrier, whereas they actually utilised the library's resources for this purpose. Mumo (2007:103) attests to the fact that

databases facilitate learning as they provide students and researchers with current and relevant information.

4.10.6 Interpersonal communication

Interpersonal communication is an important information channel in realising individuals' and organisational goals. An objective of interpersonal communication is to facilitate the smooth sharing of information, experience and knowledge, transmission of ideas (Owoeye & Dhunsi 2014:75-87). It is with this understanding that some users resort to interpersonal communication to access information. Respondent H and M's comments that they prefer participating in group discussions where they want to share and exchange information support this view. In turn, respondents U and V contact librarians to find information for them and the information they retrieve in this manner is supplemented by the Internet. Similarly, Respondents R, G, and T's comments below also reflect their views towards seeking information through interpersonal communication:

- Respondent R: "I contact librarians and my friends for help."
- Respondent G: "...I also contact one of the two good librarians whenever I have problems to find information."
- Respondent T: "... I ask my friends that did the same course."

As highlighted in section 2.6.3, social ties and interactions play an important role in accessing and exchanging information between users and librarians whereas the students' avoidance to interact with librarians create barriers to information access (Jiao & Onwuegbuzie 1997).

4.10.7 The use of alternative resources of information

The use of alternative sources of information is deemed an appropriate action by some users in an institution where they encounter barriers to access information for their needs. Respondents J, N and S's comments revealed that they seek information in other libraries when the Chancellor's College library cannot provide them with the information they need. Likewise, Respondents K and L also indicated that they consult other libraries such as departmental libraries and the Zomba Theological Library for information. In turn, Respondent D said "I always use WiFi which is also difficult to use due to the large number of students that use it". Respondent C also stated, "I access information online in the library using WiFi because of the short duration that we are given to use the books that are on the reserve section..." As highlighted in subsection 4.4.5, these comments also indicate that the respondents interpreted their ability

to use WiFi in order to search for information as a means of dealing with an information access barrier, whereas they actually utilised the library's infrastructure for this purpose.

As discussed in section 2.4.3.3, Savolainen (2016) also believes that the difficulties users encounter to find information in their information system may motivate them to seek alternative means of satisfying their tasks at hand. The next aspect for discussion centres on determining information accessibility.

4.11 DETERMINING INFORMATION ACCESSIBILITY

As discussed in section 2.3, information accessibility is “the ability to obtain information and the ability to use the information obtained” (Whiteley 1994). Information can only be obtained and used for a purpose if it is accessible. So, in determining information accessibility, the question was formulated as follows: “Is the information you need for your studies accessible in the library?” “Please explain your answer and illustrate your explanation with examples.”

Responses to the foregoing question yielded two categories of responses. The first one is inaccessible information resources and the second one is accessible information resources. The respondents' responses are explained and analysed below:

4.11.1 Inaccessible information

Firstly, the respondents highlighted a lack of resources in specific subject fields. These include the following:

- Phenomenology, religion and Islamic jurisprudence (Respondent A).
- Analytical skills and techniques in philosophy (Respondents B and F). Respondent F further commented that “...if they are, then the lecturers have them ...”
- Books on Phenomenology and Religion and Islamic Jurisprudence. This need is expressed by Respondent A: “...for instance, information on Phenomenology of Religion and Islamic Jurisprudence is not available...”
- Books on analytical skills and techniques in Philosophy. Respondent B said, “... For example, books on analytical skills and techniques in Philosophy are not available...” Respondent F also said, “No, for example, Logic and Philosophy books are not available... if they are, then, lecturers have them...”
- Books on Human ecology, genetics and molecular biology. Respondents C and D's comments show that useful information on the subject courses they are pursuing is not accessible.

- Books on Organic Chemistry. Respondent E commented, “Yes, there are books provided for each and every course... Organic Chemistry books are not available.”
- Books on Geomorphology, hydrology and [English] Literature criticism. Respondent R said, “The information is not accessible. For example, Geomorphology books, hydrology books and literature and criticism books.”

Secondly, some respondents also highlighted a lack of resources in subject fields that were general in scope. These include the following:

4.11.1.1 Books on Hydrology and Climatology [Geography]

Respondent J said, “I have problems to access good books on hydrology and climatology. For example, the moment you come to the library, you find good books just returned from overnight loans borrowed by other students. You book the book, you are told you are not the immediate borrower because some students booked it first...I wonder how librarians work... they are partial in their dealings with students. Some students are favoured while others are not and have a quarrel or misunderstanding with some librarians, you will never get good books”. This comment is reflective of a library that experiences the following things:

- Shortage of valuable (prescribed or recommended) resources in stock.
- Prevalence of a poor working relationship between some students and some library staff.
- Lack of commitment and fairness on some library staff.

