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**Adoption of fully-fledged open access e-resources in academic libraries: A case study of
the University of the Western Cape**

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Library and Information Studies, University of the Western Cape

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November 2023

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DECLARATION

I, Pelisa Vanda, declare that the mini-thesis titled *Adoption of fully-fledged Open Access e-resources in academic libraries: A case study of the University of the Western Cape* is my own work, that has not been submitted before for any degree or examination in any other university, and that all the sources I have used have been indicated and acknowledged as complete references.



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DEDICATION

I would like to dedicate this work to my late parents, Mrs Nolungile Mizpa Vanda and Mr Rufus Simemo Vanda, for the love, endurance, and the foundation they laid before they left the planet earth. Mama zange undishiye ndiyinkedama, imfundo owawuzimisele ngayo ukuba iyosigcina sewungekho yiyo le isibeke kulendawo namhlanje. Ndibamba ngazo zozibini Tenza, Tshezi, Mkhabela, Fakade.



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ABSTRACT

This study explored factors that affect academic libraries' full migration to open access (OA) publishing by critically evaluating existing literature on OA and by engaging with the librarian from the University of the Western Cape (UWC), South Africa. One of the main aims of this study is to investigate the barriers and challenges hindering the wider adoption of fully fledged open access resources at the UWC Library. This involves identifying factors such as technical limitations, licensing issues, perceived quality concerns, and institutional policies that might impede the seamless integration of open access resources into the academic workflow.

This study empirically applied the Diffusion of Innovation model by Rogers to explain the slow pace of transformation from subscription to fully-fledged OA adoption due to the cost of e-resources and factors influencing the use of e-journals in academic libraries. The researcher made use of descriptive survey research design. A total of 16 librarians from the UWC were sampled for the study with questionnaire as the instrument for data collection.

This study adopted a case study design since only the UWC library was investigated and the mixed method approach was employed for data collection whereby questionnaires were distributed before the document analysis. The research instruments employed in this study were web-based questionnaires distributed to the UWC library staff, policy documents such as such as UWC OA Policy, five year UWC annual reports, UWC e-resources guidelines, and collection development policy as well as pricing data from EBSCO 2022 and 2023 reports. The findings of this study indicate that the UWC librarians are aware of OA publishing and its approaches, however, more exploration is needed when it comes to the adoption of fully-fledged OA e-resources. Moreover, the study has discovered that academic libraries still have to teach and train their users on OA to improve its adoption and to foster the integrity of OA e-resources.

Keywords: Open Access, e-resources, e-resource budget allocation, academic libraries, Open Education Resources, Information Databases, e-resource pricing, University of the Western Cape Library

LIST OF ABBREVIATIONS AND ACRONYMS

APC	Article Processing Charge
CHELSA	Committee of Higher Education Libraries of South Africa
DDA	Demand-Driven Acquisition
DHET	Department of Higher Education and Training
DOAJ	Directory of Open Access Journals
DoI	Diffusion of Innovation
IFLA	International Federation of Library Associations and Institutions
IRs	Institutional Repositories
LIASA	Library and Information Association of South Africa
LIS	Library and Information Services
NQF	National Qualifications Framework
NRF	National Research Foundation
OA	Open Access
OATs	Open Access Textbooks
OERs	Open Educational Resources
OJS	Open Journal Systems
SANLiC	South African National Library and Information Consortium
SciELO SA	Scientific Electronic Library Online South Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UWC	University of the Western Cape
WHO	World Health Organisation
WoS	Web of Science

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

Academic libraries, the primary providers of access to scholarly communication systems in the digital environment, are caught between meeting the needs of scholars and adhering to publisher agreements (Hoskins & Stilwell, 2011). Shrinking budgets, financial cutbacks, financial constraints, fluctuating currency exchange rates and the annual increase in subscription fees are all constant challenges across South African academic institutions and, subsequently, academic libraries that make it difficult for them to acquire information resources (Satgoor, 2013).

Alternative techniques of acquiring information resources to avoid adverse effects of economic power in academic libraries have been identified. These include exploring the functionality and effectiveness of open access (OA), open education resources (OERs) and other potential alternatives to acquire electronic information resources free of charge or at a minimal fee. Researchers need to be aware that their research will have a greater impact in the research community when research data or findings are shared. Sharing data encourages multiple perspectives, such as pointing out of errors in research findings, deterrence of fraud, helping of new researchers get started and prevention of duplicate data collection, which makes funding more effectively used (Vilar & Zabukovec, 2019).

Because of the demand for scholarly information to be freely available, most academic libraries currently view OA publishing as beneficial to researchers but not as a mechanism of avoiding subscription journals. This study explored factors that influence academic libraries to fully migrate to OA publishing by critically evaluating existing literature on OA and by engaging with UWC librarians on subscription management of commercial and hybrid journals.

1.2 Background and Rationale of the Study

It has become standard practice for academic libraries to spend large portions of their budgets on the subscription to e-resources as they are an increasingly important component of the library collection (Ukachi, 2015). The economic impact of accessing e-resources has been a debate over a decade, and database aggregators such as Elsevier, SAGE, Springer, Thomson-Reuters, Wiley and many more are still seen as the main providers of information to academic institutions through e-journal subscriptions. The Open Access Movement started in the 1990s

as access to the internet became widely available and online publishing became the norm. The Berlin Declaration builds on the widely recognised Budapest Open Access Initiative. This initiative encourages the use and reuse of research results produced by authors without the expectation of compensation. Research results should be published on the Internet and contain necessary permissions to accelerate the pace of science and research output. Approximately 300 academic institutions, research libraries and archives around the world signed in acceptance of the Berlin Declaration (Berlin Declaration on Open Access, 2010). Forty-six African Universities also joined the movement (Association of African Universities, 2021).

Academic librarians and electronic resource management librarians (ERMLs) find themselves caught between the high prices of commercial scholarly electronic resources and library users expecting to retrieve required information without interlibrary loans or paying for information. Following the COVID-19 pandemic, e-resource librarians had to reevaluate their work in their libraries to accommodate the new normal of online services. When it became evident that circulating physical materials was unsafe, academic librarians had to establish different ways to source their physical resources to the users (Dodd et al., 2022). Moreover, Abdillahi (2020) is of the opinion that regardless of the epidemic, institutions ought to spend money on online resources to support e-learning.

According to Earnshaw (2012) publication of research papers in hybrid OA journals requires time-consuming administration and article processing charges (APCs) before the manuscript is editorially accepted and published. In a hybrid journal, some of the articles are OA, while others require a subscription (Björk & Solomon, 2014). Publishing in journals requiring APC means that the author or affiliated institution would have to pay a publication fee and, in some cases, a high subscription to get access to the article. However, because journal subscriptions are likely to be lower, when APC is negotiated, it is typically higher to publish on OA articles (Alizon, 2018). Some publishers might also put an embargo period of up to two years on an article, resulting in it not being available to the public, even to the institution where the paper was created.

Khatri (2019) noted that consortia can minimise the financial burden to facilitate electronic access to scholarly databases and journals while saving time, money and manpower. Currently, there are ongoing discussions and means across the world to combat the hefty subscription charges of accessing information.

Transformative agreements, also known as "read-and-publish" or "publish-and-read" agreements was first introduced at the University of California negotiated with Elsevier that has resulted in the library paying lower subscriptions, authors paying negotiated APCs and library users not paying to read (University of California, 2019). Transformative agreements have also recently been emerged in the South African sphere whereby the South African National Library and Information Consortium (SANLiC) also negotiates e-resource acquisition deals with the publishers and aggregators for the libraries. It is believed that open education enhances easy access to information resources and sharing of information among scholarly communication systems for future research activities. Organisations such as African Online Scientific Information Systems, a South African company based in Cape Town, encourage OA publishing by not charging APC fees and ensuring free access to information resources through OA publications of African scholarly research (African Online Scientific Information Systems [AOSIS], 2020). These agreements aim to transition from the traditional subscription-based model to OA publishing. This approach also helps libraries redirect their budgets from subscription fees towards open access publishing.

The goal of the PlanS platforms is to support fully-fledged and immediate OA of peer-reviewed scholarly publications from research that has received funding from both public and private grants. Plan S is an initiative launched in 2018 by a coalition of European Union (EU) research funding organizations, Gates Foundation and government agencies known as cOAlition S (MacLeavy, Harris, & Johnston, 2020; Frank, Foster, & Pagliari, 2023). The initiative's goal is to accelerate the transition to full and immediate open access to scholarly publications. Plan S sets out principles that researchers receiving funding from participating organizations must adhere to, including making their research articles openly accessible upon publication. Plan S also emphasizes that research outputs funded by public grants should be openly available for everyone to read and use. Overall, OA e-resources, PlanS, and transformative agreements are interconnected initiatives that strive to reshape the academic publishing landscape towards more accessible and sustainable models of sharing research and knowledge.

This study was motivated by the inequality of academic libraries regarding the infrastructure and access to e-resources. Although increased access to information via digital platforms can be liberating, this is only true if platforms are accessible via the internet, mobile phones, computers and a wide variety of other methods. The term "digital divide" has been widely

used to discuss the unequal access to e-resources experienced by different social groups. Morehead (2019) describes the concept as a condition of information haves and information have-nots.

1.3 Reflection trends of the literature review

The current study is positioned within the framework of previous research mentioned in the literature review chapter and is aimed at highlighting any discrepancies and identifying gaps in that research. The literature review in this study is sub-categorised to reflect the research questions raised. The introduction of different ways of exploring the acquisition of and access to e-resources in an efficient way has defined the rationale behind this study. Authors such as Howlader and Islam (2019); Ferdows and Ahmed (2015); Joo and Choi (2015); Mabweazara (2018); Apuke and Iyendo (2018) in the literature explore the importance of awareness of e-resources, training, and OA publishing. Challenges academic libraries' users encounter when accessing e-resources include off-campus access, Wi-Fi connection, bandwidth, high data prices, limited budget, inadequate functional computers, and inadequate information retrieval skills and training (Msezane & Dlamini, 2021; Machimbidza & Mutula, 2017). Asai (2021) as well as Jain, Iyengar and Vaishya (2021) also found that the Article Processing Charge (APC) can hinder the access to and publishing of e-resources on OA e-resources.

OA and OA publishing are regarded as alternative ways of acquiring e-resources in the academic libraries. OA has emerged as an alternative to subscriptions for scholarly journals (Lewis, 2012). However, authors such as Cox and Trotter (2017) alluded that OA and OER adoption is going at a slower pace. The researchers concluded that OER's adoption is influenced by factors such as access to resources, copyright, awareness, technical competence, material availability, personal or institutional preferences, and institutional and social variables.

Cost factors affect the acquisition of e-resources by academic libraries. These factors include, but are not limited to, the research output of different higher education institutions (Solomon & Björk, 2012) and database aggregators' bundling of low-value materials with high-value materials in a package (Price, 2022). Jiang, Fitzgerald and Walker (2019) argue that academic librarians should be careful when selecting patron-driven acquisition resources as the number of hits might not mean the book is on demand or ever read. Benny (2015) and Mapulanga

(2013) engage explicitly in different strategies that are applied by academic libraries to acquire information resources.

1.4 Theoretical or Conceptual Framework

Several models are utilised to conceptualise decisions on e-resource collection development in academic libraries. These theories include the Expectation Confirmation Theory adopted by Salubi, Ondari-Okemwa and Nekhwevha (2018) and the Electronic Resources Life Cycle framework adopted by Pesch (2008). The lifecycle indicates that the process of subscribing to an e-resource requires one to first discover where and how to acquire the resource. Other theories include the Theory of Reasoned Action, Theory of Planned Behaviour, the two Technology Acceptance Models, Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT) and the Diffusion of Innovation (DoI) theory (Pessa, 2019).

1.4.1 The diffusion of innovation theory

The two most powerful forces pressing innovation on academic libraries are declining finances and changes in technology (Brundy, 2015). This study empirically utilised the DoI model to explain OA adoption and determine factors that influence usage of e-journals in academic libraries. Rogers' DoI Theory was considered a suitable framework for the study because OA is an ongoing subject in innovations that are currently taking place in academic libraries. Moreover, the theory rests on the evidence that a new idea, practice or source can be understood over a period of time, in different channels and mode before it is being adopted by individuals or organisations (Minishi-Majanja & Kiplang'at, 2013). The theory also suggests that beliefs and attitudes of individuals play a crucial role in the diffusion of innovation (Vargo, Akaka & Wieland, 2020; Franceschinis et al., 2017).

The DoI theory was first discussed in 1903 by the French sociologist Gabriel Tarde (Toews, 2003), who designed the original S-shaped diffusion curve, followed by Ryan and Gross in 1943, who introduced the adopter categories that were later used in the Everett Rogers theory in 2003. DoI is generally referred to as the spread or adoption of technology within a social context (Vargo et al., 2020). This theory represents the S-shaped curve of adoption (Rogers, 2003) that illustrates the five different adopters over time. The OA movement started to combat the journal subscription costs; the S-shaped curve of adoption indicates that only a few populations will adopt a new idea before the adoption curve begins to increase sharply to a

maximum. The early adopters (visionaries) are always fewer than the early majority (pragmatics), with the late majority (conservatives) being the fewest. Rogers distinguished five categories of adopters of an innovation as follows: innovators (technology enthusiasts), early adopters, early majority, late majority and laggards (sceptics). Sometimes, a sixth group is added and is called non-adopters (Kaminski, 2011). The original five categories are illustrated in a bell-shaped curve (Figure 1.1) and their characteristics are discussed in the next paragraphs.

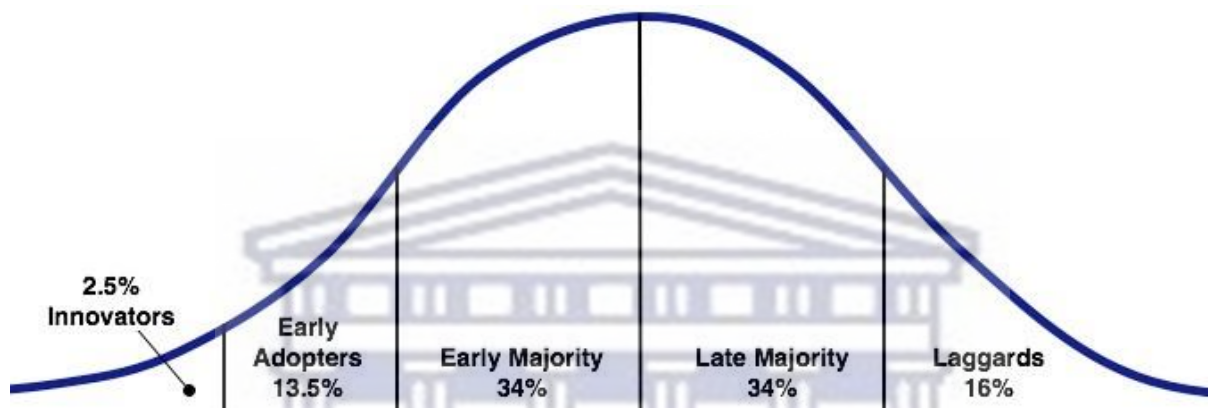


Figure 1. 1 The DoI theory. (Rogers, 2003).

Innovators are persons who first have a new idea or technology (Vargo et al., 2020). Because the idea is from a minority of the population, innovators always fall at the bottom of the graph, with an estimate of 2.5 percentile. The innovators are considered to be visionaries, are adventurous and are willing to take risks. They are instrumental in initiating diffusion by communicating and sharing ideas (Vargo et al., 2020).

Early adopters are the second adopters after the innovators who consist of the next 13.5 percentile of the population to adopt the new technology. According to Rogers (2003), innovators and early adopters are critical enablers of DoI. They are mostly in the leadership role and embrace change; therefore, they are very comfortable in adopting new ideas (Vargo et al., 2020). However, the resources available, the complexity of an idea, and the infrastructure in place also influence the rate of adoption. Raju et al. (2012) and Ondari-Okemwa (2007), amongst others, would fall in this category, as they proposed knowledge sharing through IRs and self-archiving and advocated the OA (gold and green) throughout South African universities.

The early and late majorities split the 34th percentile at both sides of the median. These people do not form part of leadership, but they receive the information and knowledge about the idea before the average persons; however, they need to have evidence that the idea is working before they adopt it. Rogers (2003) argues that despite the fact that the early majority interacts well with other members of the social system, they do not take on the same leadership responsibilities as the early adopters. However, the innovation-diffusion process still relies heavily on their interpersonal networks. Even though members of the late majority are also sceptical of the innovation, its benefits, financial necessity and peer pressure may eventually convince them to adopt it (Franceschinis et al., 2017). In South Africa, most of the institutions would fall in this category in adopting the OA movement.

The late majority is resistant to change and will only adopt a new idea after the majority of people have tried it. Information about how many other people have tried the innovation and successfully adopted it is one strategy of appealing to this population. The inequality in South African universities would lead to some previously disadvantaged institutions falling in this category. Advocacy and open communication that includes conferences, benchmarking and seminars could assist in elevating the trust in OA resources.

The last group of adopters is the laggards who consist of the last 16 percentile of the population to adopt a new idea. This group typically resists change and is sceptical of novel concepts due to the lack of financial resources, it takes them a long time to adopt a new idea or technology as they want to be sure that it will work before they adopt it (Goh & Sigala, 2020).

The diffusion model has been used in education, public health, communication, marketing, geography, social studies, economics and other fields since the 1960s (Rogers & Scott, 1997). The innovation in libraries represents soft and hard technologies. Soft technology signifies the innovative ideas and practices, typically involving substantial changes, whereas hard technology represents ICT products. Both technologies have an obligation to transform the library workplace and access to information services (Minishi-Majanja & Kiplang'at, 2013). The act of accepting an idea over a long period of time through various communication channels of a particular innovation is the process of diffusion. In a social structure, diffusion occurs through the use of available communication channels and is influenced by the cultural values of individuals or a group (Spence, 1994). OA innovation is well known in the academic world; however, the diffusion is taking a lengthy time. This study advances understanding of

the diffusion of OA across academic libraries. It addresses the rate of diffusion, the rate of adoption and adopters' characteristics based on time.

The DoI theory is frequently used to investigate how various organisations adopt innovations such as the internet and other ICTs (Rogers & Scott, 1997). The theory was recently used by Mabweazara (2018) to explain how Zimbabwean academic librarians use social media tools and their attitudes towards it. Mafungwa (2017) employed the DoI theory to demonstrate how attributes can influence the decision by librarians' part of the Cape Library Consortium to adopt technology. Furthermore, a study conducted at the North West University analysed the DoI theory in branding of products and services in practice (Gouws & Van Rheede van Oudtshoorn, 2011).

1.5 Problem Statement

The University of the Western Cape (UWC) Library has taken significant steps towards providing access to OA resources, with the intention of expanding the availability of academic e-resources to its faculty and student community. However, despite the advantages of OA resources, the adoption of fully fledged OA resources remains suboptimal within the UWC academic environment. This presents a pressing challenge that needs to be addressed in order to fully harness the potential benefits of OA e-resources.

The data from Web of Sciences (WOS) indicates that over the last ten years, articles published without paywall restrictions have grown from thirty percent in 2010 and up to fifty percent in 2022 (Heidbach et al., 2022). O'Leary and Hawkins (2019) asserted that OA resources are often downloaded, used and cited more than comparable restricted-access resources. While the concept of OA has gained significant attention and acceptance in the academic community, the UWC library grapple to maximize the adoption of fully fledged OA resources to enhance its services. Wenzler (2017) alluded that academic librarians face similar challenges and are looking for similar solutions for sharing scholarly communication that would benefit the entire academic community at relatively low costs. This situation not only limits the potential of the library to provide up-to-date and relevant materials but also hinders the overall research and educational goals of the institution. Addressing this problem requires a strategic approach that combines technological, organisational, and promotional efforts to seamlessly integrate fully-fledged OA e-resources into the core services of UWC library, thus enriching the learning and research experiences of its users.

1.6 Research Objectives

The aim of this research is twofold to determine the adoption of OA e-resources in the UWC academic library and explore the strategies to acquire e-resources other than through subscription. The specific objectives were as follows:

- a) to explore alternative means of providing access to e-resources at a minimal cost,
- b) to discover current strategies applied in acquiring e-resources,
- c) to identify limiters in acquiring e-resources and
- d) to discover the relationship between OA and subscription e-journals in the academic library environment.

1.7 Research Questions

From the research objectives, the following research questions were derived:

- a) What alternatives are available for acquiring e-resources?
- b) What strategies are applied to acquire e-resources?
- c) What could be the barriers or challenges to e-resource acquisition?
- d) What cost benefits might OA have for academic libraries?

1.8 Overview of Research Design and Methodology

Chapter 3 details the research methodology and techniques applied in this study. The study adopted a descriptive case study research design as it was only the UWC library that was investigated. The study further employed a mixed-method approach, to broaden the understanding of the issue by incorporating both qualitative and quantitative research. Data were collected using a web-based questionnaire and document analysis as the main instruments to collect data of the study (Campbell, Taylor & McGlad, 2017; Maree, 2012). Data were first gathered by employing self-administered web-based questionnaires. The triangulation process was completed by comparing OA policies, e-journal subscription guidelines and vendors' price lists. The population of the study was 49 UWC library staff members.

1.9 Significance of the Study

The significance of the study on the adoption of fully-fledged open access (OA) e-resources at the UWC library encompasses several important dimensions that impact both the academic

community and the broader scholarly landscape. The study holds significant implications for improved access to knowledge, e-resources cost savings, research productivity, global visibility, citation impact, open science, digital literacy, contributions to the OA movement, and informed decision-making. It highlights the commitment of UWC library to academic excellence, innovation, and the advancement of knowledge dissemination in the modern era.

1.10 Limitations and Delimitations of the Study

The main delimitation of the study is that it was conducted on UWC librarians only and that the findings will not be generalised to other libraries. The data-gathering phase of the study took place during the COVID-19 pandemic in 2020, while most librarians were working from home and faced with overwhelming volumes of emails to which to respond, thus requiring numerous reminders to complete and submit the questionnaire. The other limitation was that the UWC library management and the vendors felt it was unethical to share requested library financial statements to substantiate the budget for e-resources and verify the cost of e-resource provision.

1.11 Ethical Statement

Research ethics assist in defining the moral research methods used to protect participants in research projects (Neuman, 2006). Researchers have a duty to respect the rights, needs, values and wishes of participants (Creswell, 2014). The researcher adhered to the ethical guidelines of the Research Committee of UWC (University of the Western Cape Policy Document, 2013). The rights of participants were respected at all times. Participants in this study were informed about their anonymity. Participation in this research project was voluntary, and participants were allowed to withdraw at any stage of the research process. Participants were informed about the research project, and their informed consent was gained (Appendix A). Ethical clearance and permission to conduct the study was obtained before data collection began (Appendices B and C).

1.12 Chapter Outline

Chapter 1 introduces and justifies the study and explains the theoretical framework that underpins it.

Chapter 2 interrogates the existing literature with regard to e-resource acquisitions.

Chapter 3 describes and justifies the research design and methods employed for the study.

Chapter 4 presents the collected data in tabular, textual and graphical formats.

Chapter 5 discusses and interprets the findings critically through the lens of DoI and by relating it to the existing literature.

Chapter 6 concludes the study by answering the research questions. It also provides recommendations and pointers to future research.

1.13 Summary of the Chapter

In this introductory chapter, the background and motivation for the study were presented. The researcher also presented a contextual framework for the study by examining the literature and theoretical frameworks that influenced the study. The chapter also provided a brief overview of the research design adopted. Chapter two provides a critical review of empirical research relevant to the study.



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

A literature review assists in exploring theoretical and policy issues or discussions related to a study topic to identify the current state of knowledge about related issues. This research was motivated by annual budgets that have been set aside for acquisition of e-resources at academic libraries. Almost ninety percent of the library budget at UWC is spend towards the purchasing and subscription of e-resources and databases (UWC annual report 2019 – 2022). Universities rely on these e-resources to render services well. e-Resources play an important role in facilitating easy and quick access to necessary information (Ukachi, 2015). The purpose of the review of literature in this study is to explore scholarly experiences and findings about challenges and opportunities of acquiring e-resources. It will also explore the alternative strategies applied to acquire e-resources for academic libraries. This chapter predominantly reviews what different scholars say about the OA route of acquiring e-resources.

2.2 The Use of e-Resources in Academic Libraries

According to Robinson (2017), research on budgeting for e-resources began in earnest in the early 1990s, when computer technology advanced. An e-resource is digitised information material such as an e-journal, e-book, e-database and e-thesis that are produced, published and disseminated worldwide through electronic networks or the internet (Jebaraj, 2018). Adoption of e-resources and the ability to use them effectively depend on the marketing and raising of awareness among the university community. Howlader and Islam (2019) indicated that librarians should understand information-seeking behaviours of users and provide appropriate and needed services and guidance. Their findings in the study were that the undergraduates lacked knowledge of library resources and had poor information skills. Ferdows and Ahmed (2015) also alluded that the lack of information literacy instruction, a lack of e-resources and inadequate ICT facilities at the Dhaka University are primarily to blame for undergraduate students' poor information-seeking abilities.

Moreover, Joo and Choi (2015) investigated factors that influence undergraduate students' selection of e-resources from the library and indicated that both convenience and ease of use influenced utilisation and intent to use online library resources. Components such as accessibility, reliability, coverage, timeliness and format were the deciding factors for using

online library resources. In addition, the study revealed that good search skills and familiarity with sources had a significant positive impact on student information-seeking behaviour (Joo & Choi, 2015). Research conducted in the Faculty of Arts at Rani Durgavati University, India, explored how postgraduate students and researchers use e-resources. Findings indicated that although 90.66% of respondents used Google as their preferred search engine for educational and research purposes, they were aware of available e-resources such as e-journals, e-books, e-theses and online databases (Verma, 2022). Similarly, awareness of undergraduate students at the University of Venda, South Africa, of different e-resources was found to be low, and the students struggled to differentiate between e-resources and web-based internet sources (Tlakula & Fombad, 2017).

From these studies, it is clear that more awareness and training are required to equip the students to use e-resources effectively. The need for training sessions on how to use e-resources and facilities for teaching, learning and research activities were rated by Ankamah, Gyesi and Amponsah (2022) as essential functions of academic libraries. After investigating the expanding roles and services of academic libraries, Mojapelo and Modiba (2021) alluded that for an academic library to be effective, versatile library staff and continual staff training are critical so that librarians can cope with the latest developments and trends in the profession. The skills and experience of academic librarians should be developed often to meet the information needs of library users in the rapidly evolving information world.

In addition, librarians should have dynamic skills and competencies (Mabweazara, 2018). Librarians at academic libraries should be experienced to offer e-resource services to their users and to raise their users' awareness of OA publishing. The findings of Apuke and Iyendo (2018) indicated that there is a lack of knowledgeable and experienced staff to use e-resources or train students on how to use them. The authors surveyed internet use in academic research and learning among undergraduates from three universities in North-Eastern Nigeria. The students claimed that the main obstacles to using the internet at their institutions were a lack of digital readiness on the part of the university and its staff, limited library e-resources and ineffective internet facilities. As a result, the students had become overly dependent on OA e-journals, Google, Yahoo and other search engines.

Moreover, Mashiyane, Bangani and Van Deventer (2020) investigated academic librarians' awareness and application of multimedia tools and technologies to offer information literacy instruction at the North-West University, South Africa, and concluded that there is a high need

of reskilling of librarians to enhance the university's e-learning endeavours. This was also alluded to in a study conducted in three public university libraries to investigate how the COVID-19 pandemic has altered the academic librarianship landscape in Zimbabwe. The researchers recommended that academic librarians need to be urgently retrained and upskilled so that they can work well in virtual environments and remain relevant in the "new normal" (Chigwada & Maturure, 2022).

In contrast, Borrego and Pinfield (2020) conducted a study on the contribution of librarians to scholarly journals in fields outside library and information science. The results of the study showed that out of 169 potential participants that were identified who had co-authored a research paper. Sixty librarians had co-authored a research paper with researchers in fields other than LIS. The study authors analysed articles and reviews from Scopus with the string search `librar*` in the affiliation name field. Their findings indicated that the skill is there however, to increase the embedded librarianship most academic librarians that are publishing are mostly co-authoring with the researcher in their faculties and not to the LIS journals.

2.3 Barriers to e-Resource Access

Several challenges hinder academic libraries from being able to access and supply e-resources to users; these challenges include the infrastructure, budget cuts, human resources, natural disasters and pandemics such as COVID-19 that came with many restrictions across the globe. Lowe et al., (2021) discovered that COVID-19 brought some challenges and opportunities to ERMLs from six diverse public and private universities, where the librarians' functions were redirected to accommodate the need for online learning. However, while the university community was operating off-campus, academic libraries had to pay more attention to authentication, access to e-resources and solving a number of issues related to access to off-campus resources. The study conducted at the University of Zululand in South Africa revealed that limited budgets and poorly functioning computers are the main challenges that hinder effective use of e-resources by graduate students (Msezane & Dlamini, 2021). An older study by Machimbidza and Mutula (2017) conducted at Zimbabwean state universities found that the attitude of academics toward peer-reviewed e-journals were negatively affected by insufficient and obsolete infrastructure, inefficient and slow internet connections, inability to search for e-resources, difficulties with off-campus access, user-unfriendly library website interfaces and difficult-to-use e-journal interfaces.

Massey (2021) investigated the digital divide and overcoming of barriers to digital learning in post-COVID-19 South Africa and concluded that there are still digital infrastructure limitations that result in accessibility challenges in the country and that the South African government should find solutions to remove barriers to online learning. By contrast, Ocholla and Ocholla (2020) concluded, after studying the conceptualisation of the Fourth Industrial Revolution (4IR) as reflected in 26 public university libraries' websites, that academic libraries are successfully adapting their services to the revolution and exhibiting remarkable innovation. Lund and Wang (2023) indicated in their study that discussed the history and technology of Generative Pretrained Transformer including its model concluded that these 4IR technologies have power to make new advances in academia and librarianship. However, it is crucial to think about how to use these technologies in an ethical and responsible manner.

Jain et al. (2021) also found that the Article Processing Charge (APC) can hinder the access to and publishing of e-resources on OA e-resources. Researchers, authors or research institutes frequently have to pay fees to submit their work to and publish it on journals. These charges can vary from journal to journal. Jain et al. (2021) regard this as a barrier to publishing and access to information as there is a rapid and significant rise in publishing costs. Concerns have been raised about whether publishers are exploiting authors in such a way that publishers who do not have access to the OA option engage in predatory publishing. Profit is the primary motivation of predatory journals. Instead of offering robust peer review or editorial services, they try to target authors into publishing for a fee, prioritizing profit over reliable and trustworthy science (Elmore & Weston, 2020).

Jalal and Sutradhar (2020) stated that the librarians experience some challenges to their provision of services such as e-resource access. These challenges include licensing issues, perpetual access, discontinuity of access due to non-subscription and the engulfment of small publishers by large ones. The researchers examined the process of subscribing for e-resources, such as e-databases and software services like Grammarly and Turnitin, to facilitate user access. They also critically examined a number of issues and challenges, such as the choice between systematic download and discontinuing access, the use of e-resources versus subscription fees, metadata management and integration with the existing library catalogue, faced by staff members in charge of managing e-resources.

2.4 e-Resource Acquisition Patterns for Academic Libraries

According to Ramli and Kabli (2014), in most university libraries, an ERML, who works closely with faculty librarians, is responsible for acquiring e-resources. The faculty librarians assess and evaluate e-resource recommendations from faculty members, researchers or students, as well as usage statistics that indicate e-resources that must be renewed. The ERML, based on reports from faculty librarians, decides on titles to acquire. Publishers are then contacted to obtain quotations and invoices (Ramli & Kabli, 2014). Prices are negotiated based on SANLiC negotiations. SANLiC negotiates between publishers and aggregators to ensure that the libraries receive more favourable e-resource acquisition deals. Approved purchase orders and invoices are passed to the finance officer for payment. Discrepancies are managed by the ERML (UWC e-Resources Policy Document, 2013).