Concurring with the foregoing respondents’ comments, Majid’s et al. (2001:176-186) study also found out that negative user’s perception on their libraries and librarians adversely affected service use.

4.11.1.2 Books on Property law and Law of trusts

Respondent L said, “...Books on property law and law of trusts are not accessible. The available books are outdated and the books that look new are not relevant to my studies”. Respondent F expressed similar views: “... some books are relatively new but then they are not useful for my course.” The new books that are available and deemed irrelevant by students are the books that were donated to the library. This was observed by Respondents I and L. They observed that a number of books bear the stamp “Donation” or “Not for sale resale - Book Aid International.” As a result, some of the new books that are available in the library are not necessarily relevant to students’ specific courses. This confirms Douglas’ (2017)

assertion that although libraries are guided by their collection policies, the donations libraries accept do not essentially meet the specific needs of their users.

4.11.1.3 Books on Humanities and Sociology

Respondent T indicated "... books in Braille for my Humanities course are limited and some are not even available. I depend upon librarian's help because I cannot access the book shelves in the library stairs." They further indicate that audio visual books are scarce. These comments reveal three important things, namely:

- Information resources for the visually and physically disabled users are limited in stock.
- Information resources for the disabled users are not available in some key areas of their courses.
- Reliance on librarians to provide information may not give a true picture of the availability of resources considering the attitude of some librarians towards helping their users as discussed in section 4.5.1.5.
- It is noteworthy that some respondents access Google as a way of utilising the available information.

In section 2.8.4, Kempthorne (2013) highlights some of the major problems faced by users with disabilities that include: in availability of appropriate learning resources, impassable steps, unfriendly furniture, narrow aisles and tall shelves that hinder retrieval and access to information resources.

4.11.1.4 Books on Macroeconomics

On the accessibility of information on Macroeconomics, Respondent I said, "Yes, some of the hardcopy books I need for my course are accessible. For example, books on Calculus by James Stewart. But good books on Macroeconomics are not available... Lecturers keep them. The available books are old and in bad shape." This comment brings to light two issues, namely:

- An acknowledgement that some information resources are accessible, for instance, Calculus books.
- A revelation that some useful books are available in the library and that students cannot use these books students because they are being used by lecturers. This comment is also corroborated by Respondents' A, B and F's comments that the available useful resources are borrowed by lecturers.

This gives the impression that such valuable materials are not returned or are borrowed by the lecturers for extended durations to the disadvantage of students.

Although this is noted as disadvantageous for students, Hammond and Powell (2009) believe that extended loans to teachers ensure that all learners benefit from the limited resources through the teacher's instruction. They are also of the view that this helps to protect the resources from the pressures of borrowing, handling and use by the users, thereby prolonging the life-span of resources.

4.11.1.5 Current information resources

Respondent S said, "for example, I have not used books that were published two or three years ago". In turn, Respondent L said, "The available books are outdated and the books that look new are not relevant to my studies." These views suggest that students whose courses require up-to-date information ignore accessing outdated resources. However, Respondents' K and R's comments imply that adequacy of current information resources in a library enhances their accessibility as opposed to limited new resources that are accessible to limited information users.

4.11.2 Accessible information

Respondents' C, D and S's comments indicate that whilst information is deemed inaccessible in the library, the information is accessible in the "Malawiana" collection. (The "Malawiana" collection is a collection of resources that have been written by Malawians or non-Malawians about the different aspects on Malawi such as history, geography, economics, politics and culture). This comment suggests that the resources in the "Malawiana" collection are always available. The reason could be because these source may only be consulted in the library as stipulate by the Chancellor College's Library Rules and Regulations. The next discussion focuses on establishing the potential effect barriers have on students' academic learning or research.

4.12 THE POTENTIAL EFFECT BARRIERS HAVE ON STUDENTS' ACADEMIC LEARNING OR RESEARCH

As discussed in section 2, there are different types of barriers that can negatively affect information access. However, in presenting negative effects on information access, these barriers also motivate users to access alternative information resources. Therefore, in order to establish the effect information access barriers have on students' information seeking behaviour, the following question was asked: "Are you

frustrated when you can't access important resources in the library? What are the effects of your inability to access current information? Please explain your answer.”

4.12.1 Determining the effects of inability to access important information resources

The nature and quality of the information that is available in libraries and the accessibility thereof determines the level of users' satisfaction. As Mumo, (2007) observes, users are only interested in accessing the most useful information in time, but if they encounter obstacles, then their learning is affected and they start looking for other alternatives. Therefore, in determining the effects barriers to information access has on the respondents' academic progress, the following question was asked: “Does the inability to access important information in the library affect your academic learning or research? If yes, please explain how it affects you.” The responses are presented below.

4.12.1.1 Inability to access valuable information

Respondents J, N and P's views indicate that they access some publications with incomplete information and that some relevant publications for research are not available so they needed to spend time and money to conduct further research in other libraries. Respondent A said “Yes, it does it does affect my academic learning because I am unable to access important information. I know things from a narrow perspective which would not have been the case had I read the information that has an important bearing on my courses.” Further, Respondent F said, “If important information is nowhere to be found, how can one write a reasonable paper? A library is very important because college success depend on the library resources.” These comments suggest two important things:

- Inability to access important information is a concern shared by both undergraduate and postgraduate students. According to the respondents' profiles in Table 3.2, Respondents J, N and P are postgraduate students whereas Respondents A and F are undergraduate students.
- The comments also emphasise and illuminate the expectations that information users hold about the important roles a library plays at an academic institution. So, when users' expectations are not being met, it leads them to discontentment and frustration.

Accessibility of resources in a library is very important because it provides solutions to users' assignments in time.

4.12.1.2 *Discontentment and frustration*

Respondents Q and R's comments are indicative of users' frustration when they are unable to access useful information in their library that would enable them to complete their assignments. The foregoing views are also shared by Respondents U and V that they depend on the library as their main source of information. Further, their comments indicate that their reading materials are expensive [to buy] and hard to find so, if they cannot access important information in the library, they get stressed out and their academic performance is affected.

4.12.1.3 *Poor academic performance*

The views of Respondents C and S are that life at university is made simple if important information is available and accessible at the library because it is only then that students can be successful in their academic performance. This is also shared by Respondent D, "Yes, important information is required for one to do a good research and obtain good grades. Lack of information badly affects our studies including research." Respondent L puts it frankly, "Yes, because I even fail my assignments because of inadequate important resources and sit for supplementary examinations."

The foregoing comments are a reflection of the crucial roles that important information plays in the academic lives of students in tertiary environments and it supports Bergeron's (1996:295) and Citroen's (2011:494) findings cited in section 1.1 that information is a crucial resource for learning. Information empowers individuals to carry out successful tasks in different contexts.

4.12.2 Unavailability of current information

The expectation of users is that their libraries have adequate and useful information all the time. The unavailability of information sources can be a cause of frustration. Respondents A, O and R indicated they are frustrated when they cannot access hard copies of books that have trustworthy information. In support, Respondent C said, "I am particularly frustrated because the books that are in the library contain old information..." Also, Respondent T said, "Yes, I am mostly frustrated because useful books are not in abundance and so you end up not studying what you intended to."

Unfortunately, the unavailability of information in the library affects the students' academic performance. The comments made by Respondent U highlights the dire effect a lack of credible information has on his academic studies. According to him, "Yes, information that we get determine our performance at Chancellor College so, if we are failing to get good information our performance will be poor and then

fail the exams.” Similarly, Respondent L said, “Yes, because ... I take the library as the nerve of information. So, when I do not find it [the information] I am very frustrated. ... Some students even cry if they cannot find information in the library.” Furthermore, Respondent G said, “I am very frustrated as it [the library] is our only dependable source of information in as far as our studies are concerned.” Respondents E, M and S’s views also reflect their frustration because their studies are affected in meeting deadlines for their academic work. Overall, the respondents’ comments attest to the fact that the success of students depends on the type and quality of resources available in the library.

The majority of respondents are frustrated when they cannot access important resources in their library. According to the respondents’ comments they experience frustration in the following ways:

- When they are unable to find hard copy books that contain credible information. This further supports Hannah’s (2009) assertions that books are trusted as legitimate and accurate sources of information that are vetted by experts.
- When the respondents are delayed in the completion and submission of their assignments. This is because they were unable to access appropriate information within the time limits. For example, Respondent D said “Yes, it hinders my progress because I cannot expedite my academic assignments.”
- When the library is unable to meet learners’ information needs.
- When some students fail their assignments and examinations due to poor and insufficient information. This suggestion is supported by Respondent U’s comment: “information that we get determine our performance at Chancellor College. So, if we are failing to get good information our performance will be poor and fail the examinations.”
- When Librarians are not willing to help users when they are approached for help. Respondent H expressed her experiences when stating “Yes, it happens that sometimes I have important assignment to be submitted and the librarian is unwilling to [support] me.”
- When the library stocks out dated resources and has limited computers, books and journals. For example, Respondent C said, “I am particularly frustrated because the books that are in the library contain old information.” Respondents I and L’s comments show that a number of books are donations as they are stamped “Donation” or “Not for resale - Book Aid International.”
- When respondents encounter gaps in information they access which leads to delays in the completion of their academic assignments as they have to seek additional information from other

institutional libraries and repositories to fill their knowledge gaps. Respondents J, N and P indicated that they access incomplete information from some documents with missing pages.