The *library committee* accepts a recommendation for the amount of the annual budget required for e-resources and submits it to the Collection Development sub-committee. The University's *budget committee* determines the final amount to be allocated to the budget, which is then approved by Council. For the purpose of developing research collections, the faculty librarians serve as the library's primary point of contact with academic departments; that is, they convey requests and monitor orders from the acquisition services department by checking for duplicates and prices. Faculty librarians also engage with departments to manage the use of the budget for e-resources and ensure that all funds are used. Electronic format is preferred to print format for journals. Due to the high cost of e-resources and the need to keep the subscription budget in check, individual titles and database subscriptions are reviewed annually (Rhodes University Library, 2011).

2.5 Strategies Employed by Librarians to Acquire e-Resources

Selection of e-resource is a complex process as many relevant factors should be considered. These factors include equipment, cost negotiations, printing fees, technical support, vendor support, e-resource content, internet bandwidth, effectiveness of use, remote usage and network access, access restrictions, licensing laws, and hardware and software maintenance. The study by Benny (2015) at Mumbai University, India, revealed that in the selection of e-resources, librarians consider types of e-resources and give more weightage to recommendations made by the faculty.

The technological developments in the scientific publishing and the pricing models of the publishers display opportunities for the libraries to give their users instant access to information through consortia (Tripathi & Lal, 2016). Library consortium refers to a group of libraries working together to achieve a common goal to reduce cost, building revenue and sharing of resources and needs for an improved user experience (Horton & Pronevitz, 2014). Libraries in consortia get an opportunity to gain access not only to the e-resources currently subscribed to but to the whole range of the consortium e-resources (Tripathi & Lal, 2016). However, vendors and publishers are responsible for managing the licence agreements with libraries. Thus, libraries depend on the vendors to select the collection according to the pre-created subject profiles and licence agreements (Price, 2022). A license agreement is a written contract between a user and a content owner that sets out the terms and conditions under which a user can use content (Harris, 2018). In this case, libraries are users or customers and database aggregators or publishers are the owners of the content as they are responsible for the copyright and bundling of the information resources.

Mapulanga (2013) stated, after studying acquisition of e-resources through a consortium of Malawian academic libraries, that some libraries are still struggling to pay their portions in order to meet their negotiated licence obligations. The study further discovered that the majority of libraries are turning to digitising local content and establishing online IRs, as they cannot contribute to centralised e-resources of the consortium. Purchasing through consortia seems to be a developing trend throughout academic libraries (Machimbidza & Mutula, 2020; Mapulanga, 2013). However, Turner (2014) alluded that the individual libraries, as a result of their reliance on resource bundlers and consortia arrangements, have less control over their collections.

Moreover, Saarti and Tuominen (2020) are of the opinion that the traditional acquisitions of e-resources seem to be shifting as applications for sharing of resources among peers appear to be expanding rapidly. In their exploration of the current trends of openness, resource sharing, and digitalisation in Finland, Saarti and Tuominen (2020) noted that the use of academic social networking sites for scientists and researchers, such as ResearchGate, is quite popular in Finnish university libraries. The development of information technology towards greater automation and interconnectedness in the 4IR and the use of Artificial Intelligence (AI), Blockchain, advanced robotics, the Internet of Things (IoT), ChatGPT, Open AI, autonomous vehicles, virtual reality, 3D printing, nanotechnology, and big data have impacted on higher education

by imposing new requirements on academic librarians' core competencies (Ma & Lund, 2021). These new competencies, in order to run smoothly, innovative knowledge, skills, and abilities are required (Dube, 2022). Moruwawon (2020) conducted investigated the use of e-resources as strategies of improving the efficiency of library services in academic libraries. The researcher in that study indicated that books and journals have been replaced by e-books and e-journals as libraries have evolved into virtual libraries. The study indicated that the use of e-resources is important to library services; therefore, every obstacle to their efficient use should be considered.

2.6 The Cost of e-Resource Subscription

Budgeting for e-resources began in earnest in the early 1990s, coinciding with technical advancements in computing (Savova & Price, 2019; Robinson, 2017). Libraries are under pressure to choose electronic materials and services over print sources because of the demand for e-resources in higher education institutions (Khatri, 2019). As a result, budgets are shifting away from print journal subscriptions and scholarly monographs to allow licences for expensive but important e-resources (Malhotra & Sharma, 2021; Khatri, 2019). However, the cost of developing an electronic collection is substantially expensive, as it involves not only subscription to the e-resources but also employment of skilled staff that results in higher employee compensation, suitable infrastructure, server capacity and equipment to benefit the users (Malhotra & Sharma, 2021).

Moreover, it was identified that digital technologies have changed not only how information is packaged, processed, stored and distributed but also how users search for, access and use it in academic libraries (Igwe, 2014). Igwe (2014) examined the role of academic libraries in implementing and developing Institutional Repositories (IRs). An IR is a digital archive that collects, preserves, and disseminates intellectual output created by an institution's faculty, research staff and student. Such research input is accessible to end-users inside and outside the institution with little or no barriers to access (Akpokodje & Akpokodje, 2015). IRs have been around since the early 2000s (Kakai, 2018), and South African universities were among the first in the world to host them (Bangani, 2018). Kakai (2018), an IR manager, conducted research through a detailed search of the internet, journal databases and university websites in Kenya, Tanzania and Uganda to identify literature on OA and IRs in East Africa. The author's concluding remarks were that the academic library users are interested in easily accessing full-text information resources, that these resources should be readily available from IRs, and that

emphasis should, therefore, be placed on processes that promote OA deposits in repositories. Further, Igwe (2014) recommended that a strong ICT infrastructure would combat the issue of the research output that is invisible to scholarly and research communities, thus affecting the rating of Nigerian institutions.

Students and faculty staff increasingly demand and prefer access to e-resources, eDiscovery tools and online information. Concurrently, many publishers do not allow libraries to subscribe to print journals only (Turner, 2014). In 2017, the UWC library conducted a journal auditing project in which librarians had to cancel journals that were subscribed both online and in print. The emphasis was to keep online journals only, but where there were no online copies, the print copies were kept (University of the Western Cape, 2018).

Academic libraries have to cope with annual subscription increases of academic journals and with changing emerging electronic products to access information (Khatri, 2019). An empirical study by Hwang, Shieh and Hsieh (2012) was conducted at the University of Taiwan to determine techniques one can use when purchasing e-resources. The study indicated that purchasing cost was the most important factor when one evaluates databases. The study used the Data Envelopment Analysis to determine a database that was efficient in terms of database pricing amongst 12 databases analysed. The findings of the study assisted in the selection process by promoting the most efficient database to the users and negotiating for a price cut in the least efficient database.

2.7 Factors that affect subscription to e-books

Scholars define e-books in a variety of ways. Blummer and Kenton (2020) defined e-books as any piece of electronic text regardless of size or composition but excluding journal publications made available electronically and may be accessed through the internet from any device that includes a screen or screen reader. Although some e-books require a special e-book reader such as (Blue fire Reader or Adobe Digital Editions), many academic e-books are available in user friendly formats including pdf and html that can be viewed on laptops, iPads, and smartphones (Blummer & Kenton, 2020).

This research has identified through the literature and discussed the several factors that may have affected the growth of e-books subscription. The first factor comes in the form of inequality in academic libraries. The aggregators charge according to the university research

output and as per high-income and low-income countries (Solomon & Björk, 2012). This indicates that different consumers will have different values for materials in a given set of resources.

The second factor was the big deal. Big Deal is an agreement model between the libraries and database aggregators in response to the financial difficulties libraries were having in the late 1990s (Horava, 2018). Some of the academic libraries could not adopt the strategy of the Big Deal's opportunities, however, a majority of academic libraries committed to one or more journal packages (Horava, 2018). In this deal, the database aggregators combine high-value materials with low-value materials into one package, making it difficult to select affordable material from the most expensive material (Price, 2022). Although this model helps the publisher recover costs, it creates an immediate issue for libraries who are compelled to pay for low-value materials and may be forced to purchase individual resources that were either left out of a bundle or were not included (Price, 2022). The fact that numerous titles were either never or sporadically used was one of the biggest criticisms leveled against the Big Deal (Horava, 2018). Due to contractual obligations and faculty endorsement of the content, it can be challenging to get out of these agreements (Price, 2022).

The third factor is a model that has been adopted by many libraries. It is called Patron-Driven Acquisition (PDA), also known as Demand Driven Acquisition (DDA), that has been widely used in academic libraries to purchase e-books (Zhang, Downey, Urbano & Klingler, 2014). Libraries' acquisitions in this model are mostly triggered by the number of holds of unsubscribed titles and turn-away of limited user licences. This makes the library subscribe to or acquire resources that might not be necessarily used by the users. Jiang et al. (2019) acknowledged that some librarians continue to view DDA with resistance, for it needs careful attention in terms of evaluation and assessment because students can view a source without using it. Students explore different sources for different information needs, and a source they view might be irrelevant (Jiang et al., 2019).

The fourth factor was identified in a study by Walters (2013), who alluded that unlike print books, e-books are available only on a subscription or lease basis and not as a once-off outright purchase. Libraries end up paying repeatedly for the same content on an annual basis and never own the content. When the subscription is cancelled, the content is lost. Moreover, there remains some concern around whether licensing e-books is a wise investment for academic libraries (Scott et al., 2022). To mitigate the academic libraries concerns regarding the

subscription of e-books, some aggregators allow perpetual subscription whereby a library can preserve resources of the previous years after the subscription has been cancelled (Malhotra & Sharma, 2021).

The study by Kahn (2013), conducted on four university campuses in the Western Cape, South Africa, reviewed literature on factors that affect the growth of academic libraries' e-book collections and determined user attitudes towards e-books. The results indicated that users are eager to use e-books, but because of lack of awareness, e-books are not used effectively yet. Kahn (2013) concluded that the various business models imposed by the publishing industry were another factor affecting the adoption of e-books in libraries. Zinn and Langdown (2011) also identified several challenges that affect the adoption of e-books in academic libraries. Challenges identified include use of the subscription model as the most common way of purchasing e-books and a lack of e-books published in some subject areas, as well as the dependability on the internet.

2.8. Open Access Textbooks (OETs) and Open Educational Resources (OERs)

The term Open Educational Resources (OERs) first appeared in 2002 at a conference hosted by UNESCO (Hylén, 2021). OA Textbooks (OATs) and OERs are any kind of educational materials that can be used in learning management systems and are either in the public domain or published under open licences and are freely available online (Christopher, 2008). They can be shared, modified and accessed simultaneously by users' multiple times across various devices (Morris-Babb & Henderson, 2012). The purpose of the University of Florida Press and University of Florida Department of Mathematics OA Calculus text projects was to provide students with tools to help them find the most affordable possible textbooks for their courses. The researchers argued that an author can create a textbook that is adaptable, affordable and accessible with the help of OA; thus, one does not have to always write a textbook completely from start. Under a Creative Commons licence, an author can modify a previously published textbook to meet his/her specific requirements. The author decides when the material should be updated, the intended or specific purpose and what works for his/her students. The author can import the entire text directly into a learning management system. Instructional resources such as a video, animation, photographs and assessments can also be added to OERs. Creators of OER materials retain rights to their work and share it using Creative Commons licence terms or similar types of agreements (Okamoto, 2013). Creative commons licensing is a type

of licensing that replaces copyright laws whereby authors can use a source not for commercial purposes as long as the source is acknowledged (Czerniewicz & Goodier, 2014).

Raju et al. (2015) and Okamoto (2013) ventured that most academic libraries introduced OATs and OERs as an alternative to costly print textbooks. The establishment of OATs and OERs came into existence with the cost of and access to information in mind. According to Cox and Trotter (2017), OER adoption is not yet completely normative across all faculties and disciplines in South African universities and is gaining momentum in a very slow pace. The study by Cox and Trotter (2017) was conducted in three different South African universities to investigate the adoption of OERs. The researchers concluded that OER adoption is influenced by factors such as access to resources, copyright, awareness, technical competence, material availability, personal or institutional preferences, and institutional and social variables.

2.9 Open Access Movement Initiative

The Open Access Movement started in the 1990s as access to the internet became widely available and online publishing became the norm (Das, 2015; Björk & Solomon, 2014). According to Das (2015), OA can be defined as the availability of scientific information resources in the public domain for widespread public consumption or access without restriction due to subscription fees or access fees. The term OA specifically refers to content that has been peer reviewed and is shareable according to author licences. Although there are numerous free resources, OA is advocating for the authors' rights to be protected through creative commons, contracts that the author signs with a publisher to retain certain rights (Siddiqui, 2014). The Berlin Declaration on OA promotes use and re-use of research results produced by researchers to enhance knowledge or improve on existing research. Most researchers, such as Igwe (2014), and funders such as the National Research Foundation (NRF) (2015) identified that these research results should be made publicly available on the internet in order to accelerate the pace of scholarly communication and research output. Approximately 300 academic institutions, research libraries and archives around the world accepted the movement by signing the declaration in 2003 (Berlin Declaration on Open Access, 2010), and at the time of publication of the Budapest Open Access Initiative (2020), 6 141 individuals and 976 organisations added their names to the declaration.

UWC library seem to be following the OA strategy thus signed the Berlin Declaration in 2013 and implemented OA after long discussions with the academic staff on 24 October 2014

(University of the Western Cape Policy Document, 2020). The UWC library established OA publishing by continuous engagement and benchmarking with different OA activities and stakeholders. Research repositories that assist with this establishment include Electronic Theses and Dissertations, Research Institutional Repositories and Research Data Management (RDM). The university library compiled and distributed the OA and RDM policies to the university senate and faculties. Marketing and awareness are done within faculties, departments and the research community. Continuous training workshops for the research community and development of librarians to support researchers are provided. The UWC library further encourages the development of UWC publishing infrastructure and African Open Science platform that enable access to high-quality and trusted research in South Africa. This infrastructure or platform will also enable a continuous increase in the number of research papers that are freely available, instead of those that are published in journals that cost substantial subscription fees.

2.9.1 Open access adoption progress in South African universities

OA has emerged as an alternative to subscriptions for scholarly journals (Lewis, 2012). ArXiv, launched in 1991, was one of the first websites to offer OA to scientific publications (Himanen et al., 2019). The Directory of Open Access Journal (DOAJ), the largest OA database of peer-reviewed journals, was launched in 2003 by Lund University in Sweden as a research tool (Department of Higher Education and Training [DHET], 2019). According to the South African Department of Science and Innovation (2023), government funding towards research and development has been increasing over the years, while declining from other stakeholders such as business sector and funding from abroad. The allocation of funds differs in five sectors that fall under the ministry, namely the government, science councils, higher education institutions, the business sector and the non-profit sector. Among these sectors, higher education institutions get the highest share and the e-resources acquisitions form part of the share.

There are major inequalities amongst South African universities. Some are well funded from private funding and sponsors, whereas others, which emerged from previously disadvantaged communities, are relying mostly on government subsidies. Most well-established universities with higher research impact have adopted innovative initiatives such as OA. By contrast, rural and teaching-based universities are slower to adopt OA. The researcher in the study also made the observation that today's most technologically advanced nations are knowledge based; that

is, they spend a great deal of time and money on research to acquire knowledge required for development.

The rate of adoption is influenced by intrinsic and extrinsic factors. Trotter (2018) identified these factors as infrastructure access, legal authorisation, conceptual awareness, technical capacity, material availability and individual or institutional preference. The diversity, perhaps together with ambiguity, of the discourse is bridging of the divide between research and society (Fecher & Friesike, 2014). Fecher and Friesike (2014) echoed that at the time of writing, four South African academic libraries had the OA journal service. In contrast, Todorinova and Wilkinson (2019) alluded that many universities are embracing the use of open educational resources (OER), which are affordable or free alternatives to traditional students' reading material, in an attempt to lower costs.

Open Journal Systems (OJS) was the publishing software utilised in the publishing environment of South African academic libraries. Stellenbosch University was the first to launch their own journal in October 2011, which grew and hosted 20 journal titles in 2015 (Raju et al., 2015). The other universities, such as UWC and UCT, also launched their own journals. Using OJS, the University of the Western Cape publishes two titles: *Journal of Student Affairs in Africa* and *Critical Studies in Teaching and Learning*. The University of Cape Town has begun its OJS journey with the publication of an undergraduate journal *UR@UCT: Undergraduate Research at UCT* (Raju et al., 2015).

According to Kulkarni (2017), OA allows immediate and unrestricted access to published research, naturally making research more visible. Apart from subscription to e-resource databases, there are alternative paths of accessing full-text articles, such as academic social networking sites like ResearchGate, search engines like Google Scholar and academic social media platforms such as Mendeley and Academic.edu that encourage the OA movement. Academic libraries, including the UWC library, should revise their e-resource collection development policy, looking at the OA mandate.

The researcher in this study evaluated the collection development policies of the Rhodes University; Stellenbosch University; and Central University of Technology, Bloemfontein. The common notion from all three institutions was that their policies were due to be reviewed. Stellenbosch University implemented a Self-Archiving policy aimed at supporting researchers, academic and research staff, in the dissemination, curation and preservation of its assets. The

policy states that authors who have a formal affiliation with the university are required to submit a full text of their published journal articles and research output to the Division of Research Development. The submitted documents are, therefore, made available in the university's library research repository, SUNScholar (Stellenbosch University, 2015).

Rhodes University's OA Policy was established and approved in 2016, to facilitate OA practices and elevate the visibility of the institutional research following the NRF's 2015 statement. This institution promoted awareness of OA through seminars, events, activities aimed at raising awareness, education and training on OA issues (Open Access Policy of Rhodes University, 2016). The policy supports both gold and green OA routes and monitors the metadata. However, the emphasis is on the IR. What is not mentioned in this policy document is that the university is planning to support locally produced OA journals by the institution. It also does not mention the OA publication and acquisition of information from OA journals.

The policy document of Central University of Technology (CUT) is inclusive of all services run by the library such as collection development, promotion of the Copyright Act, Interlibrary loans, the IR, OA, short loans and access control to services and facilities. This document is also due for review as it was approved and implemented in 2016. It is mentioned in the Collection Development section of the policy that a portion of the university's annual operational budget is earmarked for the acquisition of library material. The document is brief, and a detailed version is currently in the review stage (Central University of technology, 2016).

2.9.2 Combating subscription charges and article processing charges

Currently, there are ongoing discussions and means across the world to combat the hefty subscription charges of accessing information. For example, SANLiC negotiates e-resource acquisition deals with publishers and database aggregators for the libraries. Also, the Scientific Electronic Library Online (SciELO) SA which is a South African full-text journal database. This database covers a selected collection of peer-reviewed South African scholarly journals and is part of the SciELO Brazil project. SciELO SA is managed by the Academy of Science of South Africa, funded by the South African Department of Science and Innovation, and it is authorised by the DHET in South Africa (Scientific Electronic Library Online [SciELO] SA, 2020). The SANLiC, which is a negotiator between South African institutions of higher learning and publishers, recently developed a read and publish agreement, which is called a

transformative agreement (South African National Library and Information Consortium [SANLIC], 2023). A transformative agreement is an umbrella term for OA business models used to describe contracts between institutions and publishers (Farley et al., 2021), which are being renegotiated and modified to include transformative journals, where authors would pay APCs to publish their research, thereby making the article free for the reader to access (Machovec, 2020). Transformative agreements are more transparent than journal licences, allow authors to retain copyright and are believed to be actively driving the transition to full OA journals (Borrego, Anglada, & Abadal, 2021; Farley et. al, 2021).

The study by Matheka et al. (2014) sought to draw attention to the state of OA in Africa and challenges OA will face in the future. Both green and gold OA routes do not charge for access and publish peer-reviewed research papers; thus, they offer the greatest potential for reuse. The authors focused on the Kenyan situation but advised African governments to follow countries such as the United Kingdom and Australia in mandating OA for publicly funded research in the region. According to Raju, Raju and Claassen (2015), most academic libraries in South Africa offer OA publishing services via the green OA route, that is, via self-archiving or institutional repositories (IRs). Here, restriction to access may be imposed by an embargo, where authors can make public the final version of their paper only after publication, typically after one year (Alston, 2019).

Although publishing companies and database aggregators currently realised the need for OA, there will always be costs involved. Formatting and uploading of articles to websites still require personnel and time (Alston, 2019). Publishing in journals that require APC means that the author or affiliated institution would have to pay a publication fee. However, when APC is negotiated in a gold OA journal, it is typically higher for OA articles because the journal subscription is likely to be lower (Alizon, 2018). OA was initiated with consumers of information in mind to combat the publishers' ever-increasing pricing (McCabe & Snyder, 2018), more necessarily to remove paywalls behind scholarly literature and provide comprehensive access to all readers who are interested (Matthias, Jahn, & Laakso, 2019). The APC funding model is similar to fee-per-page and is not the only payment method for OA (Alston, 2019). Other funding models for OA include institutional grants, community grants, author lifetime subscriptions, university library sponsorships or individual donors (Bolick et al., 2017). Authors in this section realised the need for OA publishing and came with different solutions for combating the high subscription fees. Alston (2019) and May (2020) reiterated

that institutions should look at other means of funding their research, such as an institutional subsidy, university library support funding for publication costs, and billing APCs to authors.

Globally, the University of California has negotiated with Elsevier for lower subscriptions, and authors or researchers would, therefore, pay negotiated APC. The model was motivated for authors or users to not pay to read, and an agreement was reached by means of several back-and-forth meetings with the publisher (University of California, 2019). It is believed that open education enhances easy access to information resources and sharing of information among scholarly communication systems for future research purposes.

PlanS aims to provide peer-reviewed academic publications funded by public and private grants with fully functional and immediate OA. The PlanS principle states the following:

“With effect from 2021, all scholarly publications funded by public or private grants provided by national, regional and international research councils and funding bodies, must be published in OA Journals, on OA Platforms, or made immediately available through OA Repositories without embargo” (COAlition S, 2019).

PlanS also states that the University of California will retain the copyright, and the funders will pay for OA publication to high-quality journals where possible. The main purpose for the Plan S initiative was to drive wider adoption of OA publishing launched by COAlition S (Trajkovski, 2022).

COAlition S is the coalition of research funders who have committed to implementing PlanS goals. It aims to accelerate the transition to a scholarly publishing system that allows immediate, free and unrestricted use and reuse of scholarly publications. PlanS backs the global Open Access 2020 Initiative, which aims to speed up the transition to OA by using strategies of reinvesting publisher funding in OA publishing. COAlition S encourages publishers worldwide to enter transformative agreements and share data from those agreements (Bauer, 2017).

2.9.3 Accredited journals versus predatory journals

The DHET manages the accredited journals in South Africa by extracting qualifying publications from journal databases such as the Web of Science, ProQuest, IBSS, Scopus, Norwegian, ScieLO SA, and DOAJ (Hedding, 2019). Accredited journals are recognised

academic journals that meet specified criteria such as peer review; therefore, authors may qualify for subsidisation by the DHET for an article published. However, Darley and Luethge (2019) state that the issue of accreditation of African universities is addressed by applying Western accreditation standards and does not address relevant African dynamics, nor does it examine educational needs in this environment. The World Bank Report (2021) notes that there is a need for economic inclusion for the poorest, and the bank aims to meet that need by 2030; however, they also noted that some governments in low-income countries might face capacity constraints in administering and managing this intervention. Therefore, the need for western accreditation still has to be incorporated. Currently, the NRF in South Africa is responsible for facilitating the development of research quality in the country while increasing the global profile, reputation and rankings of South African universities (Breetzke & Hedding, 2020).

Predatory or fake journals accept papers (and collect publication fees) regardless of quality (Hedding, 2019). Beall (2012) had this to say on the term 'predatory publishing':

“...the publishing of counterfeit journals to exploit the open-access model in which the author pays an article processing charge (APC). These predatory publishers are dishonest and lack transparency. They aim to dupe researchers, especially those inexperienced in scholarly communication. They set up websites that closely resemble those of legitimate online publishers and publish journals of questionable and downright low quality”

Since 2011, there has been a large increase in predatory publishing in South Africa (Mouton & Valentine, 2017). Submitting to predatory journals may be manipulated by some researchers, whereas other researchers may do so in vain for career advancement and for publication subsidy (Cobey et al., 2018). The DHET, however, has reported that predatory publishing in South Africa is continuing yet declining but recommended that academic institutions should have links to the available tools on their websites to detect predatory publishing and provide a list of predatory journal titles and the latest list of DHET-accredited journals and publishers on their websites to ensure the highest standards of research quality and integrity. Additionally, a framework for journal quality and integrity was proposed as a means of assisting the DHET in monitoring and evaluating the quality of subsidy-accredited journals. The framework should include institutions such as the Centre for Research on Evaluation, Science and Technology; NRF; Department of Science and Technology; and Academy of Science of South Africa (DHET, 2019).

Sci-Hub also put pressure on the subscription or paywall system in which the latest research is only accessible to scholars whose institutions can afford to pay the increasingly growing prices for academic journals. It is a part of the OA Movement in science. Sci-Hub is an online platform that most researchers use as an option to bypass the paywall. According to Gonzalez-Solar and Fernandez-Marcial (2019), Sci-Hub was made into existence in the field of scientific communication in 2011 by Alexandra Elbakyan as a platform for free access to scientific research papers. Currently, content on this platform is regarded as bogus or pirated, even though it is widely used across disciplines (Himmelstein et al., 2018; Greshake-Tzovaras, 2017; McKenzie, 2017). McKenzie (2020) interviewed professors, librarians and professionals from different American universities and organisations as some were alleging that Sci-Hub is accessing the universities' credentials illegally by using different domains to make it difficult for universities to block the access to Sci-Hub. As some may label Sci-Hub as an illegitimate platform to access academic journals, Correa et al. (2020) discovered that articles downloaded from Sci-Hub were cited 1.72 times more frequently than others, leading the researchers to the conclusion that articles downloaded from Sci-Hub have more citations than those of other articles.

The future of Sci-Hub is not yet known, but it should be remembered that OA also started with many being sceptical and not trusting articles published in OA, while others were looking forward to the OA journals. The DoI theory explains that the adoption of an idea for a new technology takes longer to be accepted by an organisation. Subscription journals were shaken by the thought of a loss in profit. Scholarly publishers such as Elsevier may feel threatened but may eventually find a way of working with the founder of Sci-Hub, Elbakyan, as he denies any wrongdoing (McKenzie, 2020).

2.9.4 Subscription versus open access

Scholarly communication demands sharing of knowledge and collaboration among researchers to ensure research output for future research activities. Research funders such as NRF require researchers to share data on OA repositories to enable access for future use (NRF, 2015). This statement acknowledges the prominence of OA in science and research fields. There are different views on the transition pace from subscription journals to OA publishing. Pastorino et al. (2016) alluded that OA has been growing at a far higher rate than traditional subscription journal publishing. However, Björk (2013) indicated that the transition from subscription-only publication of scholarly articles to OA has been much slower than many OA advocates had

anticipated. These different views are dependent on a discipline and the period in which articles were written (Björk, 2013).

The objective of OA is to alleviate financial constraints in academic libraries by making scholarly publications accessible to the general public without restriction (Hebrang Grgic, 2016). Although only a small group of academics initially endorsed the concept, several free publishing initiatives have gained traction in recent years. OA is currently a hot topic in academic discussions across all disciplines, and major publishing houses are also doing more to promote it (Puehringer, Rath, & Griesebner, 2021). As a result of the expansion of research activities, the rise in the cost of journal subscriptions, and the rise in the number of journals and articles published, governments and academic libraries around the world have begun to support the OA movement (Hu, Luo & Liu, 2013)

2.10 Chapter Summary

This chapter discussed different platforms, initiatives and organisations that were formed to combat the excessive drainage of financial resources to acquire and provide access to e-resources. The literature review indicates possible barriers and challenges of accessing subscription e-journals. The diffusion and adoption of OA amongst researchers and librarians have been quick to apply the DoI theory because different platforms have been discovered to combat the rising prices of e-resources. The establishment of these platforms can be found locally, nationally and internationally. Internationally, academic libraries, research funders, researchers as well as the information resources aggregators are working hard to find alternatives in accessing of information resources and research products in a more conducive and less costly manner. Chapter 3 explains in detail the research design used for this study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Subsequent to Chapter two, which interrogates the literature on the cost of and access to e-resources, this chapter describes the research design and methodology applied in this study by providing an insight into and rationale for the study design and methodology. According to Jakoet-Salie et al. (2022) research methodology is a collection of techniques that a researcher employs to carry out data collection and processing in order to comply with the requirements of accuracy, objectivity, and validity. This chapter clearly details how the web-based questionnaires and document analysis criteria were designed. It also taps into the research design, paradigms, research population and the sampling methods. The ethical considerations, data presentation, analysis and interpretation process are clearly explained.

3.2 Research Paradigm

Different sources of information define a research paradigm in a distinct manner that has the same meaning as a model that shape how researchers see a particular phenomenon in their world view and knowledge. Research paradigm or philosophy is regarded as the theoretical perspective on which a study is based (Maree, 2020). It is a collection of beliefs or assumptions about fundamental aspects of reality of which a researcher has to a particular world view. Babbie (2020) argues that a paradigm is a framework that shapes what we see and understand while Kivunja & Kuyini (2017) describe a paradigm as the view through which a researcher examines the world. Paradigms represent what we think about the world but cannot be proven (Maree, 2020).

A paradigm comprises four elements, namely epistemology (theory of knowledge), ontology (beliefs about the nature of reality), methodology (assumptions about methodologies) and axiology (theory of values). Two prominent paradigms underpin social sciences research, namely positivism and interpretivism or constructivism paradigms. Researchers working within a post-positivist paradigm follow a critical realist ontology, whereas those working with constructivism follow the epistemology paradigm or background knowledge. Moreover, philosophers who argued that it was not possible to determine social reality as constructed under the interpretivist paradigm or to access the "truth" about the real world solely through use of a single scientific method advocated by the positive paradigm developed the pragmatic paradigm (Kivunja & Kuyini, 2017). This research follows the constructivism paradigm as

there is a background knowledge of the Library and Information Services (LIS) at UWC and the background knowledge of OA. The research is based on the researcher's observations and experience of operations of different academic libraries.

3.3 Research Approach

There are three categories of research; these categories include quantitative research, qualitative research, and mixed methods research (Creswell, 2016). Both qualitative and quantitative research approaches have been around a long time since mid-1900s while the mixed methods approach was developed during the late 1980s (Creswell, 2016). These three are discussed in sub-sections below.

3.3.1 Qualitative research approach

Qualitative research is an approach that follows the traditional ways of conducting social, behavioural, and health science research (Creswell, 2015). Qualitative research represents a form of data collection and analysis with a focus on understanding and on meaning (Edmonds & Kennedy, 2013). In the process, the researcher starts with a problem that needs to be solved, and then formulate a question that will help to address the problem, if answered. The question will be answered by collecting and analysing data gathered from participants who can help answer the questions. Once this information is collected and analysed, the researcher writes up a report of the study summarising the findings (Creswell, 2016).

3.3.2 Quantitative research approach

The purpose of quantitative research is to discover answers to questions through the application of scientific procedures (Davies & Hughes, 2014). A researcher using quantitative research approach decides what to study, poses specific questions or hypotheses, measures variables to facilitate the findings of answers, uses statistical analysis to obtain information and make interpretation of the results (Creswell, 2015). The following are four examples of quantitative research questions that were asked in the questionnaire of this study: 1) Years of experience of working with the e-resources 2) How often do you use the listed e-resources? 3) Are you directly involved in the budget allocation process? 4) What percentage of the overall annual library budget is allocated to e-resources? All four questions were directly exploring the numerical value of the data.