As discussed in section 1.1, these findings support Tortora and Heslop's (2014: 215) observation that the existence of barriers to information access creates gaps and in turn users are frustrated due to the information deficiencies they encounter.

4.13 RESPONDENTS ADVICE ON HOW THE LIBRARY SHOULD SUPPORT STUDENTS

Libraries exist to serve the objectives of their parent organisations by acquiring information resources, organising the resources and disseminating the information to the users in the most convenient and economic manner. However, it is important that users of libraries have their say on how their libraries should be managed. This view is in line with Egbert and Malcolm's (2009:252) view that client inputs have an important role in creating awareness and improvement of the services and in the understanding of the resources that meet the needs of the clients. It is in light of this, that advice on how to improve the library's services was sought from the respondents by asking the following question: "Could you please advise on how you think the library could support you?" The responses are summarised under the following headings: suggestions for the improvement of the library's resources, training suggestions, suggestions for lecturers and librarians and suggestions on reading space.

4.13.1 Suggestions for improvement of the library's resources

The respondents rendered the following suggestions to improve the library's resources:

- Procuring relevant and current books for the courses being offered (Respondents D, E, G, I & U).
- Procuring more computers and update current computers to support students who do not have access to computers at home (Respondents A, C, B, E, P, F& T).
- Subscribing to more online databases to provide students with a wider choice to access e-books and e-journals (Respondents B, G, J, & L).
- Subscribing to relevant journals and reports (Respondents A, K, J, N, P & R).
- Increase Wi-Fi infrastructure so that students are able to access the Internet anywhere on the Chancellor College campus whilst using the library's computers and their personal devices (smart phones, tablets) to access information (Respondents H, N & R).
- Acquiring adequate reading resources in Braille and other resources appropriate for students with different disabilities (Respondents C, J, T, U & V).

- Digitise new and old resources in the “Malawiana” collection to protect these valuable resources from being overused (Respondents K, L, N & S).
- Imposing hefty fines on students who lose or mutilate books as a deterrent measure (Respondents G & H).
- Checking returned books to make sure that some pages have not been removed (G, H, I, O & R).

The respondents’ suggestions on the procurement of relevant and adequate current books, computers, subscription to more online databases and to relevant journals and reports including the digitisation of the resources in the “Malawiana” collection are crucial to ensure that the library becomes a reliable source of information for all categories of users.

4.13.2 Suggestions on training

Training of information users is of paramount importance in academic libraries because it equips them with skills and knowledge on how to plan, retrieve and organise information. The respondents provided the following suggestions:

- Providing a comprehensive training or orientation course to students (A, I, K & P).
- Providing additional orientation or training courses in the second year to ensure that all students undergo training or orientation (Respondents D & O).
- Training to new librarians so that they are more helpful to students (Respondents I, N & S).

Another important aspect of training is that it builds confidence in users to interact with information resources of different formats including the interaction with librarians.

4.13.3 Suggestions on lecturers and librarians

The respondents provided the following suggestions:

- Advising lecturers to return borrowed resources in time to ensure that students have the opportunity to use the same resources as well (Respondents A, B, Q & U).
- Advising librarians to collaborate with lecturers to ensure that the courses being offered have appropriate resources in the library (Respondents G, R & T).

Library resources are meant to serve all categories of users. It is, therefore, important that the resources should be available and circulate equally amongst the students and lecturers.

4.13.4 Suggestions on the creation of reading space

On reading space, the respondents rendered the following suggestions:

- Creating more reading space by abolishing lessons taking place on the open spaces in the library (Respondents B & L).
- Creating more reading space by building another storey as there is already provision for this (Respondents C, U, I & Q).

On the premise of the foregoing suggestions, it is the desire of the respondents that their library should have adequate and up-to-date resources in different formats. These resources should be relevant to their courses and accessible to use.

4.14 SUMMARY

This chapter presented the data that was collected from the students at Chancellor College. A questionnaire was used to collect data. The data themes related to the study objectives and research questions of the study. The actual words of the respondents have been used and in some instances quoted to emphasise their opinions.

The chapter presented data on the following key issues: identification of the types of information barriers, establishing actions students take to overcome the barriers they encounter, establishing information areas or resources where students encounter most barriers and establishing the effect information barriers have on students' learning or research. It also includes pieces of advice from the respondents. The next chapter covers summary, conclusion and recommendations and suggestions for the future study.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of this chapter is to discuss the conclusions to the research questions that were formulated in chapter one. The research questions are as follows:

- What types of information barriers are encountered by students?
- In what information areas or resources do students encounter most barriers?
- What actions do students take to overcome the barriers they encounter?
- How do the identified access to information barriers impact on students' academic work?

The limitations of the study will follow the conclusions to the research questions. Thereafter suggestions for further research will be discussed and the value of the study will be discussed. The final summary and comments will conclude the chapter.

5.2 CONCLUSIONS TO THE RESEARCH QUESTIONS

This study is based on the following research problem as highlighted in chapter one:

What are the barriers affecting students using Chancellor College Library to access information?

This research question is subdivided into the research questions as indicated below. The following paragraphs will answer the research questions.

5.2.1 Research question 1: What types of information barriers are encountered by students?

The main focus of this research question was to explore the barriers students enrolled at the Chancellor College encounter when accessing information in the Chancellor College library. The responding students identified the following barriers to information access:

- Library infrastructure.
- Locking computers with personal passwords.
- Lack of relevant books and journals.
- Librarians who are not knowledgeable.
- Inadequate training among some librarians.

- Respondents' lack of information literacy skills
- Lack of adequate reading space.
- Book shelving.
- Anxiety.
- Lack of inadequate resources for the physically challenged students.

The above barriers stem from the respondents' cognitive (for example, knowledge and skills) and affective phenomena (for example, attitude and integrity), economic conditions affecting personal and institutional financial constraints. It is, therefore, concluded that users face different types of barriers when they access information for their academic needs.

5.2.2 Research question 2: In what information areas or resources do students encounter most barriers?

The trajectory of the findings reveals a variation in the information resources in which the respondents encounter most barriers as they access information for their academic needs. The information resources the respondents access and use include:

- Books
- A combination of information resources (books, Internet resources, journals and professional people).
- Law reports and journals
- Too few computers in the library
- A lack of audio books
- Currency of information

The majority of the respondents view books as important sources of information. However, they seem to find it difficult to access books that are relevant to their academic related information needs. The variations in the information resources in which the respondents encounter most barriers are the result of the following reasons:

5.2.2.1 Information and communication technologies (ICTs)

The Internet is a major source of information because of its ease of use and convenience. However, students are not well served in terms of accessing information because there are a limited number of

computers available and the available computers are out-dated. Another related challenge is the power outages that affect access to information through computers and students who lock computers with their passwords.

5.2.2.2 Information literacy

Some of the responding students lack information literacy skills to use bibliographic tools such as the catalogue to find the information. Failure to understand search terms due to inadequate information search skills leads to fear and negative attitudes toward information use. For example, this is felt in students that encounter barriers when they access books.

5.2.2.3 The nature of the courses

The students enrolled for certain subject fields noted that the information that is available on the shelves and in the library for their courses or subject fields are out-dated and no longer relevant. However, law students' complaints can be interpreted as a lack of skills to access the full text journals online.

In conclusion, each user group encountered their own unique barriers that are aligned to their preferred information resources which they access in the library. In addition, students do not fully maximise the advantages of the Internet due to their deficiencies in information search skills.

5.2.3 Research question 3: What actions do students take to overcome the barriers they encounter?

The findings showed that there are not enough computers available in the library to support all the registered students' information needs. Some of the respondents then use their own devices to get access to the online databases. They use the institutional Wifi facility for this purpose. The library is viewed as a core institution in as far as information provision is concerned. As noted in section 1.2, students are overwhelmed with academic courses that require information. So, when students encounter barriers to access information, they seek other means of obtaining information for their tasks. The respondents used the following alternative means to access information:

- Google.
- Use of smart phones.
- Vandalising information resources.
- Stealing information sources.
- Access databases.

- Interpersonal communication, that is asking librarians or friends for help.
- Use alternative sources of information.

It is, therefore, concluded that users were dissatisfied with their library's information access processes and the available resources. However, the implication is that if barriers are not removed, then the library could be underutilised and consequently fail to achieve its core objective of providing information to its users.

5.2.4 Research question 4: What is the effect access to information barriers have on students' academic work?

The findings are a reflection of information barriers that have a cross-cutting effect on students' academic needs. The undergraduate students, postgraduate students and the disabled students experience the effects in the following ways:

- Discontentment and frustration.
- Poor academic performance.

It can, therefore, be concluded that barriers to access information impedes on the students' freedom to academic success. However, when the students encounter some barriers, they tend to explore other information seeking avenues to get access to the information they require. One of these avenues includes making use of the sources that are available in a different library. Except, the barriers are removed, information users will continue seeking information in other libraries.