3.3.3 Mixed Methods Research Approach

Researchers such as Creswell (2015) discuss the mixed method research as approach that gathers both quantitative and qualitative data and draws interpretations based on the combined strengths of both sets of data to understand research problems. Creswell (2015) claims that the collective strengths of statistical trends (quantitative data) and information, perceptions, feelings and views of the participants (qualitative data) provide a better understanding of the research problem than either approach of data alone.

This particular study employed the case study design, as only the UWC library was investigated, to explore different methodologies of DoI. Case studies provide a flexible insight into group attitudes, perspectives and beliefs by allowing multiple methods of data collection to be applied (Heale & Twycross, 2018). DePoy and Gitlin (2015) argued that a case study is a qualitative research method that examines current phenomena in a real-world context. Case study research requires a researcher to have experience in the field of their study. In this study, the researcher has been working in academic libraries for more than 20 years. Over the years, the need for e-resources and the cost to acquire them has been increasing. Ongoing studies on the acquisition, preservation and sharing of knowledge are phenomena that describe this case study. The experience acquired in the academic libraries motivated the researcher to conduct this study to attempt to combat reliance on commercial journals of using data drawn from questionnaires and policy document analysis.

A questionnaire was used to collect data before documents were analysed. The purpose of collecting sequential quantitative and qualitative data in one study is to increase the insight and understanding into a research topic (Bowen, Rose & Pilkington, 2017). By incorporating both qualitative and quantitative research approaches, the understanding of the phenomenon was broadened by gathering information, perceptions, feelings and views of the participants on the pricing of subscription e-journals and ultimately on the use of OA resources (Campbell, Taylor & McGlade, 2017; Maree, 2012). Mixing methods in this study acted as a basis for enhancing the reliability and validity of the findings to help create new knowledge.

3.4 Research Design

Several scholars defined research design as a process to plan the research project to answer the research questions. Creswell (2014) defines a research design as a type of inquiry that provides specific direction for procedures in a research within qualitative, quantitative, and mixed

approaches. Cohen, Manion, and Morrison (2018) claim that research design is a plan or strategy that is drawn up for organising the research and making it feasible for the research questions to be answered based on the evidence and authorisations. Yin (2017) defines a research design as a process that links data to be collected and conclusions to be drawn to the initial questions of the study. Rosenstein (2019) explains research design as the manner in which a study is conducted, including the selection and assignment of participants, the execution of any experimental procedures, the gathering, analysis, and interpretation of data. Therefore, Creswell (2014), Cohen, Manion and Morrison (2018), Yin (2019), and Rosenstein (2019) explain that a research design offers an action plan that will take the lead for a research to move from question(s) to a set of conclusions and suggestions.

3.4.1 Research Site

The history of UWC dates back from 1959, when the South African Parliament legislated establishment of a college that would accommodate mainly the coloured community. The first 160 students were enrolled in 1960 as the University College of the Western Cape, and the college gained the university status in 1970 (University of the Western Cape, 2013).

The UWC main library was used as a research site of the current study. The library consists of 49 staff members who service all seven faculties in the university, including the Faculty of Community Health Sciences (Bellville Medical Campus) and the Dentistry Department in the Tygerberg Campus. The other five faculties are Arts and Humanities, Education, Economic and Management Sciences, Law and Natural Sciences. The UWC libraries consist of the following sections; Library Management (including a Personal Assistant to the Library Director and Finance & Operations Coordinator), Learning and Teaching, Information Resources, Client Services, Research Support Services, Marketing and Communication, and the Library ICT and Innovation Sections. The Library Management consists of the library director and three deputy directors for teaching and learning, resources and systems, and research support and access services.

The mission of the UWC Library is to enrich the teaching, learning and research experience, focusing on academic success, and to enhance UWC's standing by providing relevant resources and expertise (University of the Western Cape, 2020). The library supports the curricula and research needs by providing the core information resources to enhance student success (UWC Library Annual Report, 2019). It is housed in a state-of-the-art building that comprises the

library collection and the librarian(s) of each faculty on different floor levels. The faculty librarians are responsible for, amongst other duties, collection development, recommendation and evaluation of resources, as well as assistance of users with information and research needs. The library is generally open until midnight, but it does not close at all during examinations and re-assessment periods.

3.4.2 Population of the study

The term "population" in scientific methodology refers to the subject matter of the study. It refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran & Bougie, 2016). Moreover, McMillan and Schumacher (2014) define population as a group of elements or cases, individuals, objects, or events that belong to a specific criteria and to which the researcher intend to generalise the results of the research. This group is also referred to as the *target population* or *universe*. Because of large numbers, cost and time involved in a study, it is typically impossible to include everyone in the target population. Therefore, the survey population or sampling frame is frequently used by the researcher to draw conclusions about the target population (McMillan & Schumacher, 2014).

The population of the study was the UWC library staff members. The total number of UWC library staff is 49 and is illustrated in Table 3.1. A researcher determines the characteristics of the subjects or components of a study using inclusion and exclusion criteria; this is a crucial step in designing high-quality research (Connelly, 2020). Therefore, the inclusion and exclusion criteria of the population for this study were based on the subjects' professional designation. A professional designation is a status granted by a body of professionals in recognition of an individual's expertise and educational qualification(s) (Library and Information Association of South Africa [LIASA], 2023). As the professional body, LIASA bestows the title of "Professional Librarian" on members who satisfy its requirements by earning either a three- or four-year Bachelor of Library and Information Sciences or Studies degree (NQF 7 or 8) or a Bachelor's degree combined with a postgraduate diploma in Library and Information Sciences or Studies. This is an entry-level position in the LIS field that requires at least a year of experiential training and experience in the relevant field (LIASA, 2023). The descriptions above prompted the exclusion of Library Assistants, Personal Assistants to the library directors and the Finance Co-ordinator in this study. Library Assistants do not necessarily have a degree; the highest education qualification required for their designation is grade 12 or matric qualification.

Table 3.1 University of the Western Cape Library and Information Services Staff

Library Unit	Managers	Senior Librarians	Librarians	Assistant Librarians	Senior Library Assistants	Library/ Personal Assistant / Finance	Total
Library Management	4	0	0	0	0	2	6
Learning and Teaching	0	3	5	0	2	2	12
Information Resources	0	1	1	1	4	1	8
Client Services	1	0	0	0	3	6	10
Research Support Services	2	0	1	1	1	1	6
Marketing and Communication Services	0	0	2	0	0	0	2
Library ICT & Innovations	1	0	1	0	0	1	3
Special Collections	0	0	1	0	0	0	1
Information and Digital Literacies	0	1	0	0	0	0	1
Grand Total	8	5	11	2	10	13	49

3.4.3 Sampling and Sample Size

The process of selecting a subset of a population to be studied is known as sampling (Daniel, 2015). The researcher engages in a sampling procedure to address a research question or hypothesis. This includes determining the location or site of the study, the participants who will provide data and how they will be selected, and the number of participants required to answer the research question (Creswell & Plano Clark, 2018). Therefore, sampling is the process of selecting a small number from a larger group to estimate or predict the prevalence of an unknown piece of information, circumstance or outcome in the larger group (Kumar, 2019). The process of selecting a sample from the total population has advantages and disadvantages. The advantages are that it saves time and financial and human resources. However, the disadvantage is that not all the information from the population's characteristics of interest can be obtained but only an estimate or prediction on the basis of what has been found out in a sample (Kumar, 2019).

There are two major classes of sampling methods that can be employed in quantitative, qualitative or mixed-method approaches, namely probability and non-probability methods (Dos Santos et al., 2021). In a probability sampling method, random selection is used to select a sample, giving each unit of the population a known chance of being chosen. When this method of selection is used, the outcome is more likely to be accurate to the population that is

represented as there is no subjective interference. The goal of probability sampling is to minimise sampling error (Maree, 2020). By contrast, in a non-probability sampling method, a sample does not follow any random selection, this suggests that some population units are more likely to be chosen than others (Dos Santos et al., 2021). A non-probability sample is targeting a particular group, with particular knowledge that does not represent the wider population (Cohen, Manion, & Morrison, 2018). There are several types of non-probability sample such as convenience sampling, quota sampling, dimensional sampling, purposive sampling and snowball sampling (Pajo, 2018). Each type of sample seeks to represent a targeted group in a similar population, rather than attempting to represent the whole, undifferentiated population (Cohen, Manion, and Morrison, 2018).

In this study, the researcher employed the purposive sampling method. Purposeful sampling is selected to fit the purpose of the study, the resources available, and the questions being asked (Emmel, 2013). The questionnaire of this study was exploring the experience of the participants so that they can provide relevant data. Dibley et al., (2020) argue that in a purposeful sampling, the researcher deliberately seeks out those who can address the research question. Therefore, the purpose of purposeful sampling is to select information rich cases that best provide insight into the research questions and will convince the audience of the research (Emmel, 2013).

A survey was distributed to the selected UWC library staff across the library sections and in all three university campuses. The selected sample included the deputy director, resources and systems; deputy director, teaching and learning; deputy director, research support and access services; senior librarian, resources and system; librarian, e-resources; acquisitions librarian; cataloguing librarian; client services manager; scholarly communications manager; digital scholarship manager; faculty librarians and assistant librarians. The data were collected using a web-based questionnaire. The number of targeted pivotal group was 35 and sixteen of the pivotal targeted participants completed and submitted the online questionnaire.

3.5 Data Collection Procedure

The basic idea of data collection in research is to collect information in order to answer the question posed in the study (Creswell & Plano Clark, 2018). Data collection is the process of gathering and measuring data on variables of interest, often through methods such as interviews and surveys. Working closely with research participants to iron out the complexities of cultural norms, beliefs, values and behaviours is essential to qualitative data collection (Mertens, 2018).

3.5.1 Research Instruments

According to McMillan and Schumacher (2014) research instruments are nothing more than tools for gathering information that is pertinent to a research project. The research instruments employed in this study were web-based questionnaires distributed to UWC library staff members, policy documents and vendors' pricing data.

3.5.1.1 Web-based Questionnaires

Although the term “questionnaire” is widely used, it is not simple to provide a distinct definition for it. However, Bertram and Christiansen (2020) constructed a definition of questionnaires as any written instrument with a series of questions or statements which the participants will react either by writing out their answers or selecting from among existing answers.

According to Pickard (2017) and Taherdoost (2021) questionnaires are one of the mostly used research instruments. Questionnaires are simple to create, adaptable and capable of collecting a significant amount of data in a format that is simple to process (McMillan & Schumacher, 2014). However, Gerrish and Lathlean (2015) argued that if the researcher provides answer options or use only fixed response questions, the respondent just has to tick and select an answer; this makes the questionnaire easy to analyse. Open-ended questions, by contrast, allow for the respondents to formulate their own answers or opinions and allows for sharing experiences. However, the one notable disadvantage of questionnaires is the possibility of high non-response rate (Ary et al., 2019; Maree, 2020). The researcher decided to use a questionnaire to gather initial data because it is relatively simple and inexpensive to use (Pickard, 2017).

Researchers should consider the participants when designing a questionnaire and constructing questions in order to ensure that questions are easy to understand and answer. Smyth (2016) argued that when designing a questionnaire, it is useful for a researcher to use a respondent-centred perspective that will consider how respondents will view the questions, what they need to be able to answer accurately, and what might go wrong while they respond. The questions asked were determined by the research questions and the theoretical grounding of the study, and questions were constructed bearing in mind the respondent's educational level.

Web-based questionnaires were designed on Google forms to ensure anonymity and because the forms are easy to administer. Both fixed-response and open-ended questions were used to allow for the gathering of both qualitative and quantitative data. For fixed-response questions, a combination of multiple choice, linear and grid questions were used. Qualitative data were collected with questions that require respondents to supply reasons for their answers or to provide suggestions.

The researcher distributed a web-based questionnaire by sending a questionnaire link by email to the UWC library secretary, for the attention of the library, to distribute to the entire library staff. According to McMillan and Schumacher (2014) it is helpful to inform participants ahead of time to ensure that they are aware of the questionnaire. Therefore, the researcher sent a request to the director to notify the library staff about the survey, and the secretary then distributed the link by email to the 36 selected library staff members. After only a few responses were received, a week after the questionnaire link was distributed, reminders were sent out.

3.5.1.2 Documents

Documents are the readable, tactile, observable, and tangible evidence at a research site (Billups, 2021). To obtain some verification, documents were analysed after data obtained from the questionnaire had been analysed. Bowen (2009) states that document analysis is a methodical way of looking at or evaluating documents. Documents are all written information related to an organisation, such as published materials, agendas, attendance records, meeting minutes, manuals, policy documents, reports and audio-visual materials (Hughes & Goodwin, 2014; Prior, 2014). Bailey (2008) claims that documents are primarily eye-witnessed experiences of an event written by those who were present at the scene. Maree (2020) states that documents are relevant physical or written materials that focus on the phenomenon under investigation. Therefore, Patton (2015), recommended that the researcher before start with the analysis should create a preliminary list of all relevant documents, make a plan for how will access the documents and consider addressing ethical issues, protection of institutional or individual identity.

Data from documents were gathered to enhance the validity of research findings. Angrosino and de Perez (2000) suggests that the researcher uses documents if the evidence from the primary findings warrants further investigation for comparison and reinforcement to strengthen the study and create greater confidence in the interpretations. When attempting to validate

information obtained directly from the participants, investigate appropriate documentary material to add a layer of triangulation and increase the credibility of the study (Pickard, 2017) Triangulation is defined as the comparison of two or more pieces of evidence related to one item under study (Morris, 2017). The credibility and validity of a research are enhanced when one combines various approaches, data sources and theories (Nightingale, 2020). Triangulation can be applied in analysing both qualitative data and quantitative data using several data collection approaches (Wertz et al., 2011).

3.5.2 Pre-testing of the Questionnaire

A pre-test of the questionnaire refers to a trial administration of an instrument to identify errors. According to Bowden et al. (2002), a pre-test gives a researcher an opportunity to identify questions from the questionnaire that tend to be misunderstood by participants and ensure that needed information is obtained, that the questions and instructions are clear and that the participants know what they need to do (Ball, 2019). There should also be an interview with the participants in the pre-test so that they can recommend any useful changes aimed at improving the questionnaire.

After gaining permission to conduct a survey (Appendix D), a pilot study was conducted with the Central University of Technology (CUT) librarians to test the validity and reliability of the questionnaire. The web-based questionnaire was distributed to all CUT library staff members through the office of the CUT library's secretary. Feedback was used to make some minor corrections, but the questionnaire pre-testing reflected that all participants produced the expected data for each question.

3.6 Data Capturing and Analysis

Despite their distinct meanings and purposes, analysis and interpretation are frequently used interchangeably. Analysis is the process of assembling, cleaning and examining the data, whereas interpretation is the process of making sense of the generated data (Polonsky & Waller, 2019). In this section, some fundamental issues related to analysis are described.

3.6.1 Criteria for web-based questionnaire analysis

Descriptive statistics such as percentages and frequencies were used to analyse the data. According to Kaur, Stoltzfus and Yellapu (2018), descriptive statistics are used to organise and summarise data by describing relationships between variables within a sample or population.

A survey is a quick and efficient approach to gathering data from a large sample. Researchers are increasingly using online surveys as a result of the growing use of digital media (Mondal et al., 2018). For the capturing and analysis of the data from the questionnaires, the embedded spreadsheet function of Google Forms (called Google sheets) was used. The Google Forms application has a functionality that links responses to an Excel spreadsheet and automatically synchronises data. This is far quicker than manually transferring and consolidating information (Kumar & Naik, 2016). Summaries of responses in this study are presented in tabular, graphical or textual formats in the data presentation chapter.

3.6.2 Criteria for documents analysis

The process of organising information into categories and linking it to the primary research questions is known as document or content analysis (Bowen, 2009). Content analysis of policy documents often uses a particular kind of rhetoric and reiterates key points or value statements, providing an excellent foundation (Hamilton & Corbett-Whittier, 2013). The document analysis is informed by the objectives of the study that seek a) to explore alternative means of providing access to e-resources at a minimal cost and b) to discover current strategies applied in acquiring e-resources.

The researcher used specific criteria to determine facts as mentioned by participants. For example, a librarian may mention that the library advocates the use OA e-resources while there is no document or policies indicating that. Policy documents were all collected from the UWC library website. The vendor data was downloaded from the internet from 2022 and 2023 serials price projection report (EBSCO, 2023) and analysed through a document rubric as the determining factors to the study.

The researcher skimmed through the UWC OA Policy (University of the Western Cape Policy Document, 2019), University of the Western Cape Annual Reports (2019–2022), e-Resource Guidelines (University of the Western Cape Policy Document, 2013), and collection development policy (University of the Western Cape Policy Document, 2013). The use of the vendor pricing assisted in answering the question of the amount used in subscribing to the commercial journals. The amount was not only in numbers but in feelings of the pricing. EBSCO data were analysed in a thematic analysis format. Thematic analysis is a type of pattern recognition in data in which new themes become categories of analysis (Morgan, 2019). Themes are a way to capture what was learned from a set of responses and communicate those

insights to readers (Morgan, 2019). Since the researcher was using the research questions as indicators for the categories, emerging themes were grouped together with the main category that is already existing.

3.7 Validity and Reliability

Reliability and validity are different but closely related research concepts that describe how useful and purposeful a measurement tool is (Dawson, 2018). The purpose of validity is to evaluate whether the measurement is truly representative of the concept being studied. Reliability tests whether consistent results would be achieved should this measurement be repeated multiple times (Ruel, Wagner III, & Gillespie, 2016).

3.7.1 Validity

According to Babbie (2020) validity involves the extent to which a research instrument measures the constructs it was intended to measure. Validity is applied to ensure responses to questions included in the questionnaire schedule match what the instrument was intended to get (Pickard, 2017). Furthermore, to increase the validity of this research, triangulation was used. Triangulation is defined as the comparison of two or more pieces of evidence related to one item under study (Morris, 2017). In this study, there was no bias, which can happen when only one method is used to get or interpret data.

3.7.2 Reliability

The reliability of research instruments is determined by trustworthiness and is a matter of consistency whereby a particular technique can be applied more than once can yield same results each time (Babbie, 2020). The research instruments used in this study were reliable as the pre-testing reflected that all participants consistently produced the expected data for each question.

3.8 Chapter Summary

This chapter describes and justifies the research methodology used in the study. The geographical area in which the study was conducted was indicated, and the study design, population and sample size were described. The means used to collect the data were identified, including the methods implemented to maintain the validity and reliability of the means. The collected data are presented in Chapter 4.

CHAPTER FOUR: DATA PRESENTATION

4.1 Introduction

This chapter presents data generated from UWC library staff using a web-based questionnaire and from the documents analysed. The chapter presents responses to the following broad categories of questions: e-resource use, barriers to accessing e-resources, budget allocation, e-resource strategies, OA and OA versus subscription. Sixteen of the targeted twenty (20) participants completed and submitted the online questionnaire; this resulted in a response rate of 80%. Data from the questionnaires and from the documents were integrated in the analysis. Triangulation was applied in analysing both qualitative data and quantitative data.

4.2 Questionnaire

The data presentation follows the questionnaire question sequence. The results are demonstrated by explaining the relationship between the variables and data sets. Each variable is illustrated with a different colour for ease of its identification. All of the graphics were generated automatically and retrieved from the online survey data. Graphs were later labelled and marked (adding titles, the x and y axes, and the number of responses) using an Excel spreadsheet.

4.2.1 e-Resource Use

The first category of the questionnaire was aimed at understand the participants' experience in and familiarity with e-resources.

4.2.1.1 Work experience

The first question was to determine each respondent's work experience in an academic library. The question had four variants reflecting categories of five-year periods. The findings indicated that the majority (38%) of participants had 6 to 10 years of experience working in the library and information field. Slightly less, five (31.3%), of participants had both 0 to 5 years and more than 15 years of experience working in the academic library. No participants had 11 to 15 years of experience. The results are illustrated in Figure 4.1.

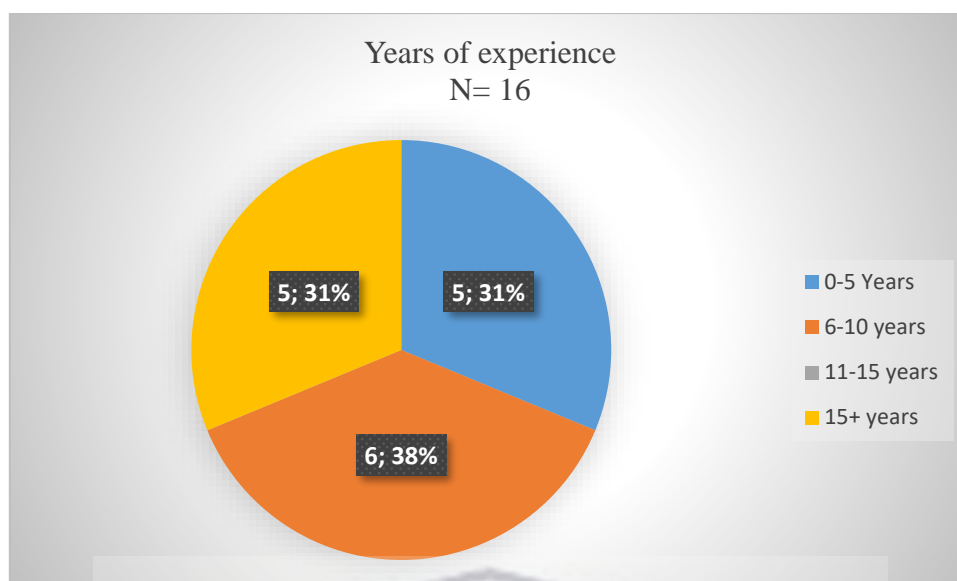


Figure 4.1 Years of work experience with e-resources

4.2.1.2 Frequency of e-resource usage

The following question also determines the respondents' experience with e-resources. A list of e-resource platforms was given, and participants were asked to indicate how often they use each e-resource by selecting "very often", "often", "seldom", or "never". Search engines are the most used e-resources, whereas company websites are the least used e-resources. The library resources and the library A-Z databases have the same number of responses, just below the search engines. The results are reflected in Table 4.1.

Table 4.1 Frequency of using e-resources N= 16

Research requirements	Very Often	Often	Seldom	Never
Search engines	14	1	1	0
Library catalogue	13	0	2	1
Library A-Z databases	13	1	2	0
Company websites	9	3	3	1
Google Scholar	12	3	1	0

4.2.1.3 Important features of e-resources

A list of e-resource features was given, and the participants were asked to select features they regard important when searching for e-resources. The majority of the participants (93.8%) indicated that the most important feature of e-resources is availability in full text. Most OA resources are available in full text, and fifteen participants selected them to indicate that they prefer to access articles they will be able to read without being transferred to a subscription or borrowing from interlibrary loans. There was also an option to add other features, and one

participant added the integration of plugins that enable sharing or storage of items as one of the features that can be seen as important.

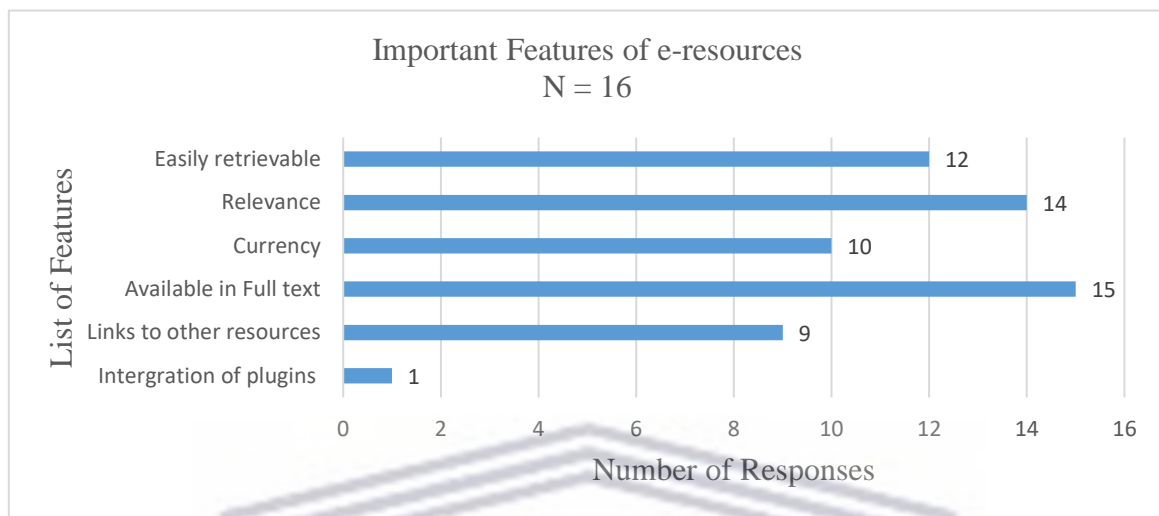


Figure 4.2 Important features of e-resources

4.2.1.4 Reasons for the important feature

An open-ended question requested participants to give reasons why they feel one feature is more important than the other. From the responses, the themes were identified as relevance, easy accessibility, OA, currency, easy retrieval and full text. Responses are themed and listed in Table 4.2.

Table 4.2 Reasons for an important feature N= 16

Theme	Responses
Relevance	<ul style="list-style-type: none"> - <i>I will use the e-resources that are relevant to my studies.</i> - <i>Students need to use information that is relevant to what they need.</i> - <i>It will allow the researcher or student to get the relevant information without wasting time and money.</i> - <i>Relevancy; everyone wants to use and reference the current information that will be relevant to his or her pilot study.</i> - <i>Researchers often faced limitations and, therefore, are on the lookout for resources that are easily accessible, available in full text and, most importantly, relevant and useful.</i> - <i>Current information that is relevant to your studies makes research easy.</i> - <i>There is no use in finding resources that are not relevant to the user.</i> - <i>Resources must be relevant and available in full text and be retrievable.</i>
Easy accessibility	<ul style="list-style-type: none"> - <i>When one is working digitally, one needs to be able to find materials easily.</i> - <i>It is important to have current information that is easily accessible.</i> - <i>Equity of access and ease of usage.</i>

	- <i>Researchers often faced time limitation and, therefore, are on the lookout for resources that are easily accessible, available in full text and, most importantly, relevant and useful.</i>
Currency	- <i>Current information, which is relevant to one's studies makes research easy.</i>
Easy Retrieval	<ul style="list-style-type: none"> - <i>Students prefer to use information sources that require the least effort to access.</i> - <i>The more accessible, relevant and current information sources are, the more likely they are to be used.</i> - <i>Easy retrieval is what a user wants, meaning no researcher has time to peruse through all the research to access what she or he needs (This saves time for researchers).</i> - <i>Resources must be relevant and available in full text and be easily retrievable.</i>
Open Access	<ul style="list-style-type: none"> - <i>Open Access to resources is important for research.</i> - <i>It is very crucial for any information resource or database to expand searching by taking you to related and relevant information, so as a researcher, you have an option to select a variety of information sources.</i>
Full text	<ul style="list-style-type: none"> - <i>Because it provides PDF files of the resources, as well as their bibliographic information.</i> - <i>Researchers often faced with limitations are on the lookout for resources that are easily accessible, available in full text and, most importantly, relevant and useful.</i> - <i>Also to have it in full text, and having access to it will allow you to focus on other things as well, as less time is spent.</i> - <i>Resources must be relevant and available in full text and be easily retrievable.</i>

4.2.2 Barriers to e-resource access

Questions five to ten were aimed at identifying barriers to accessing e-resources that users reported to the participants. The detailed breakdown of the responses is presented in Figures four to nine.

4.2.2.1 Platforms for accessing e-resources

This question requested participants to choose all relevant options provided to indicate how the library provides access to e-resources. Options provided were discovery platforms, A-Z databases, smartphones, tablet or e-book readers, application or mobile-optimised sites, computer networks and others. The purpose of the question was to find out whether the library is versatile to give access to various users who have different knowledge of technology. The majority (93.8%) of the participants indicated that their users access their e-resources through the A-Z database platform. The A-Z database is a platform accessed through the university library website. One participant provided the other option as a browser extension. These data

were conducted during , when most of the students were accessing e-resources remotely and learning virtually following the lockdown restrictions in response to the COVID-19 pandemic. However, mobile access or applications had eight responses, meaning that they were mentioned by 50% of the participants.

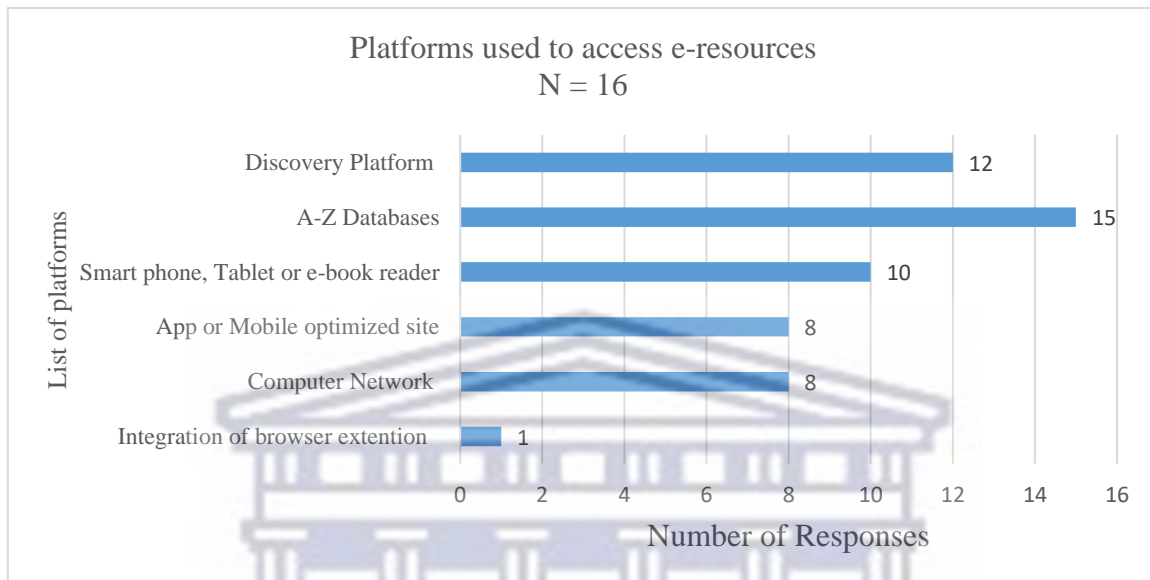


Figure 4.3 Platforms used to access e-resources

4.2.2.2 Challenges in accessing e-resources

The next question requested participants whether library users encounter any challenges in accessing the e-resources. Options given to choose from were yes, no and not sure. Responses are summarised in Figure 4.4. The majority of respondents (87%) acknowledged that library users encounter challenges in accessing e-resources.

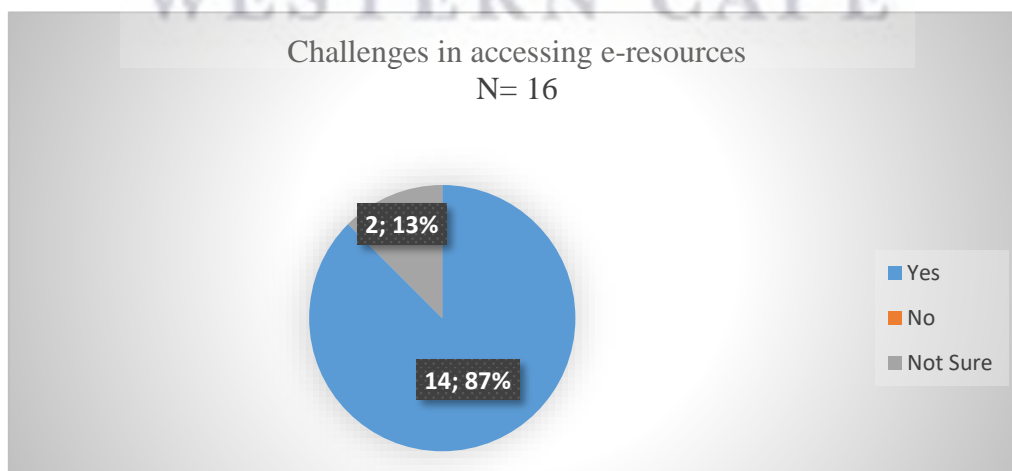


Figure 4.4 Challenges experiences in accessing e-resources

4.2.2.3 Types of challenges experienced

The follow-up question requested participants to indicate types of challenges their users normally experience. The participants were required to select all relevant options that were given, such as network downtime, slowness of downloading, vendor upgrades, slow computer processing, electricity loadshedding, off-campus access, search skills, website upgrade and knowledge of using e-resources. The challenge experienced by 93.3% of respondents was the off-campus access problem. Less experienced participants did not know changes in the websites (6.7%) and how to use e-resources (6.7%) and search for them (6.7%). Slow computers and electricity cuts, known as loadshedding in South Africa, both drew five responses (33.3%). Vendor upgrades that seem to be affecting library users were indicated by three (20%) of the participants.

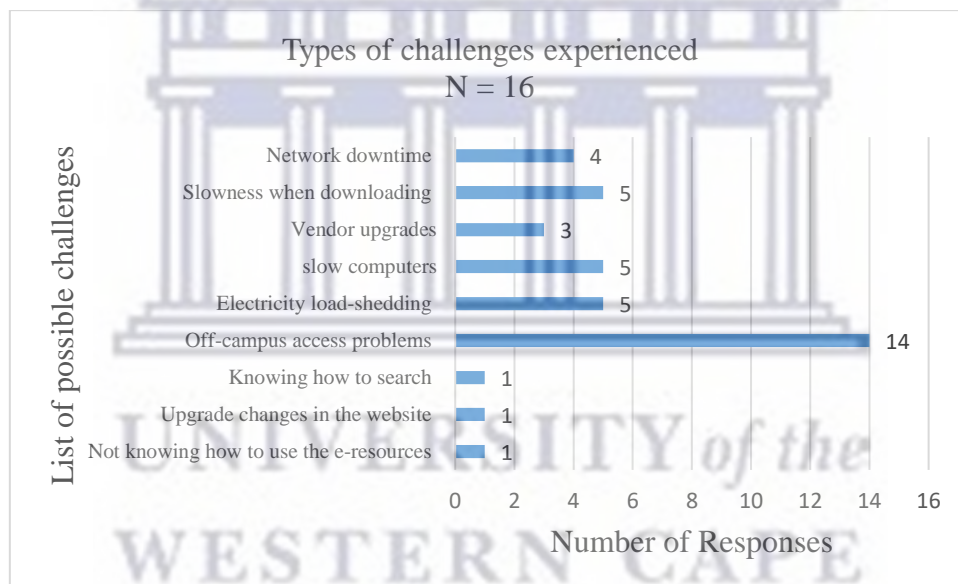


Figure 4.5 Types of challenges experienced

4.2.2.4 Factors contributing to challenges of e-resources access

Various factors that contribute to challenges in accessing e-resources were given, and the participants were required to indicate how important they regard the listed factors by ticking the appropriate option for each row. Quality Wi-Fi connection and the internet response time were identified by most participants as very important, whereas searching in a particular database seemed to be high in importance. A user-friendly library catalogue and choosing a database were considered to be not important.

Table 4.3 Factors that contribute to difficulties in accessing e-resources N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Internet response	14	2	0	0	0
Wi-Fi connection	15	2	0	0	0
Relevancy	12	4	0	0	0
Search skills	11	5	0	0	0
Library catalogue user friendliness	9	6	0	1	0
Availability of journal titles	6	6	2	2	0
Choosing a database	4	8	3	1	0
Searching in a particular database	5	9	1	1	0

4.2.2.5 Barriers to e-resource access experienced by the library

This question aimed to identify barriers experienced by the library in accessing e-resources. The participants were required to select all applicable options. Options provided were computer or networking problems, limited spacing for training, lack of searching skills, staff shortages, lack of up-to-date equipment, fewer computers, slow internet connection and phishing. Most respondents (87.5%) identified searching skills as a barrier, whereas virus attacks had zero responses. The numbers of responses and percentages are illustrated in Figure 4.6.

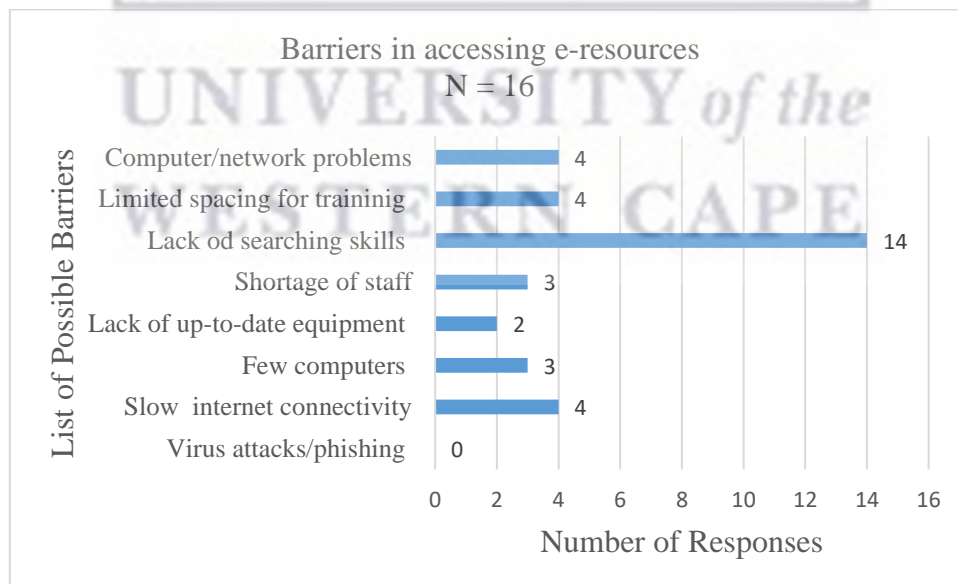


Figure 4.6 Barriers experienced by the library in accessing e-resources

4.2.2.6 Other challenges related to e-resources

This question was asked to identify other challenges in general regarding e-resources. Participants were requested to select all relevant options from lack of usage statistics, budget cuts, inadequate searching skills, high subscription fees and loss of knowledgeable staff. The majority of participants (93.8%) identified the high cost of subscription as the other factor faced by the library as a challenge, whereas 81.3% identified budget cuts. Loss of knowledgeable staff due to death, resignation or retirement; lack of ; and inadequate searching skills were not much of a problem. Details of responses are captured in Figure 4.7.

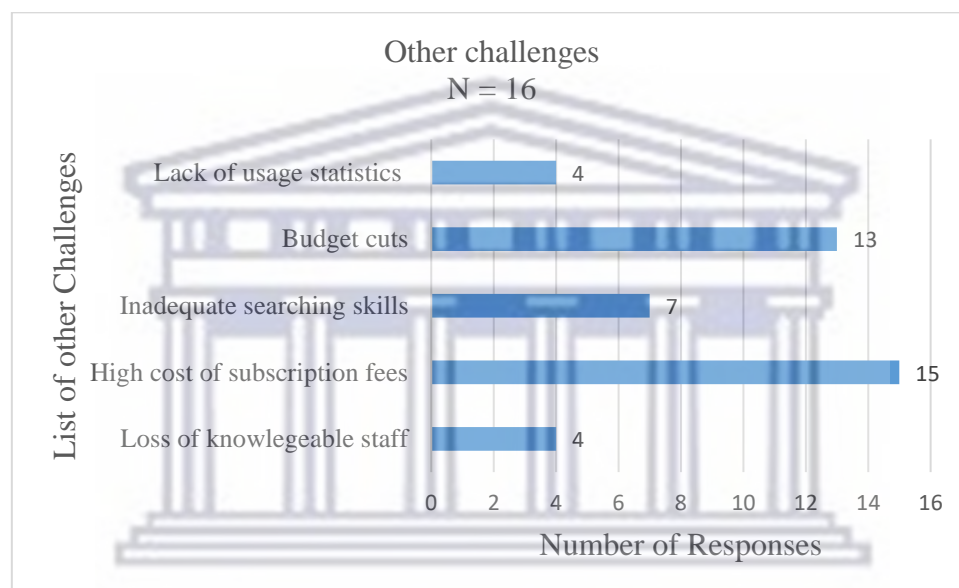


Figure 4.7 Other challenges that the library face regarding e-resources

4.2.3 Budget allocation

This category's questions aimed to investigate the amount of budget used to subscribe to e-resources.

4.2.3.1 Budget allocation process

The first question in this section asked participants to indicate whether they are directly involved in the budget allocation process by responding with either yes or no. As can be seen in Figure 10, the majority of respondents (81%) are not directly involved in the budget allocation process, and only 3 (19%) are directly involved.

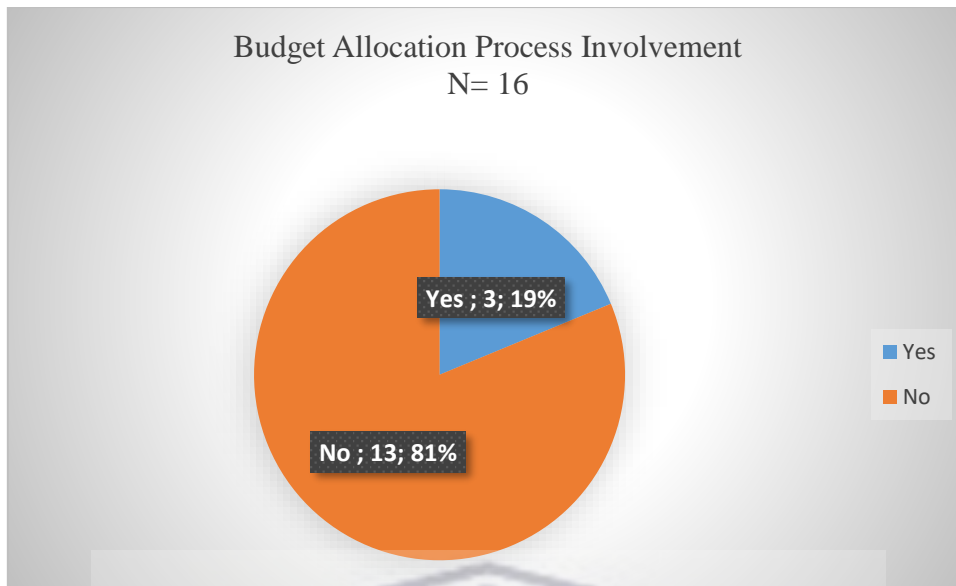


Figure 4.8 Budget allocation process

4.2.3.2 Collection development

This question enquired whether the participants are directly involved in the collection development and management process of the e-resources. The majority (63%) of the participants indicated that they are directly involved with the library’s collection development.

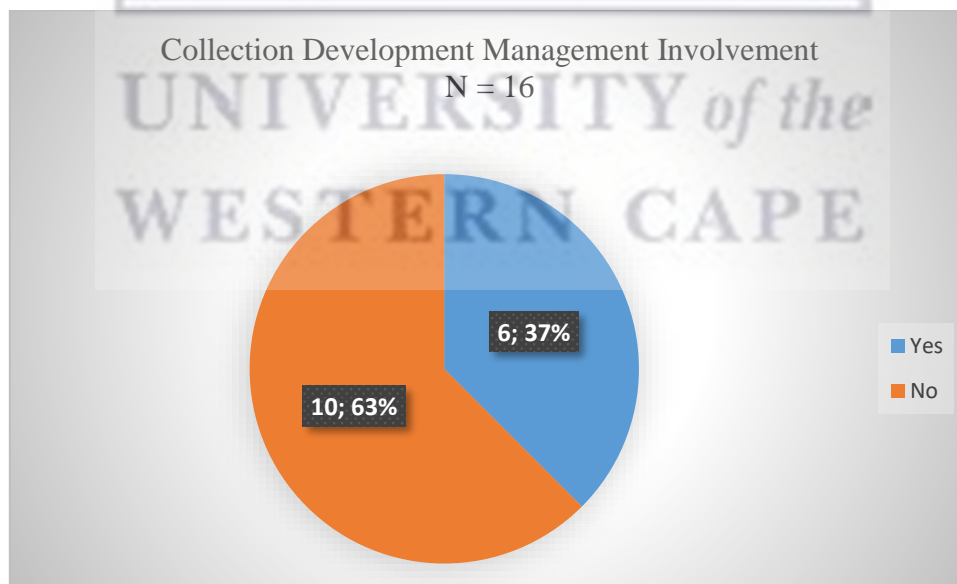


Figure 4.9 Collection Development Management

4.2.3.3 Annual budget allocation—databases

In response to the question asked about the percentage of the annual library budget that is allocated to e-resources, fourteen responses were received. The majority (43%) of the participants indicated uncertainty about percentages allocated. No responses in the 5% to 25% category of budget allocation was received. Most respondents (36%) indicated the category 75% to 100%, followed by the category of 50% to 75% (14%). Only one respondent indicated that the e-resources budget is between 25% to 50%.

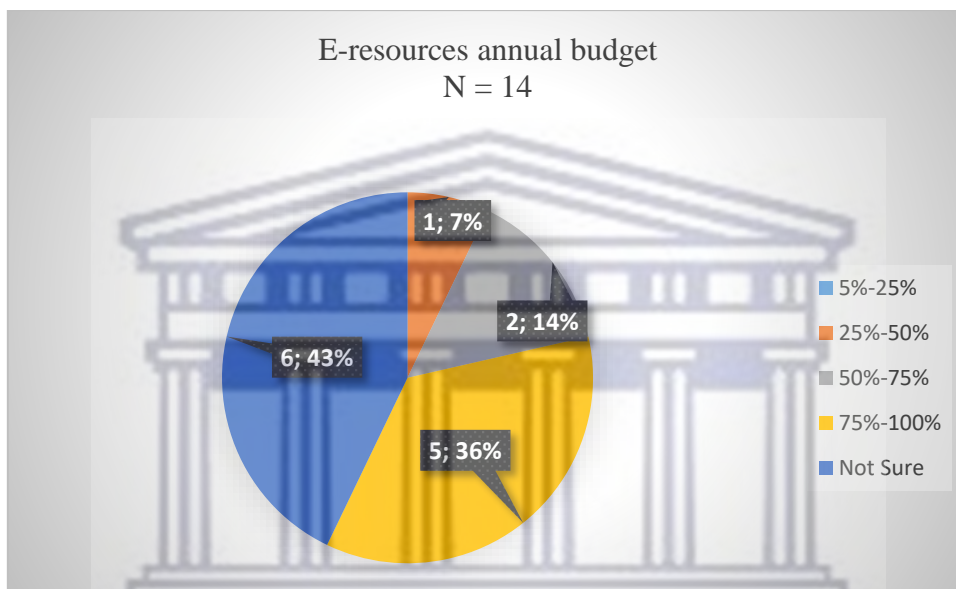


Figure 4.10 e-resources annual budget

4.2.3.4 Annual budget allocation—books and e-books

To determine the percentage of the library budget spent on printed books and e-books as these library resources are not considered to be a part of the e-resource budget, participants were requested to choose a relevant category. Categories of percentages in multiples of 25 starting from 0% to 25% were given. Again, only 14 participants responded, and 43% of the participants were not sure. Three respondents (22%) opted for the 50% to 75% category, two respondents (14%) for the 5% to 25% category, and one respondent (7%) for the category 25% to 50%. All the responses are summarised in Figure 4.11.

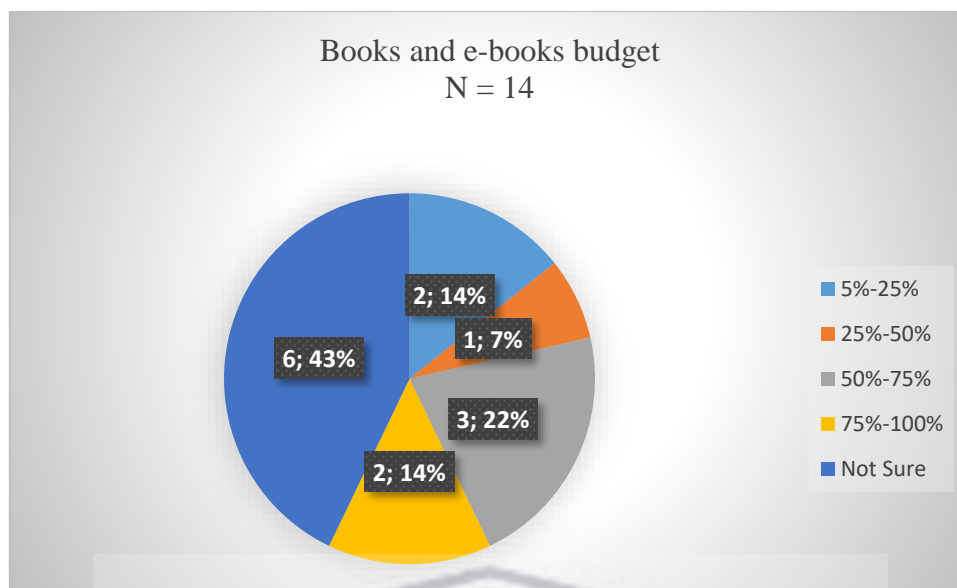


Figure 4.11 Budget for printed books and e-books

4.2.3.5 Cost of acquiring and maintaining e-resources

Participants were asked to indicate how important each variable by choosing an option of very important, important, neutral, not important or totally not important for each of the listed variables, describing the rising cost of acquiring and maintaining e-resources. The variables given included pricing models, consortia, interlibrary loans and digitalisation of print resources. The pricing model was indicated to be very important, whereas the digitisation of existing print material seemed to have high neutral responses. Consortia and interlibrary loans also had second and third highest responses for the “very important” response, respectively, after the pricing model. The results are illustrated in Table 4.4.

Table 4.4 Justifying the rising costs of e-resources N = 12

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Pricing Model	11	3	2	0	0
Consortia	7	4	4	1	0
Inter-Library Loans (ILL)	7	8	1	0	0
Digitising existing print material	4	5	6	1	0

4.2.3.6 Price negotiation with vendors

Academic libraries use various means to negotiate prices with vendors. A question was asked to investigate means the UWC library uses to negotiate prices with vendors. Participants were

asked to indicate the importance of the following variables; trials and product demonstrations, statistical reporting, customisation, and data security and archiving that can be used to negotiate prices with vendors. Trials, product demonstrations and statistical reporting received nine responses, thus being rated as very important, followed by data security and archiving policies being regarded as important by eight respondents. Although customisation was regarded as not important by two respondents, no options were regarded totally not important. The results are illustrated in Table 4.5.

Table 4.5 Price negotiation with vendors N= 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Trials	9	6	1	0	0
Statistical reports	9	6	1	0	0
Customisation	5	4	5	2	0
Data Security and archiving policies	5	8	3	0	0

4.2.3.7 Management of the e-resource budget

Participants were asked to indicate the importance of managing e-resources to maintain value for money by rating each listed option as very important, important, neutral, not important or totally not important. The listed options were licensing and reviewing and/or renewal of subscription, collection development, user training and support, export and downloading of resources, a user-friendly website, and statistical reporting. Table 4.6 reflects a high number of very important responses for all the options and no response, thus being totally not important. The licensing and review and export option both received the highest number (12) of responses indicating that these two options are important. The training and support and accessibility or use-friendliness of the platform received eleven responses each indicating that they are very important variable in managing the value for money of e-resources. There were no options that received “not important” or “totally not important” responses.

Table 4.6 Value for money N = 16

Research requirements	Very Important	Important	Neutral	Not important	Totally not important
Licensing and Review	12	3	1	0	0
Collection development	10	5	1	0	0
Training and support	11	3	2	0	0
Exporting and downloading	12	3	1	0	0
Accessibility/ user-friendly	11	4	1	0	0
Statistical reporting	10	5	1	0	0

4.2.3.8 Deals and bundles of e-resources

Participants were asked to indicate the importance of how deals and bundles of e-resources are made. The options given were response, reliability and availability, exporting and downloading, purchase models and pricing, the number of users and sites. The responses in Table 4.7 indicates that response, reliability and availability plus exporting and downloading had the highest number (12) of “very important” responses. Purchase models and pricing are slightly below that, with eleven librarians rating it as very important. Only six librarians rated the number of users and sites as very important, whereas nine rated it as important. No option was rated as not important or totally not important, and only one participant rated the number of users and sites as neutral.

Table 4.7 Deals and bundles of e-resources N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Response/Reliability/availability	12	4	0	0	0
Exporting and downloading	12	4	0	0	0
Purchase models and Pricing	11	5	0	0	0
Number of users and sites	6	9	1	0	0

4.2.3.9 Management and evaluation of e-resources

Participants were asked to tick options from “very important” to “totally not important” for each row of listed alternatives for managing and evaluating e-resources. The purpose of this question was to determine whether the library has other means to acquiring e-resources other than by subscription. This question is similar to the question asked in Table 4.7 but focuses on management of existing e-resources than acquisition of new resources. Alternatives given were fair use provision, termination, refunds and period of the agreement. Some libraries prefer to terminate the subscription; some advocate for fair use of articles that partly fall in the hybrid subscription; and some limit the period of the agreement. The period of the agreement was rated as very important by most (nine) participants, followed by fair use provision with eight “very important responses”. Although termination’s importance drew only six “very important responses”, it was regarded by six more librarians as important. Although ten librarians rated refunds as very important or important, six rated its importance as neutral or non-existent. Table 4.8 summarises the responses.

Table 4.8 Management and evaluation of e-resources N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Fair Use	8	6	2	0	0
Termination	6	6	4	0	0
Refunds	6	4	5	1	0
Period of agreement	9	5	2	0	0

4.2.3.10 Difficulties the library experienced in maintaining e-resource subscriptions

Participants were asked to indicate the importance of difficulties the library may experience in maintaining e-resource subscriptions. Three options were given, namely budget cuts, price increases and currency exchange rate of the South African currency. All three options were high on being very important with fifteen, fourteen and thirteen responses, respectively. The options “not important” and “totally not important” were not chosen. One librarian chose to stay neutral regarding the currency exchange rate. The responses are reflected in Table 4.9.

Table 4.9 Difficulties in maintaining e-resources N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Budget	15	1	0	0	0
Price Increases	14	2	0	0	0
Exchange rates	13	2	1	0	0

4.2.3.11 Improvement in the library's e-resource budget

The participants were asked to explain how they would improve the allocation of the e-resource budget. The themes identified based on the responses received were budget increase, OA deals, the exchange rate, and prioritisation of e-resources. Out of sixteen responses, six participants felt the question was not applicable. Table 4.10 reflects the responses and themes.

Table 4.10 Improvement in the library e-resources budget N = 16

Theme	Responses
Budget increase	Amount allocated Increase budget allocation specifically for acquiring more African content. More money allocated to electronic resources I am not understanding this question, except to say that there is a need to increase funding for e-resources. More Budget
Open access deals	Transformative deals for OPEN ACCESS, SA statement of university OPEN ACCESS agreements; Gov budget allocation to OPEN ACCESS for SA univ; More published SA e-resources

Currency Exchange rate	Have the budget keep up with the exchange rate and annual increases in subscription costs
Prioritisation of e-resources	Advance notice of annual allocations so that planning can be done for the following year Try to get more subscription so students can access subscribed journals and articles Improving electronic resources through holistic budgeting
Not applicable	n/a Nothing No comment I am not working directly with budget. Neutral N/A

4.2.4 e-Resource strategies

Questions 22 and 23 focused on strategies the participants applied to acquire e-resources, enhance access and enhance the use of e-resources.

4.2.4.1 Strategies applied to acquire e-resources

Three strategies of acquiring e-resources, namely the purchase model, pricing model and the access option, were listed, and participants were asked to indicate the importance thereof. Fourteen librarians responded to this question. The access option was rated by twelve librarians as very important, whereas the pricing model and the model drew eight and seven “very important” responses, respectively. In all of the listed strategies, there were no “not important” or “totally not important” responses. Of interest is that if the very important and important responses are added, the totals of the responses are the access option (15), the pricing model (14) and the purchase model (14). Table 4.11 illustrates.

Table 4.11 Strategies applied to acquire e-resources N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Purchase models	7	7	2	0	0
Pricing models	8	6	2	0	0
Access	12	3	1	0	0

4.2.4.2 Strategies adopted to enhance e-resource access

Participants were asked to select the applicable strategy that their library has adopted to enhance access to e-resources. Options were listed as OA, IR, information literacy, library

orientation, and self-paced tutorials and LibGuides. The majority of the librarians (15, 93.8%) indicated that OA and information literacy are the strategies their library uses to increase the usage of e-resources. IR and library orientation were chosen by 14 (87.5%) of the librarians, whereas self-paced tutorials and LibGuides were chosen by only one respondent (6.3%). Details of responses are captured in Figure 4.12.

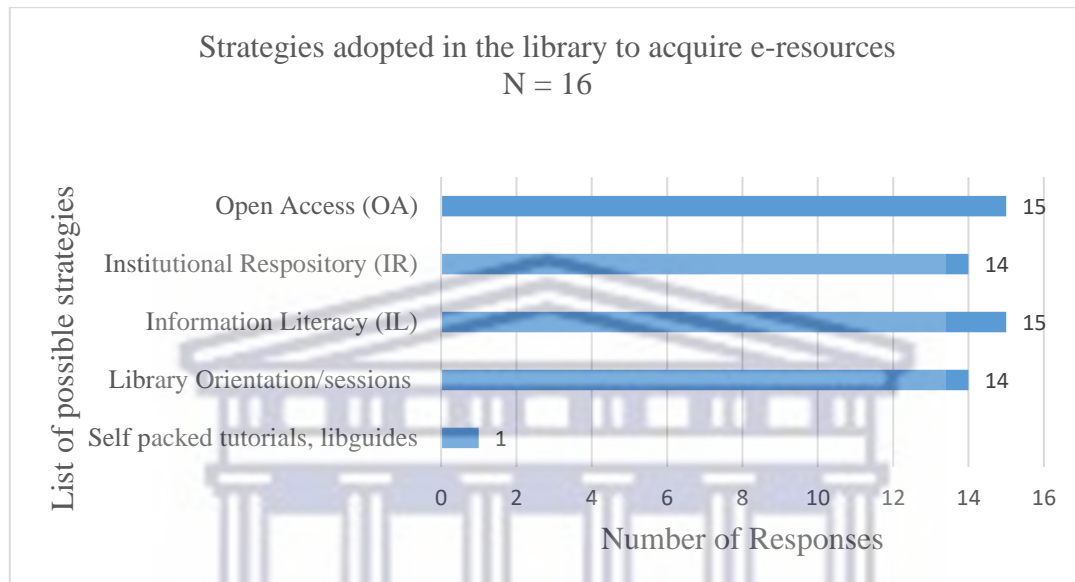


Figure 4.12 Strategies adopted to enhance e-resources access

4.2.5 Open access versus subscription

In this category, the researcher assessed the participants' knowledge and experience of working with OA journals and publishing articles in OA journals. The section also tried to verify whether participants would advocate for OA over the subscription to journals.

4.2.5.1 Open access support

Participants were asked to indicate whether their library supports the OA initiative. The responses indicated that 81% of the participants believed that the library supported the OA initiative. By contrast, one librarian (6%) felt that the library is not supporting the OA initiative. The two librarians (13%) who were not sure might have not been involved in initiatives taking place in the library.

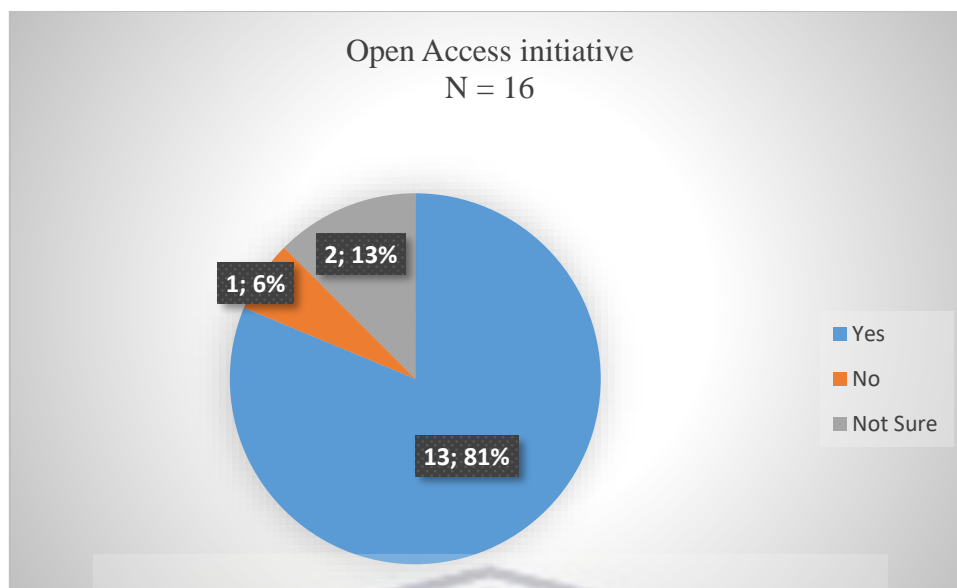


Figure 4. 13 Open Access support

4.2.5.2 Open access support steps

This question is aimed at investigating the steps the UWC library has taken to support the OA initiative. The fifteen (94%) responses received are recorded in Table 4.12 and reflect that the participants are aware of the OA initiative as the responses include the important steps such as the Berlin Declaration and Research Repository or IR.

Table 4.12 Open Access support steps N = 15

Theme	Responses
Research repository	<ul style="list-style-type: none"> - <i>UWC Supports open access achieved through deposit of peer-reviewed research papers in repositories or through publication in open access journals to ensure that research is free for all to view and use, that researchers in turn have their work read and discussed by many more people, and that the public can see where their funding goes – a win-win situation for lovers of knowledge everywhere</i> - <i>Our library has a fully functional institutional repository and an OPEN ACCESS policy</i> - <i>The library has a research repository and signed the open access declaration</i> - <i>The UWC library hosts two online open access repositories and hosts open access journals</i>
Berlin Declaration	<ul style="list-style-type: none"> - <i>Berlin Declaration was signed by the Rector; there is an OPEN ACCESS policy</i> - <i>Institution is a signee of and supports the Berlin declaration of Open Access</i>

	<ul style="list-style-type: none"> - <i>The library has a research repository and signed the open access declaration</i>
Digital platform	<ul style="list-style-type: none"> - <i>The library is trying by all means to make information available to students without them having to pay to gain access. We are making articles available on every digital platform of the library for free.</i> - <i>Information is easily accessible to our users freely</i> - <i>It is part of the library's strategic objectives.</i>
Open access policy	<ul style="list-style-type: none"> - <i>Our library has a fully functional institutional repository and an OPEN ACCESS policy</i> - <i>This is not required if the researcher did research to see that all 26 higher education universities subscribe to OPEN ACCESS</i> - <i>Open access publications reduce permission requirements and eliminate price barriers for readers</i> - <i>The library has a research repository, and it signed the open access declaration</i> - <i>It is part of the library's strategic objectives</i>

4.2.5.3 Open access publishing

This question requested the participants whether they would publish in an OA journal. The question was aimed at determining whether the participants are interested in OA publishing or whether they would prefer to publish in a subscription journal. The majority of the UWC library staff members (88%) responded that they had never published in an OA journal.