5.2.5 Concluding answer to the overall research question

The findings suggest that students using the Chancellor College Library to access information encounter various barriers to information. The barriers students encounter can be grouped into external and internal barriers. The external barriers pertain to unavailability of relevant books and journals, the unavailability of fully trained librarians, improper organisation of resources, vandalism of resources and a lack of proper resources for the disabled students. The internal barriers students encounter can be attributed to their cognitive skills such as their information literacy skills.

5.3 LIMITATIONS OF THE STUDY

The study identifies the following limitations:

- The study focused on barriers to information access only, and as such, did not address other aspects of information behaviour that could also have provided additional insight into the problem.
- Secondly, this being a qualitative study, the results cannot be generalised, but could acquire some understanding of those factors that act as barriers in students' access to information.
- The researcher only looked at barriers to information access, but there are other factors that have the potential to affect the students' information needs, seeking and use behaviour which could not be addressed due to the nature of the study.
- The nature of this study renders it difficult to ensure or achieve external validity.

Nevertheless, the study has highlighted the barriers that students encounter when they access information their library.

5.4 RECOMMENDATIONS

Based on the findings, the researcher recommends the following improvements to the services rendered by the Chancellor College Library in order to ensure access to information:

5.4.1 Library collection

In consideration of the findings regarding insufficient and obsolete information resources, it is recommended that funding should be increased to acquire the following information resources:

- Current and adequate print resources.
- Adequate and up-date computers.
- Subscribe to more e-resources that would support student users' academic related information needs.
- Subscription to more subject databases or electronic journal databases.
- Creation of additional reading space with the possibility of building another storey.

- Acquisition of information resources for the disabled users such as audio books, audio visual books and Braille.

Libraries should endeavour to meet users' information needs by ensuring that appropriate resources are available and accessible to use.

5.4.2 Information literacy

Based on the responses to question 7 (a), the students lack the necessary information literacy skills that would enable them to search, locate and use information that is made available in the library catalogue and other bibliographic tools such as full text databases. It is suggested that the Chancellor College Library considers offering information literacy training at more regular intervals. More frequent information literacy training will support students who enrol late or would enhance students' skills who still feel uncertain despite having been trained. In addition, librarians should frequently assess whether the objectives of the training was met in order to adapt training programmes should that be necessary.

5.4.3 Digitisation of “Malawiana” resources

The findings revealed that some of the documents in the “Malawiana” collection have missing pages, fading print and torn pages. Therefore, in order to preserve these documents and make them more accessible to a wider audience, these documents should be digitised. In order not to infringe upon the Intellectual Property Rights of the authors or creators of those print resources, the library could follow the “fair use or fair deal rule” that allows for partial digitisation or photocopy of the original document for academic purposes (Business and Intellectual Property Centre 2021). This scale of digitisation of the documents will reduce incidents of missing pages or fading print and ultimately curtail the creation of information gaps.

5.4.4 Co-operation with faculties

Considering findings that lecturers keep some useful books for longer periods than generally allowed, it is important that library management collaborate with the academics. This would ensure that they strike a balance on the use of library resources thus ensuring that both students and lecturers have equal access to the library resources.

5.4.5 Weeding

The findings reveal that a good number of books are irrelevant to students' academic needs. The collection should be periodically weeded to ensure easier access to more current and useful resources.

5.4.6 Staff training

Staff training is important in academic libraries to ensure all staff members have the necessary skills to competently render a satisfactory information service to the users of the Chancellor College Library. Staff training should therefore focus on online searching techniques, new trends in information organisation and retrieval, user guidance and dealing with users who experience library anxiety of lack the required library skills and knowledge.

5.4.7 Vandalism and theft

In order to deter users from mutilating and stealing resources, it is prudent to impose stiffer penalties. Such penalties would help to defray the expenses for the damaged or lost information resources. In addition to the imposing of stiffer penalties, the installation of an electronic security system such as a "Closed Circuit Television" (CCTV) system could support security related activities focused on the prevention and control of library related crimes. The use of Radio Frequency Identification (RFID) tagging where the movement of sources can be tracked and the digitisation of rare or scarce material would also protect some sources. It is also important that adequate resources be procured as the accessibility of enough useful resources will deter users from vandalising, stealing or hiding resources they need for their studies.

5.4.8 Shelving

The findings revealed that the sources are not shelved in time and as a result users fail to locate and retrieve the information sources they need. Sources that are not shelved give the impression that the resources are not available. It is, therefore, recommended that adequate time should be allotted to shelve returned sources and to shelve-read at more regular intervals to ensure that the sources are in their proper places. For example, as a routine, library staff should allot time to shelving every morning and afternoon and do major shelving during weekends. Proper shelving makes the stock attractive and easily accessible and retrievable.