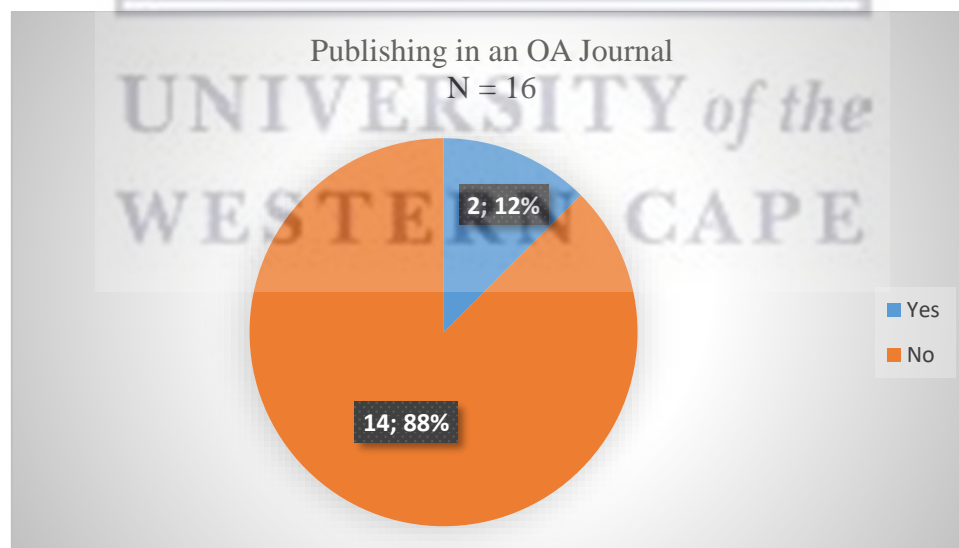


Figure 4.14 Open Access publishing

4.2.5.4 Reasons for open access publishing

A follow-up question was asked to establish reasons for publishing in an OA journal. Only two responses were received. The reasons are captured and themed in Table 4.13.

Table 4.13 Reasons for Open Access publishing N = 2

Theme	Responses
The primary channel for South African LIS professionals	- <i>It is the primary channel for our profession in SA.</i>
Research Impact	- <i>Researcher profiling and impact</i>

4.2.5.5 Motivation for choosing open access publishing

Participants were asked to indicate the importance of the factors that motivate authors or researchers to choose OA for publishing. Options given were visibility, cost, free publication, reputation, research impact and zero publication fees. Both the research impact and visibility had 13 responses as “very important”, while cost and no publishing fee both received 8 “very important” responses. In all the given factors, none was considered to be totally not important. The rest of the responses are presented in Table 4.14.

Table 4.14 Motivation for choosing Open Access publishing N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Visibility	13	2	0	1	0
Cost	8	5	3	0	0
Free to read	10	1	3	2	0
Journal reputation	11	3	2	0	0
Research impact	13	2	1	0	0
Free to publish	8	7	1	0	0

4.2.5.6 Demotivation for choosing open access publishing

There are many factors for demotivation of a researcher or author to publish in an OA journal. Some of those factors were listed, and participants were requested to rate the importance of each. The given options were copyright issues, publication quality of the journals, preservation or storage platforms of articles and accreditation of the journals. Most librarians (81.3%) regarded the accreditation of a journal as very important, and three (18.8%) as important. There was no response indicating that this option to be neutral, not important or totally not important.

Copyright issues were regarded as very important (62.5%), important (12.6%) and not important (12.6%). The quality of OA journals was rated as very important (56.3%) and important (31.3%). Preservation was rated as both very important and important, separately, by six librarians rated. Details are reflected in Table 4.15.

Table 4.15 Demotivation for choosing Open Access publishing N = 16

Research Requirements	Very Important	Important	Neutral	Not Important	Totally not important
Copyright issues	10	2	2	2	0
Publication quality	9	5	2	0	0
Preservation or storage	6	6	2	2	0
Journal accreditation	13	3	0	0	0

4.2.5.7 Recommendation of open access vs subscription journal

In response to the question of whether participants would recommend OA journals over subscription journals, seven (44%) strongly agreed, four (25%) agreed, four (25%) stayed neutral and one (6.3%) strongly disagreed. No one selected the “disagree” option.

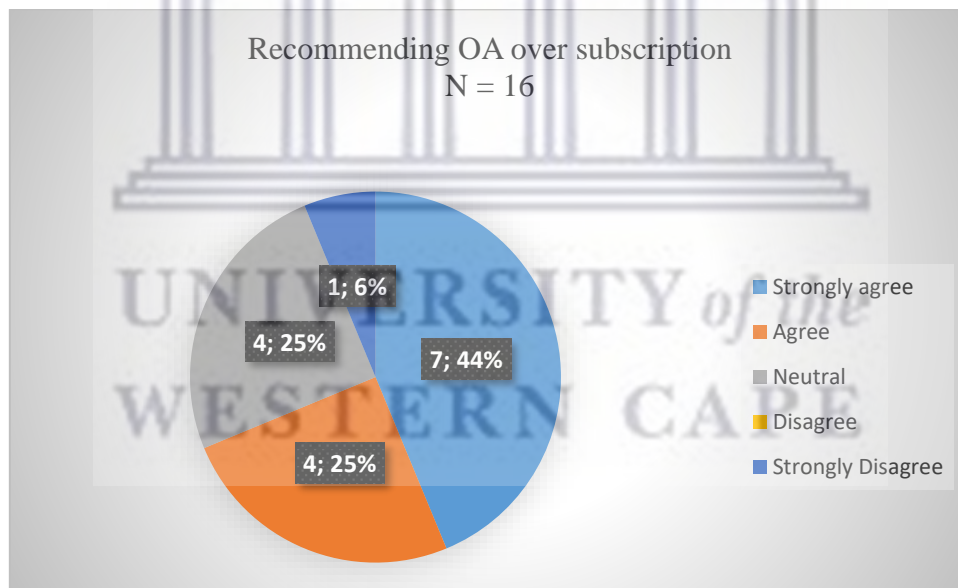


Figure 4. 15 Recommendation of Open Access vs subscription journal

4.2.5.8 Open access integration into e-resource budgets

When asked whether the library considers the integration of OA into e-resource budget planning, four participants (25%) affirmed, one (6%) denied, and eleven (69%) were not sure.

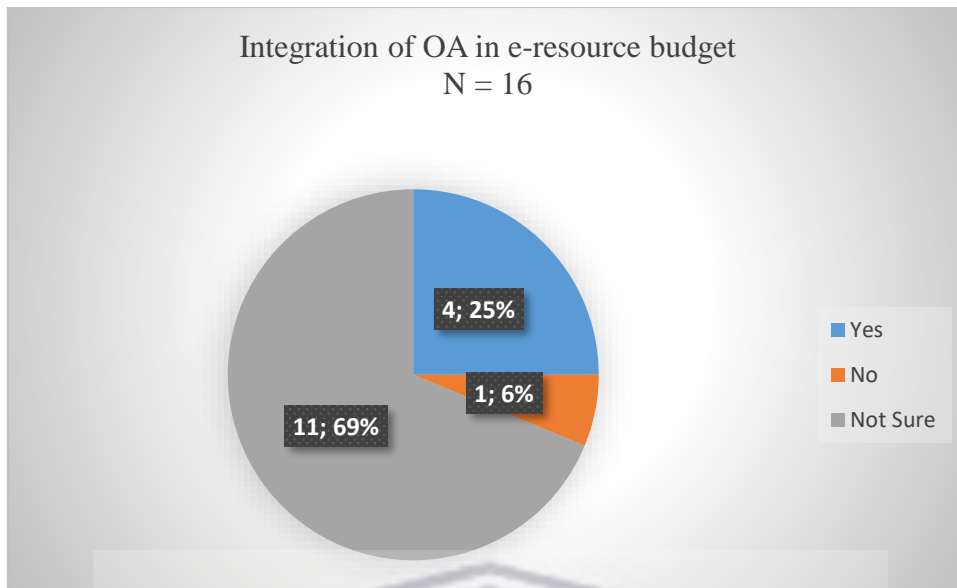


Figure 4.16 Integration of Open Access into the e-resources budget

4.2.5.9 Methods of integrating open access into the e-resource budget

The four participants (25%) who indicated that OA is integrated into the e-resource budget were asked to indicate how the library implements or plans the integration. The three responses received were themed as SANLIC deals, institutional repository and discovery tools. Responses are themed and listed in Table 4.16.

Table 4.16 Integration of Open Access into the e-resources budget N = 3

Theme	Responses
SANLIC deals	- <i>In SANLIC negotiations, we are moving towards author deals for publishing</i>
Institutional repository	- <i>We currently have projects that deal with harvesting and gathering all UWC's publication and make them freely accessible in our institutional repository</i>
Discovery Tool	- <i>System discovery tools</i>

4.2.5.10 Open access training

This question required respondents to indicate whether they are aware of training sessions conducted by the UWC library to create awareness of OA resources and publishing. In response to the question, 12 (75%) affirmed their awareness of training, whereas the other four (25%) were not sure. No participant indicated that UWC does not conduct such training sessions.

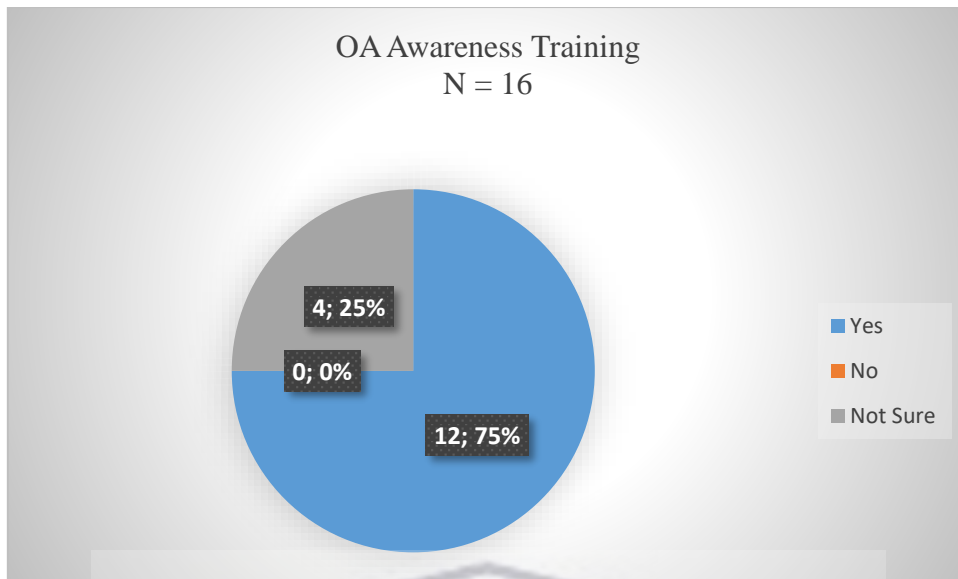


Figure 4.17 Open Access training

4.2.5.11 Frequency of open access awareness training

Participants who acknowledged that the library offers training in using OA resources were asked to indicate how often training is conducted. Options they were given to choose from were as follows: daily, weekly, bi-monthly, monthly, bi-yearly or once a year. Of the fourteen responses received, four participants (28%) described the frequency of training as bi-monthly, whereas daily, bi-yearly and once a year each drew three responses (21%), and weekly training had one response (7%). No responses were about monthly training.

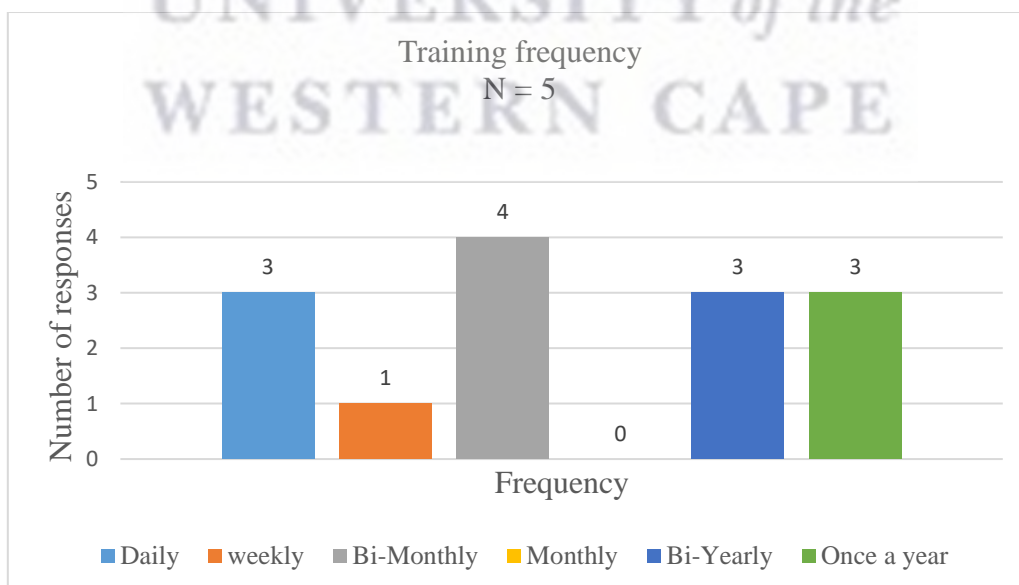


Figure 4.18 Frequency of Open Access training

4.2.5.12 Level of knowledge of open access

The question requested the participants to indicate their knowledge of OA by choosing “non-existent”, “fair”, “good” or “excellent”. Seven librarians (43.8%) indicated they had good knowledge; five (31.3%) and four (25%) indicated that they excellent and fair knowledge, respectively. There was no indication of non-existent knowledge.

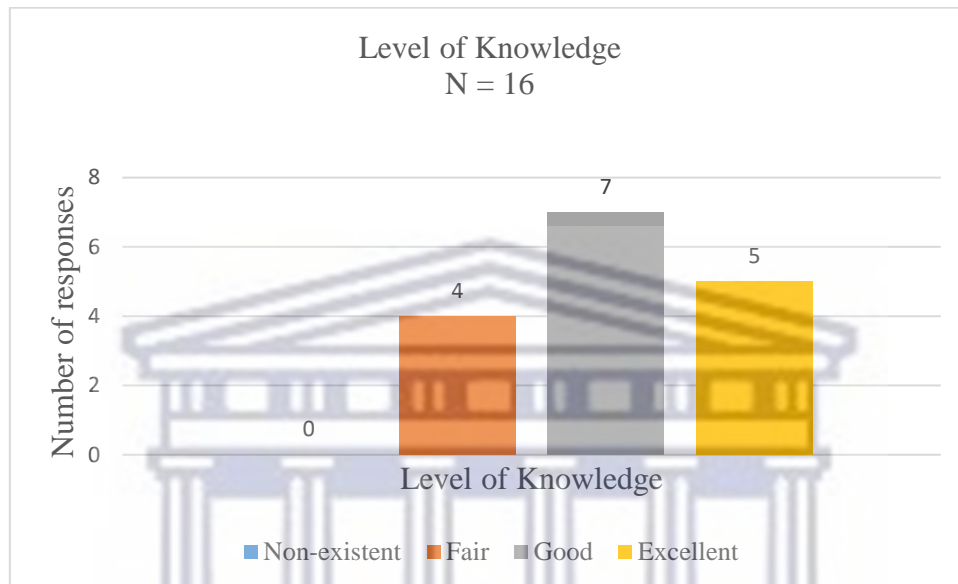


Figure 4.19 Level of knowledge about Open Access

4.2.5.13 Impact of open access

Participants were asked to indicate the importance of OA to academic libraries. Options were saving of money, increase in research output, copyright retention, audience accessibility and rapid dissemination of information. Most librarians (13) regarded rapid dissemination of information as very important; audience accessibility (12), increase in research output (11) and saving of money (11) followed. Copyright retention drew eight “very important” responses. No option was regarded as not or totally not important.

Table 4.17 Impact of Open Access N = 16

Research requirements	Very Important	Important	Neutral	Not Important	Totally not important
Save Money	11	4	1	0	0
Increase research output	11	4	1	0	0
Retain copyright	8	5	3	0	0
Audience accessibility	12	3	1	0	0
Rapid dissemination of information	12	3	0	0	0

4.2.5.14 Reasons for cost savings from open access

Participants were asked to elaborate on how they thought OA can save costs of acquiring e-resources. Thirteen responses were received, of which one was not applicable. The twelve responses were themed as no print items, easy accessibility, free resources and budget savings. Responses and themes are captured in Table 4.18.

Table 4.18 Reasons for cost savings from Open Access N = 12

Theme	Responses
No print items	<ul style="list-style-type: none"> - <i>The library has to purchase copies that will be accessible to many users.</i> - <i>Because you do not have to buy print items, just subscribe and make it available.</i>
Easy accessibility	<ul style="list-style-type: none"> - <i>Unlimited access to academic journals, which may be too expensive, may be another way of saving costs.</i>
Free resources	<ul style="list-style-type: none"> - <i>It is axiomatic that availability of free resources will save money.</i> - <i>If information is freely accessible, then there won't be any need to purchase it or subscribe to any database.</i>
Budget savings	<ul style="list-style-type: none"> - <i>Institutions and readers do not have to pay subscription fees to acquire the publications.</i> - <i>Because the library will not use its budget for e-resources.</i> - <i>Students do not have to purchase these items.</i> - <i>Open access journals don't charge subscription fees.</i> - <i>Money saved from accessing OPEN ACCESS journals can be channelled to pay for other resources.</i> - <i>Question needs a researcher to look into the literature.</i> - <i>More quality content published through open access publishing could translate into a decrease in the amount of money spent on subscribing to paid quality content.</i>

4.2.5.15 Impact of open access on the library budget

An open-ended question requested participants to explain how OA can impact on the library budget. Two responses indicated that the librarians were not sure how OA influences the budget. The other 12 responses were themed as APC, reduction of subscription expenditure, subscription to open research libraries such as Knowledge Unlatched, and collection development. Responses and themes are presented in Table 4.19.

Table 4.19 Impact of Open Access on the library budget N = 12

Theme	Responses
Open research libraries	<ul style="list-style-type: none"> - Collaboration is only possible if researchers have access to research findings of other researchers. - Investment in open access book deals such as Knowledge Unlatched.
Less subscription fees	<ul style="list-style-type: none"> - There won't be any need to buy information or subscribe to any journals. - Reduces the subscription expenditure and allows for purchase of other required materials. - Less subscription fees. - Is this not an option in light of the way universities are heading? APCs is a major factor. - I am not sure how it can be featured, except when one reports on savings made.
Less article processing charges	<ul style="list-style-type: none"> - is this not an option in light of the way universities are heading? APCs is a major factor. - Paying article process charges. - It can be featured by setting aside a budget for authors willing to go the open access route. The allocation could be used to pay for author fees or article publishing fees.
Collection development	<ul style="list-style-type: none"> - Collection development.

4.2.6 Diffusion of innovation theory

This section of the questionnaire was used to ask two questions to assess the flexibility of library staff to infuse needs of academic library users in the 21st century. The DoI Theory and the adoption of OA as an innovation amongst researchers and librarians are described in Chapter two.

4.2.6.1 Institutional repository

Question 39 enquired whether the UWC library has an IR. Out of fourteen responses received, 12 (87%) indicated that the library has an IR, while 2 (13%) indicated that the participants were not sure.

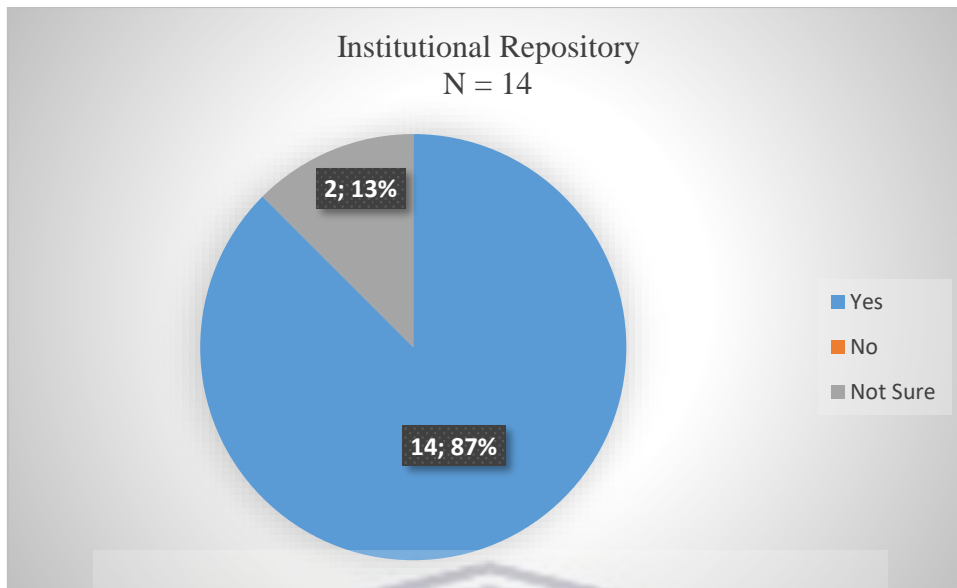


Figure 4. 20 Institutional Repository

4.2.6.2 Institutional repository advocacy

The open-ended question 40 enquired how the UWC library advocates the use of the IR. All 16 participants responded to the question. The themes identified were organisational culture, intellectual property, research impact, training and faculty involvement. Responses and themes are presented in Table 4.20.

Table 4. 20 Institutional Repository advocacy N = 16

Themes	Responses
Organisational culture	<ul style="list-style-type: none"> - Students are encouraged to access articles on repositories. - By checking statistics. - Activities, information sessions and posters.
Intellectual property	<ul style="list-style-type: none"> - An institutional repository (IR) manages, preserves and disseminates an institution's intellectual outputs and digital assets. Such a repository holds a wide variety of material that reflects the institution's intellectual wealth.
Research impact	<ul style="list-style-type: none"> - We encourage students to use the repository as it would benefit them in their own research.
Training	<ul style="list-style-type: none"> - Research promotion and training, marketing, uploads of page workflows, etc. - In training, the workshops, and on websites. - Awareness and training workshops are organised in collaboration with internal stakeholders such as the Research Office and the Division of Postgraduate Students.

	- <i>Training.</i>
Faculty engagement	- <i>Reporting faculty collections and deposits.</i> - <i>We promote it to our faculties and orientation during workshops and meetings.</i>

4.2.7 Final comments on e-resources

The final questionnaire question requested participants to supply any other general comments regarding the e-resource usage, budgeting and acquisitions in academic libraries. Five librarians made no comments, and eleven comments were recorded. The responses were themed as sustainability, review, marketing and packaging of e-resources and dissemination of research findings, and they are presented in Table 4.21.

Table 4. 21 Comments on accessibility and use of e-resources N = 11

Theme	Responses
Sustainability	- <i>The current model is not sustainable.</i> - <i>Sustainable solution for HE, value of academic libraries.</i> - <i>Extremely important.</i> - <i>With COVID-19, it is the way forward.</i> - <i>With the internet being used more often, I think it is very important.</i>
e-Resource review	- <i>I would like to know the impact of agreements and contracts on performing quality assurance and subscription reviews. I'm interested in finding out whether publishers are being lenient and accommodating to institutions that regularly review subscriptions and identify those that are no longer relevant, potentially leading to subscription cancellation.</i>
Marketing	- <i>There is a need for librarians to intensify training and marketing of e-resources. Students and staff often do not know resources they have. How does one access a database she/he has not been trained to use. Students waste a lot of time looking for resources and often don't succeed in their studies due to lack of searching skills and not being aware of resources that are available to them.</i>
e-Resources packaging	- <i>Libraries subscribe to a platform, e.g., Taylor and Francis, but they only purchase part of the content. The problem is that Taylor and Francis will show in the result list, but that specific journal will not be available. The user might lose interest in the article or the platform.</i>
Easy dissemination of research	- <i>The major benefit of electronic resources in academic libraries is ease of access to the needed information, because users can access information without their presence in the library. e-Resources,</i>

therefore, promote efficacy in information dissemination for research purposes in universities, especially during this time of COVID-19.

- It makes life easy.

-
- No comment
- No
 - n/a
 - No comment
 - NO
 - None
-

4.3 Document Analysis

The purpose of document analysis is to provide supplementary information on the pricing of e-resources and provide possible connotations to the main research questions. For this purpose, various documents were analysed, but it should be noted that although various attempts were made, it was impossible to get the needed policy documents and budget statements from the institutions. Table 4.22 illustrates the rubric for the documents that were analysed in this study.

Table 4. 22 Documents Analysis Rubric N = 8

Document Title	Location/creator	Original purpose	Date Created	Consistent with findings	Divergence from findings
Collection Development Policy and e-Resources guidelines	UWC Library and Information Services (LIS)	To ensure that the collection continues to support the goals of the academy and research in a collaborative, rather than competitive, environment where spending decisions are increasingly taken across disciplinary boundaries	2013	Publisher deals for most the databases that the Library subscribes to are negotiated through the South African National Library and Information Consortium	Libraries not allowed to cancel e-journals that form part of SANLiC deals,
Open access policy	UWC LIS	To increase the publication and dissemination of partially or wholly public-funded research in open repositories and journals that provide readers with unrestricted, free access	2019	UWC is aware of the need to access e-resources is a priority in the higher education sector and this policy is there to set a precedent to the researchers.	Publisher agreement that that barres researchers to self-archive on IR.
Annual report	UWC LIS	To capture the key performance indicators of the Library Services	2019	The budget allocations to academic libraries remain	Potential big databases cancellations were prevented

		Business Plan in contributing to the Student Experience; Learning and Teaching and the Research and Innovation endeavours at the University of the Western Cape (UWC) in 2019.		constrained and the challenges to maintain access to information resources continue without reprieve.	after receiving the Historically Disadvantaged Institutions (HDI) development funding.
Annual Report	UWC LIS	To highlight UWC Library support for teaching, learning and research during an extremely disruptive year.	2020	<p>A number of publishers of scholarly materials e.g. van Schaik publisher, increased to support online learning in response to the COVID-19 pandemic by assisting with OA e-books until July 2020</p> <p>Several librarians reported that they had shared information about openly licensed textbooks and had made these available on their LibGuides.</p>	<p>There was challenges to the Library procuring e-textbooks as publishers are unwilling to supply Libraries as opposed to individual student sales.</p> <p>82.99% of the Information Resources budget was allocated for databases including e-books collection.</p>
Annual Report	UWC LIS	This report highlights continuity and adaptation of library operations and services to best support the university's hybrid learning, teaching and research programmes.	2021	<p>The Library Director provided input on the role of the library in the Transformation of the University Teaching and Learning during the Academic Week 2021.</p> <p>"Libraries must look at Open Access as a new norm - a way to transition our positioning of Higher Education," said Dr Shirlene Neerputh, Director of the University of the Western Cape Library.</p>	<p>e-Textbooks and eBooks –</p> <p>Access to e-versions of prescribed texts were effectively blocked by the publishing industry's</p> <p>The Library explored several alternative commercial avenues with VitalSource, Perlego and Edge Education with no viable options available for Library subscription.</p>

Annual Report	UWC LIS	To acknowledge a distillation of Staff contributions to the university based on the fulfilment of the IOP goals within a student-centred learning environment. To also recognise the resilience of the UWC LIS staff during lockdown, despite a deserted campus, library operations continued in hybrid, with functionally good performance for 2022	2022	The library advocated for authors to re-consider manuscript submission to participating OA publishers in light of the UWC OA declaration of intent for knowledge building and impact. The Library is also participated in six transformational agreements. In 2022, a total of 89.91% of information resources funds went to databases.	Subscriptions to three new databases. UWC Library has access to 91 individual e-journal subscriptions and 205,826 bundle e-journals through database subscriptions.
2023 Serials Price Projection Report	EBSCO	To provide customers with serials price projections to assist them in budgeting for the upcoming year	2023	More than half of EBSCO's sales for 2022 were from ejournal packages.	During covid-19 many publishers maintained previous year prices or implemented the lowest annual price increase in recent history.

4.3.1 Collection development policy

The UWC collection development policy encourages the purchase of electronic resources over printed ones (UWC Library Annual Report, 2019). All the large database subscriptions are negotiated through SANLiC. SANLiC assists member institutions and libraries to collectively negotiate e-resource acquisition with vendors to acquire collections at a more affordable price than what they would pay individually (South African National Library and Information Consortium [SANLIC], 2022). The other strategy that the UWC library employed to manage the e-resource prices budget include removing funds from the budgets for books and periodicals in order to prevent the widespread cancellation of databases. This strategy was successful in maintaining database subscriptions and negatively affected monograph acquisition. Monographs continue to be an important format to support learning and teaching in most departments.

The UWC library also benefitted from the *historically disadvantaged institution* (HDI) development grant from 2016 to 2021. Through grant funding, databases worth more than R7 million are subscribed to annually. To benefit from outright ownership or perpetual access rather than an annual subscription, the library has chosen to purchase resources, including collections of e-books and stand-alone e-book titles (UWC Library Annual Report, 2019).

4.3.2 Open access policy

The University of the Western Cape Open Access Policy (2019) was first implemented in 2014 and is being amended every three years. The policy aims to increase the publication and dissemination of partially or wholly public-funded research in open repositories and journals that provide readers with unrestricted, free access (University of the Western Cape, 2019). Authors or researchers are expected to grant UWC permission to store and display a royalty-free and non-commercial licence to all scholarly research output deposited through the *research repository* if it is not restricted by a preceding publisher agreement. A portion of the university's subscription budget is allocated to OA publishing initiatives. As a result, the UWC library has signed the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, thereby committing to follow and promote an OA approach regarding scholarly communication and education.

4.3.3 Budget allocation

The UWC library annual reports for 2018 to 2022 indicate that the funding of library databases increased slightly in 2019 from 80.63% to 85.76% of the total information resource budget. However, a noticeable decrease in allocation to books and periodicals is apparent, with 7.45% in 2019 from 9.86% in 2018, for example, being allocated to print and online book formats. The periodicals in 2019 were allocated 6.79% for singular title periodicals, in either print or online format, down from 9.51% in 2018. In 2022, a total of 89.91% of information resources funds went to databases.

In addition, the 2020 report indicates that the allocations were 9.39% to books; 82.99% to databases, which included e-book collections; and 7.62% to periodicals. These sharp decreases in allocations to books and periodicals are necessitated by the shortfall in funding of database subscriptions. An increase in database allocation was necessary to retain year-on-year database subscriptions. Databases received 85.36% of library budgets for information resources in 2021; Stand-alone books in all formats received 10.02%, and stand-alone periodicals (print or

online format) received 4.62%. Overall, approximately 90% of the library information resource budget in 2021 was spent on e-resources. This confirms the continuous shift from printed materials to electronic materials (University of the Western Cape Annual Report, 2021).

Figure 4.21 illustrates the percentage of information resource budgets spent on books, databases and journals between over the period of five years from 2018 to 2022.