5.4.9 Library orientation

The findings also revealed an obstacle of conducting library orientation in big numbers and in a hurry. The librarians should split the students into smaller groups in order to cater for special groups and slow learners.

5.4.10 Installation of solar power

In consideration of the facts that users use the library's computers as well as their personal devices to access online resources, a constant supply of electricity is very important to ensure uninterrupted learning and research. It is, therefore, suggested that, the Chancellor College invest in a solar power installation as solar power could be a good alternative for the unstable power supply.

5.5 FUTURE RESEARCH

On the premise of the study findings, a variety of themes emerged that could warrant further research. The notable topics include the following:

5.5.1 Vandalism

The deliberate vandalism of information resources creates information gaps. It is important to establish the specific subject areas of information resources that are vulnerable to vandalism.

5.5.2 Out-sourcing information services

The findings revealed that the majority of the respondents also use the services of other libraries, besides their home library (Chancellor College Library). It is on this basis that it would be important to establish whether a boarding university can survive or satisfy its users by out-sourcing its information services including inter-library loans.

5.5.3 Social networking

It emerged that postgraduate students, besides the use of library resources, also seek information from the academics and other professional people. It is important to establish why postgraduate students do this unlike undergraduate students who do not network.

5.6 VALUE OF THIS STUDY

The study has provided both theoretical and practical contributions into the information seeking behaviour studies.

5.6.1 Theoretical value

The study confirms that various factors contribute to the information access barriers users encounter in academic libraries. These factors include: barriers deriving from the individual users' cognitive (intellectual) phenomena and barriers deriving from affective phenomena. The study also confirmed that various contextual barriers act as barriers to information. These barriers derive from the context in which the information need arises and from organisational contexts. Lastly, barriers deriving from socio-economic contexts where the economics of a country affects the funding a training institution receives to render a quality information service. The findings of the study also contributed to the understanding of the role users' information literacy competencies have on their access and use of information.

5.6.2 Practical value

The study contributes to the understanding of how research in information behaviour can support the improvement of user services. One such way is to expand the stock of the Chancellor College Library by procuring more current sources that are relevant to the courses being offered at the Chancellor College. Improving the library's collection to comply with students and researchers' information needs will enhance the access the users have to relevant information.

The findings can support information managers in understanding their users' information seeking behaviour better and in becoming more aware of the barriers the users experience. Such an understanding and knowledge will support the Chancellor College Library's managers in their planning initiatives focused on user support and the rendering of an appropriate and relevant information service.

5.7 SUMMARY AND FINAL COMMENTS

This qualitative study explored the barriers students enrolled at the Chancellor College encounter when trying to access information sources that are relevant to their academic related information needs. The information access barriers students' encounter can be grouped as being internal and external barriers where internal barriers pertain to the students' mental structures and external barriers are contextual barriers.

The identified internal barriers reflected students do not have the necessary information literacy skills to effectively search for information in the library. The identified external barriers include the availability of obsolete resources, limited current and relevant resources, poor connectivity, the unavailability of appropriate resources for disabled users and limited space. Students encounter most barriers when they access books, journals and reports and full text databases through the use of old computers. The identified barriers hinder students from obtaining valuable information and in turn it affects them negatively in their academic performance. However, the barriers students encounter seems to strengthen their resolve to seek information from alternative sources of information.

APPENDIX A: PARTICIPANT INFORMATION SHEET

22 November, 2018

Title: “An investigation into the barriers to information access at the Chancellor College Library, Malawi”.

Dear Prospective Respondent

My name is DOWELL NYONDO and I am doing research with Dr. Madely Du Preez, Senior Lecturer, in the Department of Information Science towards an MA at the University of South Africa. We are inviting you to participate in a study entitled “An investigation into the barriers to information access at the Chancellor College Library, Malawi”.

The study is expected to collect important information that could help me in finding out barriers that hinder Chancellor College students to access information for their academic needs. It will also contribute to the body of knowledge.

You have been selected to participate in this survey because you are a registered student of Chancellor College Library. I also believe that you have adequate knowledge and experience to share information in this study. The approximate number of participants for this study is 22 respondents. There are no monetary or material rewards to your participation in the study.

The study involves answering a questionnaire. The questionnaire comprises both open and closed questions. If you choose to participate, it will take no more than 20 minutes of your time.

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You will not be able to withdraw from the study once you have answered and submitted the questionnaire. I do not foresee that you will experience any negative consequences by completing the questionnaire.