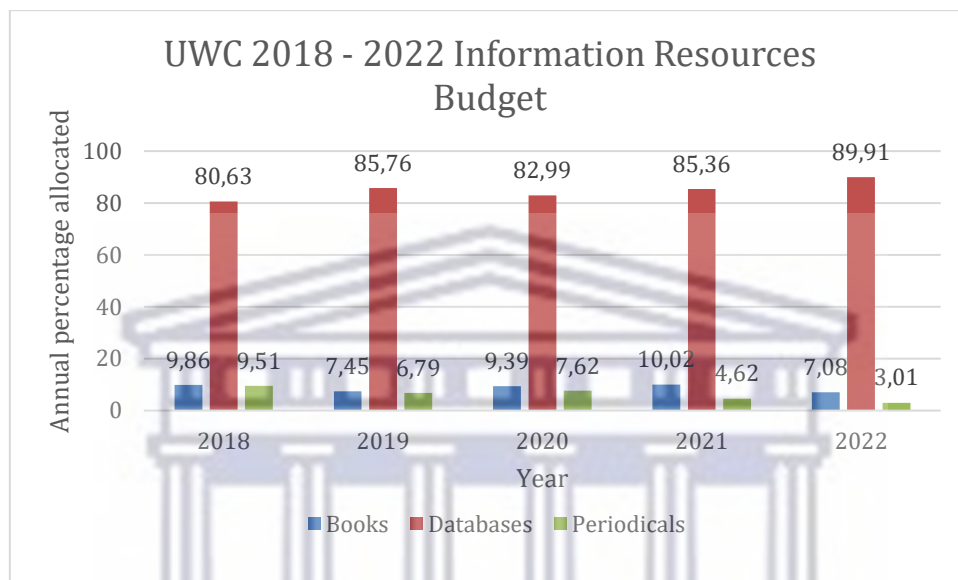


Figure 4. 21 UWC's e-resources budget

4.3.4 Vendor pricing

The aim of this sub-section is to analyse the vendor pricing documents to emphasise the hypothesis of the study. However, the only vendor that had its reports available is EBSCO. SABINET was contacted but could not supply the reports.

EBSCO's 2022 Price Projections

EBSCO is a well-established subscription company that gives all kinds of libraries access to popular research databases, journals, e-books and collection management products (Herring, 2022). According to the EBSCO's report (EBSCO, 2022), a general effective publisher price increase for academic and medical libraries for 2022 is anticipated to be between 3% and 5%, with a slightly higher percentage for print titles and a slightly lower percentage for online titles. Horava (2018) indicated that if the e-resources prices are increasing annually and the academic libraries receive a flat budget, this implies a significant cut in purchasing power. Moreover, EBSCO (2023) report alluded that, as the libraries are prioritise the use of e-resources, so are

the publishers are applying a higher price or price increase to print versions compared to e-resources. This strategy assist to cover the lost from the e-resources subscription where the title is available on print only.

In the report, EBSCO also noted that the demand for e-journal packages increased by more than half, as indicated by EBSCO's sales for 2021. As a result, the e-journals' impact on the increase in prices of overall periodicals is significant. Table 4.23 illustrates the five-year increase in e-resource prices from 2017 to 2021. The overall increase over the five-year period is 20.15% for universities and colleges. Data represents a list of titles purchased by the university or college libraries in US dollars. Other library types were eliminated from the data that EBSCO published as they do not inform the objectives of the study.

Table 4. 23 EBSCO e-resources five year price increase

University Libraries	% of total titles	2017 Average title price	2018 Average title price	% increase	2019 Average title price	% increase	2020 Average title price	% increase	2021 Average title price	% increase	% increase 2017 - 2021
USA Titles	36.1%	\$1,207.19	\$1,281.50	6.16%	\$1,357.37	5.92%	\$1430.50	5.39%	\$1,462.83	2.26%	21.18%
Non- USA	63.9%	\$1,520.27	\$1,598.14	5.12%	\$1,690.43	5.77%	\$1,774.73	4.99%	\$1,819.54	2.56%	19.69%
Total Titles	100%	\$1,407.31	\$1,483.90	5.44%	\$1,570.27	5.82%	\$1,650.54	5.11%	\$1,690.84	2.44%	20.15%

4.4 Concluding Summary

This chapter presents, analyses and summarises the data collected through a web-based questionnaire from 16 UWC library staff members. Data presented reflected the familiarity of academic library staff with e-resources, barriers to accessing e-resources, budget issues, OA strategies, OA publishing and the impact of OA on the e-resources acquisition. The chapter also presented a short document analysis to describe OA, collection development and budget allocation from perspectives of vendors and the UWC library. Chapter 5 describes and interprets the findings presented.

CHAPTER 5: DISCUSSION AND INTERPRETATION OF FINDINGS

5.1 Introduction

The objectives of this study serve as the foundation for in-depth interpretation and discussion of the findings, which are guided by the theoretical boundaries and other related studies. This study applied the case study research methods and adopted the mixed-method research design, in particular the sequential explanatory design, in which the questionnaires were distributed before the documents were analysed. The interpretation of the findings, therefore, is based on findings from the documents analysed and the questionnaires. Theoretical underpinnings were built around Rogers' (2003) DoI theory.

5.2 Librarians' e-resources perception

This section describes the working experience and the frequency of use of e-resources in order to determine skills applied to search for information. The description assisted in determining whether the participants in this study are well equipped with information search skills and are able to assist the users in finding needed information.

5.2.1 Work experience

Findings of this study indicated that most of the study's participants had 6 to 10 years of work experience in the UWC library. From the rest of the responses, it can be deduced that the number of years of experience that the librarians have does not determine their expertise in using e-resources. The capabilities and skills of librarians should be constantly evaluated by library management to advance the institution and services it provides (Mabweazara, 2018). Hence, the diffusion process emphasises on the use of relevant communication channels to exchange a new idea and reach a mutual understanding (Rogers, 2003).

5.2.2 e-resources usage

The questionnaire responses indicate that search engines are the e-resource that the UWC librarians most frequently used. The question of whether library e-resources are not widely marketed might arise to conclude on the reasons for this finding. However, the rationale of the participants' responses might be that the librarians feel that e-resources are cumbersome and retrieve fewer relevant results hence they use search engines more. Another possibility could be that the term search engine might mean not only traditional search engines such as Google,

Yahoo and Bing to some librarians but also academic search engines such as ResearchGate, PubMed and Google Scholar hence the response rate is higher on the search engine. A study conducted at the University of Venda, South Africa, investigated the use of e-resources and found that undergraduate students cannot differentiate between e-resources and web-based internet sources (Tlakula & Fombad, 2017). The study by Kahn (2013) also indicated that users are eager to use e-resources but are not using them effectively because they lack awareness. The purpose of this study was to explore factors that might hinder librarians to adopt the fully fledged OA. Therefore, the study explored librarians experience in using the e-resources in supporting the teaching, learning, and research divisions of the institutions.

5.2.3 Frequency of e-resource usage

A list of e-resource features was provided, and participants were asked to select features they regarded as important when searching for e-resources. The majority of participants (93.8%) indicated that the most important feature of e-resources is the availability of full text. Most OA resources are available in full text, and 15 participants selected this to indicate that they prefer to access articles they will be able to read without being transferred to a subscription or borrowing from interlibrary loans. There was also an option to add other features, and one participant added the integration of plugins that enable sharing or storing items as one of the features that can be seen as important. The Stellenbosch University's self-archiving policy (Stellenbosch University, 2015) states that authors with formal affiliations with Stellenbosch University are required to submit full text of their published journal articles and research output to the Division of Research Development. Rogers (2003) describes a technological innovation as beneficial to potential adopters; full-text submission of the innovation will benefit the researcher by resulting in more citations, and the reader will gain access to all the information available in the resource. The new OA business model has unlocked opportunities in which an article is openly available in full text for anyone with internet access (Björk, 2017).

5.2.4 Important features of e-resources

When the librarians were asked to select the most important feature when retrieving journal articles, the majority of them preferred access in full text in terms of relevancy, currency and easy retrieval. This indicates that these librarians are considering users' needs, especially inexperienced undergraduate students, as students need easy access to actual information. As demonstrated by many studies, the majority of undergraduate students have poor information-searching abilities that result from a lack of information literacy education, inadequate training

opportunities, inability to use information access tools and systems, and a poorly organised information system (Howlader & Islam, 2019; Ferdows & Ahmed, 2015; Joo & Choi, 2015). One comment by a participant summarises the librarians and students' searching preference: *"Also to have it in full text and having access to it will allow you to focus on other things as well, as less time is spent"*.

These results would be debatable if the librarians are not using the e-resources sufficiently and the library is spending a large amount of money subscribing to them. The library needs to perform a cost–benefit analysis. According to the DoI theory, innovative people are those who adopt and accept new ideas before others (Rogers, 2003).

5.2.5 Reasons for the important feature

An open-ended question requested participants to give reasons why they feel one feature is more important than the other. From the responses, the themes of relevancy, easy accessibility, OA, currency, easy retrieval and full text were identified. Easy accessibility was the main reason mentioned several times in more than one theme:

- *When one is working digitally, one needs to be able to find materials easily.*
- *It is important to have current information that is easily accessible.*
- *Equity of access and ease of usage.*
- *Researchers often faced time limitations and, therefore, are on the lookout for resources that are easily accessible, available in full text and, most importantly, relevant and useful.*

The DoI theory acknowledges that the internet changes the nature of the innovation-decision process as communication through the internet increases access to information effortlessly and with less cost. The innovation-decision process is described as the process whereby an individual or system evaluates a new idea and decides whether to incorporate the innovation into an ongoing practice. Undergraduate students at three universities in North-Eastern Nigeria indicated a lack of easy access to e-journals as one of discouraging issues in using e-resources at their institutions (Apuke & Iyendo, 2018). Morris-Babb and Henderson (2012) also argued that an OA textbook empowers an author to design a textbook that is adaptable, affordable and accessible.

5.3 Barriers to Accessing e-Resources

As indicated in Chapter 2, many scholars have alerted to barriers to accessing e-resources. This section is aimed at finding whether the barriers mentioned in the literature are also experienced at the UWC library.

5.3.1 Platforms for accessing e-resources

A question similar to the previous one was asked to identify barriers to accessing e-resources. Most participants chose A–Z databases as their preferred platform for accessing e-resources. The previous category of the questionnaire asked the participants on the platforms they used mostly, and search engines were the most used platform. In this question, the search engines were not listed, and that could have affected the different responses from the participants as they indicated A–Z database as the most used platform. As stated by Price, Jhangiani and Chiang (2015), the problem in a survey is that the answers people give can be influenced by unintentional ways in the wording of the items, the order of the items, the response options provided and many other factors. However, the literature indicates that lack of awareness contributes most to poor library e-resources selection (Ferdows & Ahmed, 2015). The DOI theory states that many potential adopters are aware of a new idea but not yet motivated to try it.

5.3.2 Challenges of accessing e-resources

When participants were asked to select challenges that most students faced, most of them mentioned off-campus access. The research was conducted during the COVID-19 pandemic when, because of the lockdown, academic libraries were closed and staff were working from home. Librarians experienced a number of queries about off-campus access to e-resources. Had the research been conducted while the institutions were operating under normal circumstances, different responses might have been elicited. The reason for the off-campus access challenge was identified as Wi-Fi connection. Lowe et al., (2021) agree that while the university community was operating off-campus, academic libraries had to pay more attention to authentication, access to e-resources and solutions for a number of issues related to accessing off-campus resources. The literature also identified a few of the challenges experienced when accessing e-resources as follows: limited off-campus access, insufficient Wi-Fi connection and low bandwidth, high data prices, limited budget, inadequate functional computers, inadequate information retrieval skills and lack of training (Msezane & Dlamini, 2021; Machimbidza &

Mutula, 2017). The issue of inequality has been identified in the literature as affecting the acquisition of and access to e-resources (Fecher & Friesike, 2014; Solomon & Björk, 2012). The DoI theory also indicates that the DoI often widens the socioeconomic gap between the higher and lower socioeconomic societies (Rogers, 2003).

5.3.3 Other challenges associated with e-resources

Other challenges identified include lack of usage statistics, budget cuts, inadequate searching skills, high subscription fees and loss of knowledgeable staff. The majority of participants (93.8%) indicated that the high cost of subscription is a challenge for the library, whereas 81.3% identified budget cuts. The aggregators charge according to the university research output and as per high-income and low-income countries (Solomon & Björk, 2012). This might affect consortium negotiators, such as the SANLiC, who might face difficulties in negotiations as some institutions do not necessarily depend on the university fund but also receive international sponsorship. This also touches on the issue of inequality among developed and developing countries, as such challenges might have not been experienced in developed countries.

5.3.4 Factors that contribute to challenges of accessing e-resources

This question was aimed at identifying barriers experienced by the library in accessing e-resources. The participants were requested to select all the applicable options. Options provided were computer or networking problems, limited spacing for training, lack of searching skills, staff shortages, lack of up-to-date equipment, fewer computers, slow internet connection and phishing. Most respondents (87.5%) identified searching skills as a barrier, whereas virus attacks were not selected. The literature also indicated that undergraduates' information-searching skills are poor and not aware of the library resources, because of the lack of information literacy instructions (Howlader & Islam, 2019; Ferdows & Ahmed, 2015). An exemplary demonstration is indicated to be conducted to facilitate DoI to others (Rogers, 2003); therefore, regular training and marketing of e-resources have to be viewed as a crucial service to the university community.

5.4 Budget Allocation

Price (2022) revealed that the selection or acquisition process for e-resources is far more complex than that for print journals including buying of package titles, review and negotiation

skills. The cost of developing the e-resources is substantially higher not only because of subscription to the e-resources but also employment of skilled staff who require a higher compensation. This section of the questionnaire pursued an understanding of how the budget is allocated and skills employed to manage and evaluate e-resource deals and bundles to meet the users' needs.

5.4.1 Budget allocation process

As mentioned earlier, at UWC, an amount required for the information resource budget is submitted annually to Collection Development sub-committee and approved by the Library Committee. The University's Budget Committee determines the final amount to be allocated to the budget, which is then approved by Council. The questionnaire asked whether the participants were involved in the budget allocation process. The majority of the respondents (81%) were not directly involved, leaving only three (19%) librarians actively involved in the budget allocation process. This corresponds with the claim by Ramli and Kabli (2014) that in most university libraries, the ERML is more responsible for acquiring e-resources than any other library staff member.

Faculty librarians at UWC, in liaison with departments, monitor the information resource budget and ensure that funds are utilised fully. This is also evident in Savova and Price (2019) that the library budget structure (that consists of Faculty Librarians, Acquisitions team, and ERMs,) should facilitate effective communication with faculty and institutional administrators. In the case of journals, preference is given to the electronic over the print format (University of the Western Cape Annual Report, 2019). This evolving way of acquiring of library materials requires the acquisitions structure to develop new budget schema that will accommodate new types of information resources and the new ways in which they are being acquired (Savova & Price, 2019).

5.4.2 Collection development

The majority (63%) of the participants admitted being directly involved in collection development management. Participants identified gaps in the collection and select library material to fill the gaps or to meet the users' needs and requirements. The OA policy consisted of data with the terms of use of the OA resources and the instructions on how to publish on the OA journals and the IR. The pricing provided by vendors included data for commercial journals and it is pricing data that assisted the researcher to compare between the vendors pricing and

negotiated deals. Data from the documents were also used to provide supplementary information on the pricing of e-resources.

5.4.3 Annual budget allocation

Budgeting for e-resources began in earnest in the early 1990s, coinciding with technical advancements in computing (Savova & Price, 2019; Robinson, 2017). The UWC's annual reports of 2018, 2019 and 2020 indicate that e-resource budget allocation increased each year and affected the budget allocation towards print books and periodicals in the sense that smaller amounts were allocated to these formats. This increase in the e-resource budget is also evident in Serrano and Fernande (2022), who emphasise that the first wave of the pandemic forced most libraries to switch immediately to distance learning and provision of off-campus access and access to e-resources. This pivot required libraries to review their available collection of electronic contents, to assess gaps where contents are only in physical formats and envision new workflows to deliver content electronically (Lowe et al., 2021). One of the many challenges of the pandemic and shift to distance learning was prioritising purchases to support digital education. Limited budgets at most institutions put libraries in a position of acquiring electronic content strategically.

5.4.4 Cost of acquiring and maintaining e-resources

The participants were asked to explain how they would improve the allocation of the e-resource budget. Responses received include budget increase, OA deals, the currency exchange rate and e-resource prioritisation. Some responses were as follows:

- *“More money allocated to electronic resources”,*
- *“Transformative deals for OPEN ACCESS”,*
- *“Having the budget to keep up with the exchange rate and annual increases in subscription costs” and*
- *“Improving electronic resources through holistic budgeting”.*

Savova and Price (2019) report similar findings, stating that even libraries that have historically been provided with adequate funding should improve their ability to manage and facilitate acquisition funding. Good management requires advocacy to only keep in line with inflation. Moreover, one of the aggregators, EBSCO, revealed in its public domain that the demand for e-journal packages had increased, with an increase of more than half of EBSCO's previous

annual sales in 2021 (EBSCO, 2022). As a result, the e-journals' impact on the overall increase in prices of periodicals is significant. EBSCO also expected the overall average price increase for e-journal packages to be in the range of 1% to 3% in 2022.

5.4.5 Price negotiation with vendors

Organisations such as SANLiC, PlanS, Coalition S and SciELO negotiate e-resource acquisition deals with publishers and aggregators on behalf of libraries. The UWC library also recognises the need for price negotiation as librarians indicated that trials, product demonstrations and statistical reporting were crucial in the negotiation of prices with the vendors. Jalal and Sutradhar (2020) added that subscription charges versus utilisation of e-resources, metadata management and integration of e-resources into the existing library catalogue should be considered in the negotiations. Khatri (2019) noted that consortia can minimise the financial burden in their facilitation of electronic access to scholarly databases and journals while saving time, money and manpower.

5.4.6 Management of the e-resource budget

Participants were asked to indicate the importance of managing e-resources to maintain value for money by rating options licensing and review and/or renewal of subscriptions, collection development, user training and support, export and downloading of resources, user-friendliness of websites and statistical reporting. The licensing and review and exporting options were both rated as important by the highest number (75%) of respondents. The training, support and accessibility or use-friendliness of the platform were rated as important by 68.75% of the respondents. According to Harris (2018) A license agreement is a written contract between a user and a content owner that sets out the terms and conditions under which a user can use content. The responses in this study show that the participants were aware of the licence terms that the e-resources coming with might be binding hence they see them as the most important factor when managing e-resources. Horava (2018) also mentioned that the bundling of e-resources (Big Data) which is also one of the licence agreements that some academic libraries sign, but most libraries are currently withdrawing due to financial constraints to maintain these agreements.

5.4.7 Management of e-resource deals and bundles

Participants were asked to indicate the importance of how deals and bundles of e-resources are conducted at the UWC. Eleven librarians rated the purchase models and pricing as very

important. This is also noted in an empirical study by Hwang et al. (2012) conducted at the University of Taiwan to determine techniques to be used to purchase e-resources. The study indicated that the purchasing cost was the most important factor in the evaluation of databases as e-resources. Abdillahi (2020) is of the opinion that regardless of the pandemic, institutions ought to spend money on online resources to support e-learning. However, the cost of e-resources has risen steeply (Khatri, 2019) and caused libraries to struggle to acquire all the needed resources from the budget provided by universities.

5.4.8 Management and evaluation of e-resources

This question requested the participants to tick options from “very important” to “totally not important” for each row of listed alternatives for managing and evaluating e-resources. The purpose of this question was to determine whether the library has other means of acquiring e-resources other than subscriptions. Alternatives given were fair use provision, termination, refunds and period of the agreement. Some libraries prefer to terminate the subscription; some advocate for fair use of articles that partly fall in the hybrid subscription; and some limit the period of the agreement. The period of the agreement was rated as very important by most (9) respondents, followed by fair use provision with eight (8) “very important” votes. Although termination’s importance drew only six (6) “very important” responses, it was regarded by six more librarians as important. Hoskins and Stilwell (2011) noted that academic libraries are caught between satisfying the needs of scholars and complying with negotiation agreements with publishers. In the open-ended question, one participant indicated that OA agreements can improve the library’s e-resource budget:

“Transformative deals for OPEN ACCESS, SA statement of university OPEN ACCESS agreements; government budget allocation to OPEN ACCESS for SA universities; more published SA e-resources”

5.4.9 Difficulties the library experienced in maintaining e-resource subscription

Participants were asked to indicate the importance of difficulties the library may experience in maintaining e-resource subscriptions. Three options were given, namely budget cuts, price increases and the currency exchange rate. Budget cuts came top, with fifteen responses, and price increase was rated slightly below the budget cuts, with fourteen and thirteen responses for currency exchange rates. The Rhodes University collection development policy (Rhodes University Library, 2011) indicated that subscriptions to individual titles and databases are

reviewed every year because of the high cost of e-resources and the need to contain the subscription budget. Budget cuts from the DHET affected the budget of e-resources. South African academic libraries are confronting times of phenomenal challenges and unparalleled change. The literature review conducted by Brundy (2015), to assist library leaders in making decisions that affect innovation, stated the following:

“Innovation has moved from a thought to a need and academic libraries are expected to proceed to function in a climate with a declining budget and expanding costs and leaders need to make means on how to adopt innovation in such environment [sic]” (Brundy, 2015, p. 22).

5.4.10 Improvement of the library’s e-resource budget

This open-ended question aimed to find out how the participants would improve the allocation of the e-resource budget. The themes identified based on the responses received are budget increase, OA deals, the currency exchange rate and prioritisation of e-resources. The report by the South African Department of Science and Innovation (2023) indicated that the provision for the purchase of e-resources is a factor that could contributing to the higher education sector getting the highest share in the budget allocation (South African Department of Science and Innovation, 2023).

In summary, the descriptions in Section 5.3 indicate that access to information is still problematic because of the rising cost of e-resources, budget cuts, and inflation and inequality among South African universities. Librarians find themselves with the challenge of providing easy access to information in order to meet their users’ needs. Many librarians end up opting for easier-to-search platforms such as Google to retrieve immediate information.

5.5 e-Resource Selection Strategies

The process of selecting e-resources is complicated because a variety of related factors such as equipment, cost negotiations, printing costs, technical support and vendor support should be taken into account. Content, speed and efficiency of use, volume of use, networked access for remote locations, access restrictions imposed by licences, and hardware and software upkeep are additional issues. This category of questions explored strategies used to acquire e-resources and linked them with the aforementioned factors.

5.5.1 Strategies applied to acquire e-resources

When interpreted through the lens of DoI theory, librarians working in the 21st century digital libraries should be highly creative, that is, be able to acquire new trends and apply them within their work environment (Mojapelo & Modiba, 2021). According to Ocholla and Ocholla (2020), the literature on academic libraries rarely mentions the 4IR concept, but it is inaccurate. The development of information technology towards greater automation and interconnectedness is referred to as the 4IR. The 4IR corporative includes advanced robotics, IoT, OpenAI, ChatGPT, virtual reality, 3D printing, nanotechnology and big data (Ma & Lund, 2021). The 4IR has affected higher education by imposing new requirements on academic librarians' core competencies. For 4IR to run smoothly, new knowledge, skills and abilities are required (Dube, 2022). Moreover, Lund and Wang (2023) indicated that these 4IR technologies such as ChatGPT, OpenAI, and many more have power to make new advances in academia and librarianship. However, it is crucial to think about how to use these technologies in an ethical and responsible manner.

The questions in this section seek to determine new skills the librarians use to acquire e-resources. The first question in this category asked participants to indicate the importance of each three strategies for acquiring e-resources, namely the purchase model, the pricing model and the access option that were listed. Fourteen librarians responded to this question. The access option was rated as very important by twelve (86%) of the librarians, whereas the pricing model and the purchase model were rated the same by eight and seven respondents, respectively. It is believed that open education enhances easy access to information resources and sharing of information among the scholarly communication systems for future research activities (Hylén, 2021).

5.5.2. Strategies adopted to acquire e-resources

Participants were also asked to select the applicable strategy that their library had adopted to enhance access to e-resources. Options were listed as OA, IR, information literacy, library orientation, and self-paced tutorials and LibGuides. The majority of the librarians (93.8%) indicated that OA and information literacy are strategies their library uses to increase the usage of e-resources. Mapulanga (2013) stated that Malawian academic libraries acquired e-resources through a consortium but that some libraries are struggling to meet their negotiated licence obligation to pay for their portion because of the inequality and lack of resources in some libraries.

5.6 Open Access versus Subscription

The rise in the need for e-resources has resulted in the increased importance of the idea and principles of OA. The DoI theory clarifies that an idea should be consistent with values, experiences and needs of its adopters (Rogers, 2003). Immediate and free access to scientific literature is one of the basic requirements of students and researchers to keep abreast of the developments in their field, to complete academic tasks and to progress in research work. One of the aims of the current study is to investigate causes for academic librarians to hold on to subscription instead of opting for fully-fledged OA publishing and access to e-resources.

5.6.1 Open access support

In response to the question whether the UWC library supports the OA initiative, the majority (81%) of the participants acknowledged that the library supports the OA initiative. According to the DoI theory, the adoption of a new idea, behaviour or product (also known as "innovation") does not occur simultaneously among or libraries or users; rather, it is a process in which some people are more likely than others to adopt the innovation (Rogers, 2003). Researchers have discovered that early adopters of innovations have distinct characteristics from those of later adopters. Scientific research continues to be published behind paywalls regardless of the existence of the OA movement, thus limiting access to research findings as it is only accessible to some members of the scientific community because subscription-based periodicals are difficult for the general public to obtain (Day et al., 2020). OA, however, has altered this situation by making scientific knowledge accessible to both academics and science enthusiasts (Kulkarni, 2017). Globally, much work has already been done behind the scenes, but full commitment has not been reached.

5.6.2 Open access support steps

In response to the steps the UWC library has taken to support the OA initiative, 15 (94%) of the respondents reflected that they were aware of the OA initiative by referring to important steps such as the Berlin Declaration and research or IR. The DoI theory states that, to be able to move from gaining initial knowledge of an innovation to forming an attitude towards the innovation in deciding to adopt or reject it, the adopters should reach the innovation-decision stage after the persuasion stage (Rogers, 2003). The Berlin Declaration provided the commitment and agreement effectiveness of the OA initiative and UWC library was at the decision stage.

5.6.3 Open access publishing

The majority of the UWC library staff members that participated in this study (88%) acknowledged that they had never published in an OA journal. According to Siddiqui (2014), academic librarians should be optimistic, eager to adopt new methods of adapting to change and ready to adapt to rapidly changing conditions. The way innovation is named and positioned, as well as how it relates to existing beliefs and previous experiences, can alter people's reactions to it (Rogers, 2003). The librarians in this case might be viewing OA publishing from an instructor's viewpoint and not as consumers, although they should also pursue publishing as librarians. Moreover, Borrego and Pinfield (2020) indicated in their study that most librarians are not publishing mainly because they might face challenges such as time constraints, funding, and lack of confidence. However, they should consider to co-author with the faculty researchers. Co-authorship may have advantages because it boosts reputations for both the co-author and the library as a whole.

5.6.4 Reasons for open access publishing

The challenges that have been identified through the literature and in the main findings of this study which indicate that the UWC librarians who participated in the study are aware of OA however, more training is needed when it comes to the adoption of fully-fledged OA e-resources reveal the following:

- The OA movement focuses on publicly funded science; thus, privately funded research is exempt from the mandate. Therefore, publishing will always be skewed as a result of "commercialization" of science, which will actually lower openness and result in bias (Matheka et al., 2014; COAlition S, 2019; University of the Western Cape Open Access Policy, 2019).
- For academic institutions to download and study the work of their and other scientists published on paywall journals, they should pay outrageous subscription fees that cost hundreds of thousands annually. The same holds true for the general population who wish to utilise the science that their taxes have supported (University of the Western Cape, 2020).

- “Free to read or access” does not mean free to publish; publishers might charge exorbitant amounts through APCs to cover the loss in access fees (Alston, 2019; Alizon, 2018).

5.6.5 Motivation for choosing open access publishing

In response to being asked to indicate the importance of the factors that motivate authors or researchers to choose OA publishing (visibility, cost, free publication, reputation and research impact), both the research impact and visibility thirteen (13) “very important” responses. The issue of visibility and research impact appears in different OA advocacy literature sources such as the Berlin Declaration on Open Access (2010), Igwe (2014) and NRF (2015). Cost and free publication both received eight “very important” responses. According to Asai (2021) and Jain et al. (2021), researchers, authors or research institutes frequently have to pay fees in order to publish and submit their work to journals. Publication in journals that require APCs means that the author or affiliated institution would have to pay a publication fee and, in some cases, high subscription to get access to an article. However, when the APC is negotiated, it is typically higher for OA articles because journal subscriptions are likely to be lower (Alizon, 2018).

5.6.6 Demotivation for choosing open access publishing

There are many factors of demotivation for a researcher or author to publish in an OA journal. The factors include copyright issues, publication quality of journals, preservation or storage platforms of articles and accreditation of the journal. Participants were asked to rate the importance of these factors; most librarians (81.3%) regarded the accreditation of a journal as very important, and three (18.8%) rated it as important. Accredited journals are recognised academic journals that meet specified criteria such as peer review; therefore, authors are more likely to qualify for subsidisation by the DHET for an article published (Hedding, 2019). Authors are required to submit their research to an accredited journal to avoid bogus or predatory journals. The DHET has a list of accredited journals that is updated every year to ensure the highest standard of research quality and integrity (DHET, 2019).

5.6.7 Recommendation of open Access vs subscription journals

Responding to the question whether participants would recommend OA journals over subscription journals, seven (44%) of the UWC librarians strongly agreed, four (25%) agreed, four (25%) stayed neutral, and one (6.3%) strongly disagreed. This indicates that the majority of the participants were aware of the need for transition from subscription to OA journals.

Negotiations across the globe have been conducted to mitigate journal subscription. The University of California has negotiated a model with Elsevier that has resulted in the library paying lower subscriptions (University of California, 2019). PlanS and Sci-Hub platforms aim for and support fully-fledged and immediate OA to peer-reviewed scholarly publications from research funded by public and private grants. Approximately 300 academic institutions, research libraries and archives around the world signed a declaration in acceptance of the Berlin Declaration on Open Access (2010). African Online Scientific Information Systems, a South African company based in Cape Town, does not charge APCs to encourage OA publishing. It ensures free accessibility of information resources through OA publishing of African scholarly research (African Online Scientific Information Systems [AOSIS], 2020). SANLiC also negotiates e-resource acquisition deals with the publishers and aggregators on behalf of the libraries.

5.6.8 Integration of open access into e-resource budgets

When participants were asked whether the library considers the integration of OA into e-resource budget planning, four (25%) affirmed, one (6%) denied, and eleven (69%) were not sure. The literature reveals that researchers such as Robinson (2017), Horava (2018) and Price (2022) extensively argue that academic libraries should consider the impact of subscribing to electronic publications and budget earnestly as they reflect on the need and advance the different ways of accessing scholarly communication. The UWC library established OA publishing by continuous engagement and benchmarking with different OA activities and stakeholders. Repositories at UWC that assist with this establishment of OA include Electronic Theses and Dissertations, Research Institutional Repository, and Research Data Management. The UWC library compiled and distributed its OA and research data management policies. Marketing and awareness of these resources are done within faculties, departments and the research community.

Libraries are under pressure to choose electronic materials and services over print sources because of the demand for e-resources in higher education institutions. As a result, budgets are shifting away from print journal subscriptions and scholarly monographs to acquire licences for expensive but important e-resources (Khatri, 2019). Thus, strategies such as Patron Driven Acquisition, DDA, peer-to-peer resource sharing, consortium e-resource acquisition and OERs are employed to meet the shrinking budget allocated for e-resources and needs of library users (Jiang et al., 2019; Robinson, 2017; Raju et al., 2015; Zhang et al., 2014). The experiment with

publishing open monographs (Raju et al., 2015) ventured with the introduction of OATs and OERs in most of the academic libraries as an alternative to costly print textbooks (Okamoto, 2013). The term “Open Educational Resources” first came to use in 2002 at a conference hosted by UNESCO (Hylén, 2021). The establishment of OATs and OERs was made into existence with the cost and access of information in mind. OATs and OERs contribute to global education improvement, particularly in developing nations, where many students cannot afford textbooks (Raju et al., 2015). According to Cox and Trotter (2017), OER adoption is not yet well normative across all faculties and disciplines in South African universities and is gaining momentum at a very slow pace.