The researcher undertakes to keep any individual information provided herein confidential and your name will be kept anonymous. You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your

involvement in this research. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your anonymous data/information will be used for other purposes, such as a research report, journal articles and/or conference proceedings. Findings of this study will be submitted for publication but individual participants will not be identifiable in such a report.

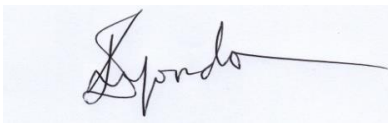
Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet in the library. For future research or academic purposes, electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. After five years hard copies of information will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

This study has received written approval from the Research Ethics Review Committee of the University of South Africa and Chancellor College Registrar. A copy of the approval letter can be obtained from the researcher if you so wish.

If you would like to be informed of the final research findings, please contact Mr. Dowell Nyondo on telephone +265 999 244 430, Email: dowellnyondo@yahoo.co.uk. Should you have concerns about the way in which the research has been conducted, you may contact Dr. Madely Du Preez, Email: preezm@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

A handwritten signature in black ink, appearing to read 'Dyondo', is written over a light blue rectangular background.

Dowell Nyondo

RESEARCHER

APPENDIX B: STUDENTS' DATA COLLECTION INSTRUMENT

SECTION A: RESPONDENTS' FIELD OF STUDY

1 State your field of study at Chancellor College

.....

SECTION B: IDENTIFICATION OF BARRIERS ENCOUNTERED BY STUDENTS

2 Do you experience any problems in accessing information in the Chancellor College Library? If yes, what problems do you experience?

.....

.....

.....

.....

3 (a) If you are a disabled student, what disability do you have?

.....

(b) Is the library able to provide you with the information you require? Please explain your answer

.....

.....

.....

SECTION C: ESTABLISHING ACTIONS STUDENTS TAKE TO OVERCOME THE BARRIERS THEY ENCOUNTER

4 What do you do when you are unable to access important information in the library?

.....

.....

5 Is the information you need for your studies accessible in the library? Please explain your answer and illustrate your explanation with examples.

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.....

SECTION D: ESTABLISHMENT OF INFORMATION AREAS OR SOURCES WHERE STUDENTS ENCOUNTER MOST BARRIERS

6 (a) Which information sources are important to you?

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.....

(b) Why do you prefer these resources?

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.....

(c) Based on your experience, does the library provide access to current resources in your subject field? Please explain your answer.

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.....
.....

7 (a) Do you use the library's online catalogue or any of the full-text databases to search for information?

.....

(b) If yes, which of these information resources do you use? Please explain your answer.

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

(c) Do you access these information resources in the library or from elsewhere, for example, home?
Please explain your answer.

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.....
.....

(d) Which personal devices (for example computers, tablets, smart phones) do you use to access to online resources? Please explain your answer.

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.....

(e) For what reason do you use these resources?

.....
.....

(f) If you don't use the library catalogue or online databases to search for information, please explain why not.

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.....

8 (a) Do you require any library training on how to access online library resources? Please explain your answer.

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(b) If your library does offer training on how to access online library resources, have you attended the training?

.....

(c) What are your experiences of attending the training?

.....
.....

(d) Do you need more training on how to access online library resources? Please explain your answer.

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.....
.....

SECTION E: ESTABLISHING THE POTENTIAL EFFECT BARRIERS HAVE ON STUDENTS' ACADEMIC LEARNING OR RESEARCH

9 (a) Are you frustrated when you can't access important resources in the library? Please explain your answer

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.....

(b) What are the effects of your inability to access current information?

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.....

(c) Could you please advise on how you think the library could support you.

.....
.....

10. Does the inability to access important information in the library affect your academic learning or research? If yes, please explain how it affects you?

.....
.....

APPENDIX C: ETHICAL CLEARANCE AWARD



PRINCIPAL
Prof. Richard Tambulizi, B.A (Pub Admin), BPA (Hons), MPA., Ph.D.

Our Ref:

Your Ref:

CHANCELLOR COLLEGE
P.O. Box 280, Zomba, Malawi
Telephone: (265) 01524 222
Fax: (265) 01524 046

Email: principal@ccac.mw

22nd August 2016

Mr Dowell Nyondo
Kamuzu Academy
Private Bag 1
MTUNTHAMA


Dear Mr Nyondo

RE: REQUEST TO CONDUCT A STUDY AT CHANCELLOR COLLEGE

Reference is made to your letter dated 8th August 2016 on the above subject.

Your request has been granted subject to you obtaining consent from individual participants.

I wish you a successful research.


Mary Wasiri (Mrs.)
REGISTRAR

cc: P

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