5.6.9 Methods of integrating open access into the e-resource budget

The four participants who indicated that OA is integrated in the e-resource budget were asked to indicate how the library implements or plans the integration. The four responses received were themed as SANLIC deals, IR and discovery tools. In recent years, as more and more library collections have become accessible electronically, libraries have begun using discovery tools to provide a *one-stop* search platform for a variety of library resources and collections. Discovery tools are web-based applications that search an integrated index of metadata from article databases, library catalogues, digital repositories, digital collections and other sources of scholarly information. Discovery tools tend to index both OA and subscription journals (Niu, Zhang & Chen, 2014). The discovery tools assist users to search a library’s collection through a single search box and present search results in a single interface (Karadia & Pati, 2015).

5.6.10 Open access training

In response to the question whether the respondents were aware of training sessions conducted by the UWC library to create awareness of OA resources and publishing, 12 (75%) affirmed, whereas the other four (25%) were not sure. No participant indicated that UWC does not conduct such training sessions. Several authors, including Howlader and Islam (2019), Ferdows and Ahmed (2015), Joo and Choi (2015), found that insufficient training opportunities among undergraduate students resulted in poor information-searching skills. The UWC library’s OA Policy Document (2020) and the OA Policy of Rhodes University (2016) also state that researchers are supported by marketing and continuous training workshops and by development of librarians. The workshops are conducted to encourage researchers to use the UWC publishing infrastructure and other African Open Science platforms to enable access to high-quality and trusted research information.

5.6.11 Frequency of training on open access awareness

Participants who acknowledged that the UWC library offers training in using OA resources were asked to indicate how often (daily, weekly, bi-monthly, monthly, bi-yearly or once a year) training is conducted. Of the fourteen responses received, four (28%) of the participants indicated that the frequency of training was bi-monthly, whereas daily, bi-yearly and once a year were mentioned by three respondents (21%), and weekly training was mentioned by one respondent (7%). Monthly training was not mentioned. In a follow-up open-ended question requesting general comments regarding training, one participant emphasised the importance of training:

There is a need for librarians to intensify training and marketing of e-resources. Students and staff often do not know the resources they have. How does one access a database they have not been trained to use? Students waste a lot of time looking for resources and often don't succeed in their studies due to lack of searching skills and not being aware of resources that are available to them.

5.6.12 Level of knowledge of open access

In response to rating their knowledge of OA, seven librarians (43.8%) acknowledged that they had good knowledge; five (31.3%) and four (25%) acknowledged their excellent and fair knowledge, respectively. There was no indication of non-existent knowledge. The majority of participants, therefore, had good knowledge of OA.

The DoI theory states that late adopters do not form part of leadership, but they receive information and knowledge about the idea before the average person. They need, however, to have evidence that the idea is working before they adopt it (Rogers, 2003). The theory further states that a late adopter needs to be aware of the innovation through communication channels and messages or advertising to actively implement the innovation.

5.6.13 Importance of OA in academic libraries

In response to rating the importance of OA to academic libraries, most librarians (13) regarded rapid dissemination of information as very important, followed by eleven for audience accessibility, eleven for increase in research output and eleven for saving of money. Copyright retention was rated as very important by eight respondents. No option was regarded as not or totally not important. These findings are similar to those from responses about important

features of e-resources, as the majority of participants indicated that users need information that is easily accessible and quick to find. Easy accessibility was also mentioned in the steps used to support the OA movement, when a participant responded, *“Information is easily accessible to our users freely”*.

In summary, the OA movement needs librarians who are equipped with skills to advocate for free access to information. Librarians at UWC still need to be improved and encouraged to publish in OA journals to improve their impact. It is abundantly clear that having an LIS degree is still crucial if one wants to succeed in today's workplace. A few librarians in this study were slightly sceptical regarding one's ability to conduct personal research and publish. Through attendance of workshops, seminars, academic conferences and professional conferences, librarians constantly updated their skills and competencies.

5.7 Institutional Repositories

This section of the questionnaire was used to ask two questions regarding the IRs at UWC to assess the flexibility of library staff to meet the needs of the 21st century users of academic libraries.

5.7.1 Managing Institutional Repositories

The majority of South African higher education libraries provide an OA publishing service via the green OA route, which is IRs (Raju et al., 2015). Of the 14 responses received, 12 (87%) indicated that the library has an IR, whereas 2 (13%) were not sure. A digital archive of intellectual products created by an institution's faculty, research staff and students that is accessible to end users, both within and outside the institution, with few or no restrictions is known as an IR (Akpokodje & Akpokodje, 2015). The UWC OA policy document encourages the university's researchers to utilise the IR tools to publish their research outputs (University of the Western Cape OA Policy Document, 2020). A librarian in the steps of supporting OA confirmed this:

“Our library has a fully functional institutional repository and an OPEN ACCESS policy”.

“We encourage students to use the repository as it would benefit them in their own research”.

The Rhodes University also states in its OA policy that the policy was established and approved to facilitate OA practices and elevate the visibility of the institutional research (Open Access Policy of Rhodes University, 2016).

5.7.2 Institutional repository advocacy

Responses to the open-ended question on how the UWC library advocates the use of the IR were similar to those recorded regarding organisational culture, intellectual property, research impact, training and faculty involvement. IRs have been around since the early 2000s (Kakai, 2018), and South African universities were among the first universities in the world to host them (Bangani, 2018). IRs and OA are ongoing innovations currently taking place in the academic libraries. The DoI theory rests on the evidence that a new idea, practice or source can be understood over a period of time, in different channels and modes before its adoption by individuals or organisations (Minishi-Majanja & Kiplang'at, 2013). As libraries all over the world began implementing and capturing intellectual assets of their institutions, it was envisioned that the network of IRs would serve as the OA movement's foundation (Kakai, 2018).

5.8 Concluding Summary

The research findings collected through a questionnaire survey and document analysis were interpreted through the lens of the DoI theory. This study revealed that the impact of the e-resource costs and difficulties of access to and retrieval of information can hinder users from accessing the relevant information. The advocacy of OA should be ongoing, despite current challenges and some future hurdles that have been predicted in this study.

Chapter six concludes the current study by answering the research question, providing recommendations to further address the research problem and suggesting further research required to strengthen the current findings.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter concludes the study, makes recommendations for addressing the research problem and suggests further research required to strengthen the current findings. The study aims to contribute to ongoing debates on e-resource negotiations and open-source initiatives. The research objectives that guided the study to provide a meaningful explanation of the research problem were as follows:

- a) to explore alternative means of providing access to academic information at a minimal cost,
- b) to discover current strategies applied in acquiring e-resources and
- c) to identify barriers to acquiring e-resources.
- d) to identify cost benefits OA have for academic libraries.

The study is concluded by answering the research questions, concluding on whether predictions of the literature were achieved, making recommendations to solve the research problem and pointing to further research required to extend the limitations and delimitations and strengthen the findings of this study.

6.2 What alternatives are available for acquiring e-resources?

The 4IR and Library 4.0 increased the demand for digital libraries to provide access and services to e-resources, and academic librarians are currently considered useful for the delivery of e-resources. Digital information has undergone a significant change in recent years, necessitating a paradigm shift in collection development practices, with e-resources now being central to most academic libraries' strategies for providing information services. However, lack of experience and knowledge of searching skills to better utilise e-resources can be a barrier. It is important for one to consider the role of academic libraries in provision of various information services, such as e-resources, to the university community to support OA teaching, learning and research at universities. The participants' responses indicate an awareness of the need to have alternative ways of acquiring e-resources for information professionals to provide their services smoothly.

Search engines, library catalogues and the library's A-Z databases are the most used e-resources. This could mean that the e-resources are not listed in the library catalogue or that participants often prefer to use company websites and Google Scholar to find e-resources. This could also mean that the participants use OA resources more than the library's subscription resources. These findings were also indicated by a study conducted in the Faculty of Arts at Rani Durgavati University, India, in which respondents were aware of available e-resource, but most (90.66%) of them used Google as the most preferred search engine for educational and research purposes (Verma, 2022). The participants in this study understood that the purpose of e-resources was for them to be able to access the e-resources anywhere and anytime. According to Jebaraj (2018), e-resources are digitised information materials such as e-journals, e-books, e-databases, e-theses and many other items that are produced, published and disseminated worldwide through electronic networks or the internet. Therefore, in a country with a stable internet connection, e-resources should be easily accessible within a short space of time after being published on OA to improve the research impact.

6.3 What strategies are applied to acquire e-resources?

The current study investigated strategies that the participants used in their library to reduce the cost of acquiring e-resources. To conform to the demands of users, academic libraries have to move towards e-resources for easy access to information from outside the physical library. Methods by which information is obtained, stored, retrieved and disseminated have been altered by technological advancements. The ICT has also altered the manner in which library services are provided. Books and journals have been replaced by e-books and e-journals as libraries have evolved into virtual libraries (Moruwawon, 2020). Therefore, strategies applied to enhance use of and access to e-resources should be aligned with the changing needs. The e-resources should be reviewed and marketed at all times. The packaging of the e-resources in which a specific article is sometimes unavailable in a journal that the library is subscribed to, because of the embargo period or other restrictions such as copyright and licensing of the article, should also be reviewed.

Some of the strategies include the access option, whereby the aggregator or publisher determines how many users can use e-resources, mainly e-books, at a time. Some aggregators negotiate with the library to have unlimited access to all the collections or certain collections. The participants in this study indicated that they see the access option as more important in the acquisition of e-resources than a purchase model such as DDA, *evidence-based acquisition*,

perpetual licence and pricing models such as individual titles or big deal packages. The collection development document indicated the following strategies: HDI grant, SANLiC membership, perpetual access instead of annual subscription and a decrease in the budget for books and periodicals.

The UWC librarians indicated that OA was adopted as one of the strategies and that an IR was created. Both options indicate that the UWC library is aware of the need for information to be freely accessible to increase the impact of the research outputs.

6.4 What could be the barriers or challenges to acquiring e-resources?

The onset of the COVID-19 pandemic led to an increase in the use of digital learning solutions, which raises the question whether South Africa will be able to meet the ever-increasing demand for digital education after the disease has passed. The literature indicates that lack of awareness is the factor that contributes most to poor library e-resource selection (Ferdows & Ahmed, 2015). Moreover, the following are a few of the challenges experienced when accessing e-resources: off-campus access, Wi-Fi connection, bandwidth, high data prices, limited budget, inadequate functional computers, and inadequate information retrieval skills and training (Msezane & Dlamini, 2021; Machimbidza & Mutula, 2017). In the ever-evolving Information Age, library professionals should improve their technology management skills and acquire extensive knowledge of emerging technologies.

More awareness and training is required to equip students to use e-resources effectively. In this study, lack of searching skills was regarded as the main barrier to accessing e-resources. Academic libraries play a crucial role by providing training on e-resource teaching and learning, as well as research activities (Ankamah, Gyesi & Amponsah, 2022). Apart from facilitating the use of e-resources, the library staff should also focus on resolving problems that students are facing, such as a shortage of computers and library access. Howlader and Islam (2019) indicated that librarians should understand information-seeking behaviours of users and provide appropriate and needed services and guidance.

6.5 What costs and benefits might OA have for academic libraries?

Most aggregators such as Wiley, EBSCO, Emerald, Taylor & Francis, and Elsevier with subscription-based journals offer a hybrid open-access option, allowing researchers or authors

to publish openly in a journal of their choice. A hybrid journal is a subscription journal in which some of the articles are OA (Björk & Solomon, 2014).

6.5.1 OA and negotiation with vendors to acquire e-resources

Access options seem to be more important compared to the purchase model and the pricing model. As a result, OA and information literacy are strategies that were adopted to enhance access to e-resources. Academic libraries worldwide increase visibility of their services by conducting training sessions for their users. Although OA publishing has been in existence for over 25 years, it is still a fairly new route compared to traditional scholarly communication in subscription journals.

All UWC librarians are aware of the need for OA as an alternative way of acquiring e-resources. The DoI theory noted that the idea can be there, and the society can have education, but the innovation can still drag because of factors such as costs, accessibility and familiarity with technology. The fully-fledged OA route needs the OA movement to talk in one voice, establish a strong platform that is sustainable and learn from early adopters. The researcher is aware that researchers need to be given maximum freedom to choose the proper platform for publishing their results; however, there is a need for South African universities, for instance, to have a strong platform to incorporate all IRs. Researchers will deposit their research output in their institution's IR, but the output will appear on the larger platform. South African libraries can, for example, learn from the University of California, which negotiated with Elsevier for lower subscriptions and lower author publication costs. The process should involve universities, government entities, publishers, vendors, research funders and all other relevant stakeholders to elevate the full OA momentum.

6.5.2 Discovery tools for enhancing OA integration in the e-resource budget

Discovery tools assist libraries to search across platforms, including the platforms that publish only OA articles. The discovery tools assist users to search a library's collection through a single search box and present search results in a single interface (Karadia & Pati, 2015). Many institutions make use of discovery tools and other technologies such IRs to demonstrate value for money as most users get hindered when a search requires many steps before they can access information for which they are looking. Most aggregators also take advantage of that by establishing discovery tools between which academic libraries sometimes find themselves caught and having to decide which one to adopt as they all have potential for the future.

6.5.3 The e-resource budget

Over 80% of participants indicated they were not directly involved in the budget allocation process; hence, they were not sure about the percentage of the library's annual budget that was dedicated to e-resources. Budgeting is an important component of library collection development and management. Libraries worldwide face challenges regarding management of their finances in tight economic times. A library budget is a tool for realising information needs of a library's users as it determines services the library offers and resources it acquires. A carefully developed budget ensures that available funds are effectively utilised to realise the library's objectives. A budget is a financial expression of the library's plan and objectives, and it should be realistic and aligned with the library's needs. Therefore, before a budget can be formulated, the plan for library services should be developed and OA access objectives be established.

6.6 Concluding the Theory

The impact of the cost of e-resources to academic libraries affects institutional budgets. Institutions that have enough resources will subscribe to more e-resources, whereas poor institutions will lack funds to subscribe to most e-resources, thus disadvantaging their students more. Raju et al. (2015) echoed that South African higher education institutions are the largest producers of research output on the African continent and are, therefore, required to share their research output with the rest of the continent through a medium that minimises challenges of access. The existing literature lacks reflection on discussions on pricing and negotiations with publishers regarding their profit-generating activities. This study contributes to bridging these gaps, as cited by Alston (2019) that publishing companies currently realise the need for OA, but there will always be costs involved. Formatting and uploading articles to websites, for example, still require personnel and time. OA was initiated with consumers of information in mind to combat publishers' ever-increasing prices (McCabe & Snyder, 2018) and, more necessarily, to remove paywalls from scholarly literature to provide comprehensive access for any interested reader (Matthias et al., 2019). Academic institutions should think of other funding models such as APC to reduce OA costs. The funding models could include institutional subsidy, society subsidy, lifetime author subscriptions, university library support or any private funding (Bolick et al., 2017) that can assist academic libraries adopt a higher number of OA journals over subscription journals. Matheka et al. (2014) highlight the current status and future challenges of OA in Africa and recommend that African governments should

follow countries such as the United Kingdom and Australia in mandating OA for publicly funded research in their regions.

6.7 Concluding the Study

Conclusions are drawn from the research data and their interpretations presented and discussed in Chapters 4 and 5, respectively. The findings of this study indicate that the UWC librarians are aware of OA, however, more exploration is needed when it comes to the adoption of fully-fledged OA e-resources. Easy accessibility and retrieval of information are the main features users need when accessing information. The main objective of the study was to investigate why academic institutions are reluctant to adopt a fully-fledged OA route. The findings indicated that academic libraries still need to teach and train their users on OA. This finding was supported by the DoI theoretical framework, scholarly viewpoints, responses from the participants, the researcher's personal experience and information from library websites and documents. The primary findings of this study are that there is a need for the adoption of OA to increase the usage of e-resources and that all librarians should be involved in allocating the library's budget and collection development in order to enhance e-resources.

6.8 Recommendations

Based on the findings of the current study, the following recommendations are made:

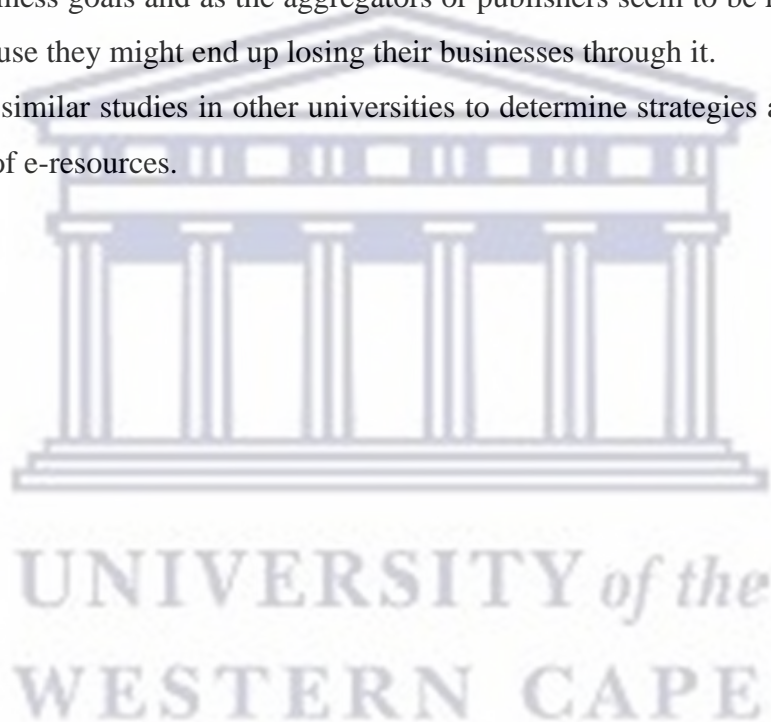
- SANLIC should lead discussions on the adoption of an OA repository for South Africans.
- CHELSA should be the advocator of OA.
- OA should be managed at the national level with the involvement of DHET.
- UWC researchers should be encouraged to publish in OA journals.
- UWC Research councils, funding agencies, academic institutions and publishers should be committed to speeding up the transition to OA by transforming existing subscription-based journals into OA journals.

6.9 Suggestions for Future Research

The data-gathering phase of the study took place during the COVID-19 pandemic, which started in 2020 in South Africa. The study's response rate was affected negatively because most librarians were working from home. Follow-up face-to-face interviews would have been useful

for more in-depth data. Only the UWC library was used as the research site. Further studies aimed at broadening the scope and inclusion criteria are, therefore, suggested as follows:

- Involve postgraduate students regarding their views on the use of OA vs subscription sources.
- Discuss the future development of scholarly communication, and decide on appropriate strategies.
- Research varying individual and institutional conditions that influence the production, dissemination and reception of scientific knowledge.
- Investigate aggregators or publishers' view of the OA initiative as the initiative affects their business goals and as the aggregators or publishers seem to be reluctant to adopt OA because they might end up losing their businesses through it.
- Conduct similar studies in other universities to determine strategies applied to reduce the cost of e-resources.



LIST OF REFERENCES

- Abdillahi, U. A. (2020). Use of Electronic Resources by Postgraduate Students during COVID-19 Pandemic: Case of Masinde Muliro University of Science and Technology. Kenya. *World Journal of Innovative Research*, 9(5), 62–66.
- African Online Scientific Information Systems [AOSIS]. (2020). *Unlock African knowledge to the world*. <https://aosis.co.za/about-aosis/>.
- Akpokodje, V. N., & Akpokodje, E. T. (2015). Availability and utilization of institutional repositories as indicators to institutional Web ranking. *European Journal of Computer Science and Information Technology*, 3(29), 29–40.
- Alizon, S. (2018). Inexpensive Research in the Golden Open Access Era. *Trends in Ecology and Evolution*, 33 (5), 301–303. <http://dx.doi.org/10.1016/j.tree.2018.02.005> .
- Alston, J. (2019). Open access principles and practices benefit conservation. *Conservation Letters*, 12(6). <https://doi.org/10.1111/conl.12672>.
- Angrosino, M. V., & de Perez, K. A. (2000). Rethinking observation: From method to context. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.), (pp. 673–702). Sage.
- Ankamah, S., Gyesi, K., & Amponsah, V. (2022). Use of electronic resources in research and learning in a health sciences library in Ghana: An analysis of awareness and perception of users. *Information Development*, 0(0). <https://doi.org/10.1177/02666669221107378>.
- Apuke, O. D. & Iyendo, T. O. (2018). University students' usage of the internet resources for research and learning: forms of access and perceptions of utility. *Heliyon*, 4(12). <https://doi.org/10.1016/j.heliyon.2018.e01052>.
- Ary, D., Jacobs, L. C., Sorensen, C. K., & Walker, D. A. (2019). *Introduction to research in education* (10th ed.). Cengage.

- Asai, S. (2021). An analysis of revising article processing charges for open access journals between 2018 and 2020. *Learned Publishing*, 34(2), 137–143. <https://doi.org/10.1002/leap.1334>.
- Association of African Universities. (2021). Forty-six (46) African Higher Education Institutions to date have signed the Berlin Declaration on Open Access to Knowledge in Sciences and Humanities. *Association of African Universities*. <https://blog.aau.org/forty-six-46-african-higher-education-institutions-to-date-have-signed-the-berlin-declaration-on-open-access-to-knowledge-in-sciences-and-humanities/>.
- Babbie, E. R. (2020). *The practice of social research*. Cengage Learning.
- Bailey, K. (2008). *Methods of social research* (4th ed.). The Free Press.
- Ball, H. L. (2019). About research: conducting online surveys. *Journal of human lactation*, 35(3), 413–417.
- Bangani, S. (2018). The history, deployment, and future of Institutional Repositories in public universities in South Africa. *The Journal of Academic Librarianship*, 44(1), 39–51.
- Bauer, B. (2017). "Austrian Transition to Open Access" 2017–2020. *GMS Medizin-Bibliothek-Information*, 17(3). <http://hdl.handle.net/10760/33803>.
- Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(179). <https://dx.doi.org/10.1038/489179a>.
- Benny, L. (2015). Selection and Acquisition of E-Resources in Academic Libraries: Challenges. *International Journal of Digital Library Services*, 1142(2), 124–137.
- Berlin Declaration on Open Access. (2010). *Open Access conference: The impact of Open Access in research and scholarship*. <http://www.berlin9.org/>.
- Bertram, C., & Christiansen, I. (2020). *Understanding research : an introduction to reading research* (2nd ed.). Van Schaik.
- Billups, F. (2021). *Qualitative data collection tools: Design, development, and applications*. SAGE Publications, Inc., <https://doi.org/10.4135/9781071878699>

- Björk, B. C. (2017). Open access to scientific articles: a review of benefits and challenges. *Internal and emergency medicine*, 12(2), 247–253.
- Björk, B. C. (2013). Open Access: Are the Barriers to Change Receding? *Publications*, 1(1), 5–15. <https://doi.org/10.3390/publications1010005>.
- Björk, B. C., & Solomon, D. (2014). Developing an effective market for open access article processing charges. *Abgerufen am*, 22(2). <https://gasjournal.com/docs/developing-effective-market-for-open-access-article-processing-charges-mar14.pdf>
- Björk, B. C., & Solomon, D. (2012). Open access versus subscription journals: a comparison of scientific impact. *BMC medicine*, 10(73). <https://doi.org/10.1186/1741-7015-10-73>.
- Blummer, B., & Kenton, J. M. (2020). A Systematic Review of E-Books in Academic Libraries: Access, Advantages, and Usage. *New Review of Academic Librarianship*, 26(1), 79–109. <https://doi.org/10.1080/13614533.2018.1524390>.
- Bolick, J., Emmett, A., Greenberg, M. L., Rosenblum, B., & Peterson, A. T. (2017). How open access is crucial to the future of science: Open Access. *The Journal of Wildlife Management*, 81(4), 564 – 566. <https://doi.org/10.1002/jwmg.21216>.
- Borrego, Á., Anglada, L., & Abadal, E. (2021). Transformative agreements: Do they pave the way to open access? *Learned Publishing*, 34(2), 216–232. <https://doi.org/10.1002/leap.1347>.
- Borrego, Á., & Pinfield, S. (2020). Librarians publishing in partnership with other researchers: Roles, motivations, benefits, and challenges. *Portal :Libraries and the Academy*, 20(4), 655-675. <https://doi.org/10.1353/pla.2020.0031>.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, 9(2), 27–40. <http://dx.doi.org/10.3316/QRJ0902027>.
- Bowen, P., Rose, R., & Pilkington, A. (2017). Mixed methods-theory and practice. Sequential, explanatory approach. *International Journal of Quantitative and Qualitative Research Methods*, 5(2), 10–27.

- Breetzke, G. D., & Hedding, D. W. (2020). The changing and challenging research landscape in South Africa. *Studies in higher education*, 45(11), 2245–2259.
- Brundy, C. (2015). Academic Libraries and Innovation: A Literature Review. *Journal of Library Innovation*, 6(1), 22–39.
- Budapest Open Access Initiative. (2020). *Budapest Open Access Initiative*. <https://www.budapestopenaccessinitiative.org/>.
- Campbell, A., Taylor, B., & McGlade, A. (2017). *Research design in social work: qualitative and quantitative methods*. London: Sage Publications.
- Central University of Technology. (2016). *CUT Research Ethics and Integrity Policy Framework*. <https://cms.cut.ac.za/Files/Froala/3fb94d73-3b73-4d63-9369-ffbcc3aeb913.pdf>.
- Chigwada, J., & Maturure, R. (2022). The changing landscape of academic librarianship in the COVID-19 era in Zimbabwe. In P. Jain, N.M. Mnjama, B.N. Jorosi & O. Oladokun (Eds.), *Information and Knowledge Management in the Industrial Revolution and COVID-19 era. Proceedings of the DLIS 2022 International Conference* (pp. 124–138). University of Botswana, Department of Library and Information Studies.
- Christopher, L. C. (2008). Academic publishing: Digital alternatives to expensive textbooks. *Seybold Report*, 8(19), 11–14.
- COAlition S. (2019). *Accelerating the transition to full and immediate Open Access to scientific publications*. https://www.coalition-s.org/wp-content/uploads/PlanS_Principles_and_Implementation_310519.pdf.
- Cobey, K. D., Lalu, M. M., Skidmore, B., Ahmadzai, N., Grudniewicz, A., & Moher, D. (2018). What is a predatory journal? A scoping review. *F1000Research*, 7(1001). <https://doi.org/10.12688/f1000research.15256.2>.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Taylor & Francis Group.

- Connelly, L. M. (2020). Inclusion and Exclusion Criteria. *MEDSURG Nursing*, 29(2), 116 - 125.
- Correa, J. C., Laverde-Rojas, H., Marmolejo-Ramos, F., Tejada, J., & Bahník, Š. (2020). The Sci-hub Effect: Sci-hub downloads lead to more article citations. <https://doi.org/10.48550/arXiv.2006.14979>.
- Cox, G., & Trotter, H. (2017). Factors shaping lecturers' adoption of OER at three South African universities. In C. Hodgkinson-Williams & P. B. Arinto (Eds.), *Adoption and impact of OER in the Global South* (pp. 287–347). <https://doi.org/10.5281/zenodo.601935>.
- Creswell, J. W. (2016). 30 Essential skills for the qualitative researcher. SAGE Publications.
- Creswell, J. W. (2015). *A concise introduction to mixed methods research (Sage mixed methods research series)*. SAGE Publications.
- Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed method approaches* (4th ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Czerniewicz, L., & Goodier, S. (2014). Open access in South Africa: A case study and reflections. *South African Journal of Science*, 110(9–10), 01–09.
- Daniel, J. (2015). Sampling: the foundation of good research. In G. Guest & E. Namey (Eds.), *Public health research methods* (pp. 511-55). SAGE Publications. <https://dx-doi-org.ezproxy.uwc.ac.za/10.4135/9781483398839>.
- Darley, W. K., & Luethge, D. J. (2019). Management and business education in Africa: A post-colonial perspective of international accreditation. *Academy of Management Learning & Education*, 18(1), 99–111.
- Das, A. K. (2015). Open Access: History and Developments. In: S. Mishra & M.P. Satija (Eds.), *Introduction to Open Access* (pp. 17–30). UNESCO.

- Dawson, J. (2018). Methodological assumptions, reliability and validity. In J. Dawson (ed.), *Analysing quantitative survey data for business and management students* (pp. 11–20). SAGE Publications. <https://dx.doi.org/10.4135/9781473983311>.
- Day, S., Rennie, S., Luo, D., & Tucker, J. D. (2020). Open to the public: paywalls and the public rationale for open access medical research publishing. *Research Involvement and Engagement*, 6(8). <https://doi.org/10.1186/s40900-020-0182-y>.
- Davies, M., & Hughes, N. (2014). *Doing a successful research project : using qualitative or quantitative methods* (2nd ed.). Palgrave Macmillan.
- Department of Higher Education and Training. (2015). *Research Outputs Policy*. <https://www.dhet.gov.za/Policy%20and%20Development%20Support/Research%20Outputs%20policy%20gazette%202015.pdf>.
- Department of Higher Education and Training. (2019). *The Quality of South Africa's Research Publications: Final Report to the DHET*. <https://www.dhet.gov.za/Policy%20and%20Development%20Support/REPORT%20ON%20THE%20QUALITY%20OF%20SOUTH%20AFRICA%E2%80%99S%20RESEARCH%20PUBLICATIONS.pdf>.
- Department of Science and Technology. (2019). *Science and Innovation on South Africa's expenditure on research and development*. <https://www.gov.za/speeches/science-and-innovation-south-africas-expenditure-research-and-development-25-oct-2019-0000>.
- DePoy, E., & Gitlin, L. N. (2015). *Introduction to Research: Understanding and Applying Multiple Strategies*. Mosby Inc.
- Dias, G. P., Bruzza, M., & Tupia, M. (2019). The use of social media by local governments: the case of Manabí's cantons in Ecuador. *Proceedings of 32nd International Conference on Computer Applications in Industry and Engineering*, 63, 170–181. <https://doi.org/10.29007/sn24>.
- Dibley, L., Dickerson, S., Duffy, M., & Vandermause, R. (2020). *Population and sampling*. SAGE Publications. <https://doi.org/10.4135/9781529799583>.

- Dodd, A., Kramer, A., Zumbun, E. A., & Lowe, R. A. (2022). Learning to Think Like a Patron: Improving User Experience, E-Resources Management, and Departmental Outcomes Beyond COVID-19. *Journal of Electronic Resources Librarianship*, 34(1), 64–74. <https://doi.org/10.1080/1941126X.2022.2028442>.
- Dos Santos, A., du Toit, J., Faasen, N., Quesada, L. L. Masenge, A., van Aardt, I., Wagner, C., Bryman, A., Bell, E., & Hirschsohn, P. (2021). *Research Methodology: Business and Management Contexts*. (2nd ed.). Oxford University Press Southern Africa.
- Dube, T. V. (2022). Library staff support with Fourth Industrial Revolution's application to provide information resources to remote clients during the COVID-19 library services. *Library Management*, 43(1/2), 148–160. <https://doi.org/10.1108/LM-10-2021-0085>.
- Earnshaw, J. J. (2012). How to write a clinical paper for publication. *Surgery*, 30(9), 437–441. <https://doi.org/10.1016/j.mpsur.2012.06.010>.
- EBSCO. (2023). *Journal & e-Package Services: Academic Libraries*. <https://www.ebsco.com/academic-libraries/products/journal-subscription-services/serials-collection-development>.
- EBSCO. (2022). *Serials Price Projection Report*. <https://www.ebsco.com/sites/g/files/nabnos191/files/acquiadam-assets/EBSCO-Serials-Price-Projections-Report-2022.pdf>.
- Edmonds, W. A., & Kennedy, T. D. (2013). *An applied reference guide to research designs : quantitative, qualitative, and mixed methods*. SAGE Publications.
- Elmore, S. A., & Weston, E. H. (2020). Predatory Journals: What They Are and How to Avoid Them. *Toxicologic pathology*, 48(4), 607–610. <https://doi.org/10.1177/0192623320920209>.
- Emmel, N. (2013). *Purposeful sampling*. Los Angeles : SAGE Publications Ltd, <https://doi.org/10.4135/9781473913882>.
- Farley, A., Langham-Putrow, A., Shook, E., Sterman, L. B., & Wacha, M. (2021). Transformative agreements: Six myths, busted. *College & Research Libraries News*, 82(7), 298. <https://doi.org/10.5860/crln.82.7.298>.

- Fecher, B., & Friesike, S. (2014). Open Science: One Term, Five Schools of Thought. In: Bartling, S., Friesike, S. (eds) *Opening Science* (pp. 3-15). Springer. https://doi.org/10.1007/978-3-319-00026-8_2.
- Ferdows, J., & Ahmed, S. Z. (2015). An empirical investigation of information skills among undergraduate students at Dhaka University. *Library Review*, 64(4/5), 274–284. <https://doi.org/10.1108/LR-11-2014-0132>.
- Franceschinis, C., Thiene, M., Scarpa, R., Rose, J., Moretto, M., & Cavalli, R. (2017). Adoption of renewable heating systems: An empirical test of the diffusion of innovation theory. *Energy*, 125, 313–326.
- Frank, J., Foster, R., & Pagliari, C. (2023). Open access publishing – noble intention, flawed reality. *Social Science and Medicine*, 317. <https://doi.org/10.1016/j.socscimed.2022.115592>.
- Gerrish, K., & Lathlean, J. (Eds.). (2015). *The research process in nursing* (7th ed.). John Wiley & Sons Inc.
- Goh, E., & Sigala, M. (2020). Integrating Information & Communication Technologies (ICT) into classroom instruction: teaching tips for hospitality educators from a diffusion of innovation approach. *Journal of Teaching in Travel & Tourism*, 20(2), 156-165. <https://doi.org/10.1080/15313220.2020.1740636>.
- Gonzalez-Solar, L., & Fernandez-Marcial, V. (2019). Sci-Hub, a challenge for academic and research libraries. *El profesional de la información*, 28(1), 12. <https://doi.org/10.3145/epi.2019.ene.12>.
- Gouws, T., & Van Rheede van Oudtshoorn, G. P. (2011). Correlation between brand longevity and the diffusion of innovations theory. *Journal of Public Affairs*, 11(4), 236–242. <https://doi.org/10.1002/pa.416>.
- Greshake-Tzovaras, B. (2017). Looking into Pandora’s Box: The content of Sci-Hub and its usage. *F1000Research*, 6(541). <https://doi.org/10.12688/f1000research.11366.1>.
- Hamilton, L., & Corbett-Whittier, C. (2013). Approaches to data analysis. In L. Hamilton & C.B. Corbett-Whittier (Eds.), *Research Methods in Education: Using case study in*

- education research* (pp. 134–146). SAGE Publications.
<https://dx.doi.org/10.4135/9781473913851>.
- Harris, L. E. (2018). *Licensing digital content: a practical guide for librarians*. American Library Association.
- Heale, R., & Twycross, A. (2018). What is a case study? *Evidence-Based Nursing*, 21(1), 7–8. <http://dx.doi.org/10.1136/eb-2017-102845>.
- Hebrang Grgic, I. (2016). Information literacy and open access in Croatian academic libraries. *Library Review*, 65(4/5), 255-266. <https://doi.org/10.1108/LR-01-2016-0009>.
- Hedding, D. W. (2019). Payouts push professors towards predatory journals. *Nature*, 565(7737), 267–268.
- Heidbach, K., Knaus, J., Laut, I., & Palzenberger, M. (2022). Long Term Global Trends in Open Access. A Data Paper. https://pure.mpg.de/rest/items/item_3361428/component/file_3361648/content.
- Herring, P. (2022). EBSCO eBooks Review. *Journal of Electronic Resources in Medical Libraries*, 1–9. <https://doi.org/10.1080/15424065.2022.2109551>.
- Himanen, L., Geurts, A., Foster, A. S., & Rinke, P. (2019). Data-driven materials science: status, challenges, and perspectives. *Advanced Science*, 6(21). <https://doi.org/10.1002/advs.201900808>.
- Himmelstein, D. S., Rodriguez-Romero, A., Levernier, J. G., Munro, T-A., McLaughlin, S. R., Greshake-Tzovaras, B., & Green, C. S. (2018). Sci-hub provides access to nearly all scholarly literature. *eLife*, 7. <https://elifesciences.org/articles/32822>.
- Horava, T. (2018). What is the state of the big deal? *Technicalities*, 38(6), 16-20. <https://www.proquest.com/trade-journals/what-is-state-big-deal/docview/2183984957/se-2>.
- Horton, V., & Pronevitz, G. (Eds.). (2014). *Library consortia : Models for collaboration and sustainability*. American Library Association.

- Hoskins, R., & Stilwell, C. (2011). Library funding and journal cancellations in South African university libraries, *South African Journal of Libraries and Information Science*, 77(1), 51–63. <https://doi.org/10.7553/77-1-66>.
- Howlader, A. I., & Islam, M. A. (2019). Information-seeking behaviour of undergraduate students: A developing country perspective. *IFLA journal*, 45(2), 140–156.
- Hu, D., Luo, A., & Liu, H. (2013). Open Access in China and its Effect on Academic Libraries. *Journal of Academic Librarianship*, 39(1), 110–112. <https://doi.org/10.1016/j.acalib.2012.11.009>.
- Hughes, J., & Goodwin, J. (2014). *Documentary & archival research*. Thousand Oaks, CA: Sage.
- Hwang, M. J., Shieh, J. C., & Hsieh, C. C. (2012). Using Data Envelopment Analysis to Evaluate Library Electronic Databases. *Journal of Educational Media & Library Sciences*, 49(3), 361–367.
- Hylén, J. (2021). Open educational resources: Opportunities and challenges. *Centre for Educational Research and Innovation – CERI*. <https://docs.prosentient.com.au/prosentientjspui/bitstream/10137/17756/1/interpublish41675.pdf>.
- Igwe, K. N. (2014). Open Access Repositories in Academic and Research Institutions for the realization of Nigeria’s Vision 20: 2020. *International Journal of Information Science and Management (IJISM)*, 12(1), 33–46.
- Jain, V. K., Iyengar, K. P., & Vaishya, R. (2021). Article processing charge may be a barrier to publishing. *Journal of Clinical Orthopaedics and Trauma*, 14, 14–16. <https://doi.org/10.1016/j.jcot.2020.10.039>.
- Jakoet-Salie A, Brynard, D.J., Hanekom, S. X., & Brynard, P. A. (2022). *Introduction to Research* (4th ed.). Van Schaik Publishers.
- Jalal, S. K., & Sutradhar, B. (2020). Subscription, Access and Licensing Issues of E-resources. *Pearl: A Journal of Library and Information Science*, 14(1), 7–14.

- Jebaraj, C. M. (2018). Use of e-Resources by research scholars and students at the central library in Alagappa University, Karaikudi: A case study. *International Journal of Information Dissemination and Technology*, 8(1), 37–38.
- Jiang, Z., Fitzgerald, S.R., & Walker, K.W. (2019). Modelling time-to-trigger in library demand-driven acquisitions via survival analysis. *Library & Information Science Research*, 41(3), 100968.
- Joo, S., & Choi, N. (2015). Factors affecting undergraduates' selection of online library resources in academic tasks: Usefulness, ease-of-use, resource quality, and individual differences. *Library Hi Tech*, 33(2), 272–291.
- Kahn, M. (2013). *The growth of e-book collections at South African academic libraries: a case study of the Western Cape*. (MLIS, University of Cape Town). <http://hdl.handle.net/11427/11153>.
- Kakai, M. (2018). Open access institutional repositories in selected East African Universities: Achievements, challenges and the way forward. *SCECSAL Publications*, 1(12), 205–226.
- Kaminski, J. (2011). Diffusion of innovation theory. *Canadian Journal of Nursing Informatics*, 6(2), 1–6.
- Karadia, S., & Pati, A. (2015). Discovery tools and services for academic libraries. In 2015 *1st National Conference on Next Generation Librarianship*. Gujarat, India: CU Shah University (pp. 135–140).
- Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, 4(1), 60. <https://www.ijam-web.org/text.asp?2018/4/1/60/230853>
- Khatri, N. K. (2019). Selection and Acquisition of Electronic Resources in Academic Libraries: Challenges. In R. Bhardwaj & P. Banks (Eds.), *Research Data Access and Management in Modern Libraries* (pp. 196–219). IGI Global. <https://doi.org/10.4018/978-1-5225-8437-7.ch010>.
- Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of higher education*, 6(5), 26–41.

- Kulkarni, S. (2017). Why are researchers increasingly choosing open access journals? *Editage Insights*. <https://doi.org/10.34193/EI-A-5444>.
- Kumar, K., & Naik, L. (2016). How to create an online survey using google forms. *International Journal of Library and Information Studies*, 6(3), 118–126.
- Kumar, R. (2019). *Research methodology: a step-by-step guide for beginners* (5th ed.). SAGE Publications.
- Lewis, D. W. (2012). The inevitability of open access. *College & research libraries*, 73(5), 493–506. <https://doi.org/10.5860/crl-299>.
- Library and Information Association of South Africa. (2023). *LIASA: the professional body for librarians and information workers*. https://www.liasa.org.za/page/what_is_pb.
- Lowe, R. A., Chirombo, F., Coogan, J. F., Dodd, A., Hutchinson, C., & Nagata, J. (2021). Electronic Resources Management in the Time of COVID-19: Challenges and Opportunities Experienced by Six Academic Libraries. *Journal of Electronic Resources Librarianship*, 33(3), 215–223. <https://doi.org/10.1080/1941126X.2021.1949162>.
- Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: how may AI and GPT impact academia and libraries? *Library Hi Tech News*, 40(3), 26-29.
- Ma, J., & Lund, B. (2021). The evolution and shift of research topics and methods in library and information science. *Journal of the Association for Information Science and Technology*, 72(8), 1059–1074. <https://doi.org/10.1002/asi.24474>.
- Mabweazara, R. (2018). The 21st century academic library: the case of three state universities in Zimbabwe. PhD dissertation, University of the Western. http://etd.uwc.ac.za/xmlui/bitstream/handle/11394/6466/MABWEAZARA_MLIS_2018.pdf?sequence=1&isAllowed=y.
- Machimbidza, T., & Mutula, S. (2020). Exploring experiences of librarians in Zimbabwean state universities with the consortium model of subscribing to electronic journals.

Information Development, 36(2), 193–207.
<https://doi.org/10.1177/0266666919834055>.

Machimbidza, T., & Mutula, S. (2017). Factors influencing the behaviour of academics towards peer-reviewed electronic journals in Zimbabwean state universities. *South African Journal of Libraries and Information Science*, 83(2), 42–51.

Machovec, G. (2020). Selected tools and services for analysing and managing open access journal transformative agreements. *Journal of Library Administration*, 60(3), 301–307.

MacLeavy, J., Harris, R., & Johnston, R. (2020). The unintended consequences of Open Access publishing – And possible futures. *Geoforum*, 112, 9–12.
<https://doi.org/10.1016/j.geoforum.2019.12.010>.

McMillan, J., & Schumacher, S. (2014). *Research in education : evidence-based inquiry* (7th ed.). Pearson.

Mafungwa, T. (2017). *The adoption of technology to enhance innovative user services at CALICO libraries, South Africa*. (MLIS thesis, University of the Western Cape).
<http://etd.uwc.ac.za/xmlui/bitstream/handle/11394/5830/Mafungwa%20arts.pdf?sequence=1&isAllowed=y>.

Malhotra, R., & Sharma, S. (2021). Research in use of E-Resources: A Study of Review of Literature on the use of E-Resources. *Journal of Information Management*, 8(1), 28 – 35. <https://doi.org/10.5958/2348-1773.2021.00005.9>.

Mapulanga, P. (2013). Licensing and negotiations for commercial e-resources in African libraries: Perils and promises for libraries in Malawi. *Library Review*, 62(4), 253–265.
<https://doi.org/10.1108/LR-01-2013-0008>.

Maree, K. (2020). *First steps in research* (3rd ed.). Van Schaik Publishers.

Maree, K. (2012). *Complete your thesis or dissertation successfully: practical guidelines*. Juta.

Mashiyane, D.M., Bangani, S., & Van Deventer, K. (2020). The awareness and application of multimedia tools for information literacy instruction at an African university. *Electronic Library*, 38(4), 711–724. <https://doi.org/10.1108/EL-02-2020-0027>.

- Matheka, D., Nderitu, J., Mutonga, D., Otiti, M., Siegel, K., & Demaio, A. (2014). Open access: academic publishing and its implications for knowledge equity in Kenya. *Globalization and Health*, 10(26). <https://doi.org/10.1186/1744-8603-10-26>.
- Matthias, L., Jahn, N., & Laakso, M. (2019). The two-way street of open access journal publishing: flip it and reverse it. *Publications*, 7(2), 23.
- May, C. (2020). Academic publishing and open access: Costs, benefits and options for publishing research. *Politics*, 40(1), 120–135.
- McCabe, M.J., & Snyder, C.M. (2018). Open Access as a Crude Solution to a Hold-Up Problem in the Two-Sided Market for Academic Journals. *The Journal of Industrial Economics*, 66(2), 301–349.
- McKenzie, L. (2020). Is Sci-Hub Safe? *Inside Higher Education*. <http://ir.westcliff.edu/wp-content/uploads/2020/01/Is-Sci-Hub-Safe.pdf>.
- McKenzie, L. (2020). Is Sci-Hub Safe? *Inside Higher Education*. <http://ir.westcliff.edu/wp-content/uploads/2020/01/Is-Sci-Hub-Safe.pdf>.
- McKenzie, L. (2017). Sci-Hub's cache of pirated papers is so big, subscription journals are doomed, data analyst suggests. *Science news*, 27(7). <https://doi.org/10.1126/science.ann7164>.
- Mertens, D. (2018). Ethics of qualitative data collection. In Flick, U. *The sage handbook of qualitative data collection*. SAGE Publications.
- Minishi-Majanja, M. K., & Kiplang'at, J. (2013). The diffusion of innovations theory as a theoretical framework in Library and Information Science research. *South African Journal of Libraries and Information Science*, 71(3), 211–224. <https://doi.org/10.7553/71-3-586>.
- Mondal, H., Mondal, S., Ghosal, T., & Mondal, S. (2018). Using Google forms for medical survey: A technical note. *International Journal of Clinical and Experimental Physiology*, 5(4), 216–218.

- Mojapelo, M., & Modiba, M. T. (2021). Expanding Roles and Services of Academic Libraries in Achieving Sustainable Development in South Africa. *Mousaion*, 39(1). <https://doi.org/10.25159/2663-659X/7383>
- Morehead, J. (2019). Information haves and have-nots: small thoughts on large themes. In L. S. Katz (Ed.), *New Technologies and Reference Services* (pp. 131-143). Routledge. <https://doi.org/10.4324/9781315865140>.
- Morgan, D. (2019). *Basic and advanced focus groups*. Los Angeles : SAGE Publications. <https://doi.org/10.4135/9781071814307>.
- Morris, P. L. (2017). *The sage encyclopaedia of communication research methods*, Vol. 4, SAGE Publications. <https://doi.org/10.4135/9781483381411>.
- Morris-Babb, M., & Henderson, S. (2012). An experiment in open-access textbook publishing: Changing the world one textbook at a time. *Journal of Scholarly Publishing*, 43(2), 148–155.
- Moruwawon, O. I. (2020). An Overview of Application of E-Resources as Strategies for Enhancing Effective Library Services in Academic Libraries. *Information and Knowledge Management*, 10 (2), 70–75.
- Mouton, J., & Valentine, A. (2017). The extent of South African authored articles in predatory journals. *South African Journal of Science*, 113(7-8), 1–9. <http://dx.doi.org/10.17159/sajs.2017/20170010>.
- Msezane, M. N., & Dlamini, P. (2021). Use of Electronic Resources by Postgraduate Students of Information Studies at the University of Zululand, South Africa. *Mousaion*, 39(2). <https://hdl.handle.net/10520/ejc-mousaion-v39-n2-a8>.
- National Research Foundation. (2015). Statement on Open Access to Research Publications from the National Research Foundation (NRF)-Funded Research. <http://www.nrf.ac.za/media-room/news/statement-open-access-research-publications-national-research-foundation-nrf-funded>.
- Neuman, W. L. (2006). *Social research methods: qualitative and quantitative approaches* (6th ed.). Pearson.

- Nightingale, A. J. (2020). Triangulation. *International Encyclopedia of Human Geography* (2nd ed., pp. 477–480). <https://doi.org/10.1016/B978-0-08-102295-5.10437-8>.
- Niu, X., Zhang, T., & Chen, H. L. (2014). Study of user search activities with two discovery tools at an academic library. *International journal of human-computer interaction*, 30(5), 422–433.
- Ocholla, D. N., & Ocholla, L. (2020). Readiness of academic libraries in South Africa to research, teaching and learning support in the Fourth Industrial Revolution. *Library Management*, 41(6/7), 355–368. <https://doi.org/10.1108/LM-04-2020-0067>.
- Okamoto, K. (2013). Making Higher Education More Affordable, One Course Reading at a Time: Academic Libraries as Key Advocates for Open Access Textbooks and Educational Resources. *Public Services Quarterly*, 9(4), 267–283. <https://doi.org/10.1080/15228959.2013.842397>.
- O’Leary, B., & Hawkins, K. (2019). *Exploring Open Access E-book*. Book Industry Study Group. <https://doi.org/10.17613/8rty-5628>.
- Ondari-Okemwa, E. (2007). Scholarly publishing in sub-Saharan Africa in the twenty-first century: Challenges and opportunities. *Public Knowledge Project: Selected papers from the Scholarly Publishing Conference* (pp. 11–13) July 2007. <https://doi.org/10.5210/fm.v12i10.1966>.
- Pajo, B. (2018). *Introduction to research methods : a hands-on approach*. SAGE Publications.
- Pastorino, R., Milovanovic, S., Stojanovic, J., Efremov, L., Amore, R., & Boccia, S. (2016). Quality assessment of studies published in open access and subscription journals: Results of a systematic evaluation. *PLoS ONE*, 11(5), 1–12. <https://doi.org/10.1371/journal.pone.0154217>.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.
- Pesch, O. (2008). Library standards and e-resource management: A survey of current initiatives and standards efforts. *The Serials Librarian*, 55(3), 481–486.

- Pessa, J.C. (2019). Marketing and Promotion of E-journal in Academic Libraries in Tanzania. *American Journal of Information Science and Technology*, 3(1), 10–16.
- Pickard, A. J. (2017). *Research methods in information* (2nd ed.). Facet Publishing.
- Polonsky, M. J., & Waller, D. S. (2019). *Qualitative Data Collection and Issues in Analysis*. SAGE Publications. <https://dx.doi.org/10.4135/9781544316499>.
- Price, A. C. (2022). Barriers to an inclusive academic library collection. *Collection and Curation*, 41(3), 97–100. <https://doi.org/10.1108/CC-05-2021-0018>.
- Price, P., Jhangiani, R., & Chiang, I. (2015). *Research Methods of Psychology* (2nd Canadian Ed.). Victoria, B.C.: BC campus. <https://opentextbc.ca/researchmethods/>.
- Prior, L. (2014). *Using documents in social research*. SAGE Publications.
- Puehringer, S., Rath, J., & Griesebner, T. (2021). The political economy of academic publishing: On the commodification of a public good. *PLoS ONE*, 16(6), 1–21. <https://doi.org/10.1371/journal.pone.0253226>.
- Raju, R., Raju, J., & Claassen, J. (2015). Open scholarship practices reshaping South Africa's scholarly publishing roadmap. *Publications*, 3(4), 263–284.
- Raju, R., Smith, I., Talliard, P., & Gibson, H. (2012). Open access: are we there yet? -the case of Stellenbosch University, South Africa. *South African Journal of Libraries and Information Science* (SAJLIS), Special launch issue. <https://sajlis.journals.ac.za/pub/article/view/29/29>.
- Ramli, R., & Kabli, O. (2014). To Get or Not to Get: The Kaust Library E-Resources Acquisition Experience. *IATUL Annual Conference Proceedings*, (35), 1–10 <http://hdl.handle.net/10754/320283>.
- Rhodes University. (2016). *Open Access Policy of Rhodes University*. https://www.ru.ac.za/media/rhodesuniversity/content/institutionalplanning/documents/OA_Policy_senate_2016.pdf.
- Rhodes University Library. (2011). *Collection Development & Management Policy and Guidelines*.

<https://www.ru.ac.za/media/rhodesuniversity/content/library/documents/colldevpolicy2011senate2.pdf>.

Robinson, K. M. (2017). Can we afford that? One library's transition to a data-rich acquisitions environment for E-Resource budgeting and forecasting. *Technical Services Quarterly*, 34(3), 257–267. <http://doi.org/10.1080/07317131.2017.1321377>.

Rogers, E.M. (2003). *Diffusion of Innovations* (5th ed.). The Free Press.

Rogers, E. M., & Scott, K. L. (1997). The Diffusion of Innovations Model and Outreach from the National Network of Libraries of Medicine to Native American Communities. *Draft paper prepared for the National Network of Libraries of Medicine*. Pacific Northwest Region: Seattle. <http://communitas.co.za/wp-content/uploads/2008/09/DiffusionofInnovationModelofChange.doc>.

Rosenstein, L. D. (2019). *Research design and analysis : A primer for the non-statistician*. John Wiley & Sons, Incorporated.

Ruel, E., Wagner III, W., & Gillespie, B. (2016). The quality of measurement: reliability and validity. In E. Ruel, W. Wagner III, & B. Gillespie (Eds.), *The practice of survey research* (pp. 78-100). SAGE Publications. <https://dx.doi.org/10.4135/9781483391700>

Saarti, J., & Tuominen, K. (2020). Openness, resource sharing and digitalization – an examination of the current trends in Finland. *Information Discovery and Delivery*, 49 (2). <https://doi.org/10.1108/IDD-01-2020-0006>.

Salubi, O., Ondari-Okemwa, E., & Nekhwevha, F. (2018). Utilisation of library information resources among generation Z students: Facts and fiction. *Publications*, 6(2), 1–12, <https://doi.org/10.3390/publications6020016>.

Satgoor, U. (2013). Chapter Six *it's not Business as Usual! CPD as a Change Imperative for LIS Professionals*, (p.44 – 53). <https://openbooks.uct.ac.za/uct/catalog/download/8/12/384?inline=1>.

Savova, M., & Price, J.S. (2019). Redesigning the Academic Library Materials Budget for the Digital Age: Applying the Power of Faceted Classification to Acquisitions Fund Management. *Library Resources & Technical Services*, 63(2), 131–142.

- Scientific Electronic Library Online (SciELO) SA. (2020). <http://www.scielo.org.za/>.
- Scott, R. E., Jallas, M., Murphy, J. A., Park, R., & Shelley, A. (2022). Assessing the Value of Course-Assigned E-Books. *Collection Management*, 47(4), 253-271. <https://doi.org/10.1080/01462679.2022.2068465>.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Serrano, A., & Fernandez, M. (2022). Impacts of COVID-19: Toward a Streaming-Preferred Video Collection Policy. *Collection Management*, 21(9). <http://doi.org/10.1080/01462679.2022.2124392>.
- Siddiqui, I. A. (2014). Changing role of academic librarians in open access environment. *International Research: Journal of Library & Information Science*, 4(4). <https://ssrn.com/abstract=2650947>.
- Smyth, J. (2016). Designing questions and questionnaires. In C. Wolf, D. Joye, T.W. Smith, & Y. Fu (Eds.), *The SAGE Handbook of survey Methodology* (pp. 218-235). SAGE Publications.
- Solomon, D.J., & Björk, B.C. (2012). A study of open access journals using article processing charges. *Journal of the American Society for Information Science and Technology*, 63(8), 1485–1495.
- South African Department of Science and Innovation. (2023). <https://www.dst.gov.za/index.php/media-room/latest-news/3857-survey-shows-that-high-proportion-of-r-d-funding-comes-from-government>.
- South African National Library and Information Consortium [SANLIC]. (2022). <https://sanlic.org.za/about/>.
- South African National Library and Information Consortium. (2023). *Read and publish (R&P) agreements negotiated by SANLIC*. <https://sanlic.org.za/for-researchers/>.
- Spence, W. R. (1994). *Innovation: The Communication of Change in Ideas, Practices and Products* (2nd ed.). Chapman & Hall.

- Stellenbosch University. (2015). *Policy on mandatory self-archiving of research output*. <http://library.sun.ac.za/SiteCollectionDocuments/services/self-archiving-policy.pdf>.
- Taherdoost, H. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), 10-38.
- Tlakula, T.P., & Fombad, M. (2017). The use of electronic resources by undergraduate students at the University of Venda, South Africa. *The Electronic Library*, 35 (5), 861–881. <https://doi.org/10.1108/EL-06-2016-0140>.
- Todorinova, L. & Wilkinson, Z.T., (2019). Closing the loop: Students, academic libraries, and textbook affordability. *The Journal of Academic Librarianship*, 45(3), 268-277.
- Toews, D. (2003). The New Tarde: Sociology after the end of the Social. *Theory Culture & Society*, 20 (5), 81–98.
- Trajkovski, V. (2022). Plan S the Present and Future of Open Access Publishing. *Journal for ReAttach Therapy and Developmental Diversities*, 4(2), 50–61. <https://dx.doi.org/10.2139/ssrn.4124649>.
- Tripathi, A., & Lal, J. (2016). *Library consortia: practical guide for library managers*. Cambridge, MA: Chandos Publishing.
- Trotter, H. (2018). Opportunities and obstacles for open education. *University World News: The global window on Higher Education*. <https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/57065/57113.pdf?sequence=1>.
- Turner, C.N. (2014). E-Resource Acquisitions in Academic Library Consortia. *Library Resources & Technical Services*, 58(1), 33–48. <https://doi.org/10.5860/lrts.58n1.33>.
- Ukachi, N. B. (2015). Information literacy of students as a correlate of their use of electronic resources in university libraries in Nigeria. *The Electronic Library*, 33(3), 486–501. <https://doi.org/10.1108/EL-05-2013-0085>.

- University of California. (2019). Negotiating with scholarly journal publishers: A toolkit from the University of California. *Publisher Strategy and Negotiation Task Force*. https://osc.universityofcalifornia.edu/wp-content/uploads/2019/06/UCNegotiationToolkitforTransformativeAgreements_May2019.pdf.
- University of the Western Cape. (2022). *Library Annual Report: Reimagining*. Library and Information Services. https://lib.uwc.ac.za/wp-content/uploads/2023/05/UWC_Library_Annual_Report_2022_final.pdf.
- University of the Western Cape. (2021). *Library Annual Report*. Library and Information Services. <https://lib.uwc.ac.za/wp-content/uploads/2022/05/UWC-Library-Annual-Report-2021.pdf>.
- University of the Western Cape. (2020). *Library Annual Report*. <https://lib.uwc.ac.za/wp-content/uploads/2022/03/UWC-Library-2020-Annual-Report.pdf>.
- University of the Western Cape. (2020). *Library Prospectus*. [Unpublished manuscript]. Library and Information Services.
- University of the Western Cape Policy Document. (2020). *Research Data Management Policy*. https://eresearch.uwc.ac.za/wp-content/uploads/2021/04/UWC-Research-Policy_Section-13-C2021.01_RDM-Policy.pdf.
- University of the Western Cape. (2019). *Library Annual Report*. Library and Information. <https://lib.uwc.ac.za/wp-content/uploads/2020/06/Library-Annual-Report-2019-compressed.pdf>.
- University of the Western Cape. (2019). *Policy on Research Policy Section 11: Open Access Publications Policy*. Library and Information Services. https://library-research.uwc.ac.za/wp-content/uploads/2022/03/UWC-Research-Policy_Section11_OPEN-ACCESS-POLICY_FINAL-20.11.19.pdf.
- University of the Western Cape. (2019). *University of the Western Cape Open Access Policy*. [Unpublished manuscript]. Library and Information Services

- University of the Western Cape. (2013). *e-Resources Policy Document*. [Unpublished manuscript]. Library and Information Services.
- University of the Western Cape Policy Document. (2013). *Guidelines Spending Learning Materials Budget by the Library*. [Unpublished manuscript]. Library and Information Services.
- University of the Western Cape. (2013). *UWC History*. [Unpublished manuscript]. Library and Information Services.
- Vargo, S., Akaka, M., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. *Journal of Business Research*, 116, 526–534. <https://doi.org/10.1016/j.jbusres.2020.01.038>.
- Verma, S. (2022). Use of E-Resources by the PG Students and Researcher Scholars of Arts Faculty, Rani Durgavati Vishwa Vidyalaya Jabalpur, MP: A study. *International Journal of Progressive Research in Science and Engineering*, 3(5), 288–294.
- Vilar, P., & Zabukovec, V. (2019). Research data management and research data literacy in Slovenian science. *Journal of Documentation*, 75(1), 24–43. <https://doi.org/10.1108/JD-03-2018-0042>.
- Walters, W. H. (2013). E-books in academic libraries: challenges for discovery and access. *Serials Review*, 39(2), 97–104.
- Wenzler, J. (2017). Scholarly communication and the dilemma of collective action: Why academic journals cost too much. *College and research libraries*, 78(2), 183–200. <https://doi.org/10.5860/crl.78.2.183>.
- Wertz, F. J., Charmaz, K., McMullen, L. M., Josselson, R., Anderson, R., & McSpadden, E. (2011). *Five Ways of Doing Qualitative Analysis*. Guilford.
- World Bank Annual Report. (2021). The State of Economic Inclusion Report 2021: The Potential to Scale. World Bank. <https://www.worldbank.org/en/topic/socialprotectionandjobs/publication/the-state-of-economic-inclusion-report-2021-the-potential-to-scale>.

Yin, R.K. (2017). *Case study research and applications: design and methods*. SAGE publications.

Zhang, Y., Downey, K., Urbano, C., & Klingler, T. (2014). Implementing Patron-Driven Acquisition (PDA) for E-book Acquisition that Fits Your Library. In *2014 ALA Annual Conference*, Las Vegas (Spain), 26 June - 1 July 2014. http://eprints.rclis.org/23532/1/ALA_2014-KSU_ebook_final.pdf.

Zinn, S. & Langdown, N. (2011). E-book usage amongst academic librarians in South Africa. *South African journal of libraries and information science*, 77(2), 104–115. <https://hdl.handle.net/10520/EJC61367>.



APPENDICES

APPENDIX A: INFORMED CONSENT LETTER FOR A QUESTIONNAIRE

Dear Participant

I am a graduate student at the Department of Library and Information Sciences in the Faculty of Arts under the supervision of Dr L. King. I am conducting a research study entitled **“Adoption of fully-fledged open access e-resources in academic libraries: A case study of the University of the Western Cape”**. The objective of this study is to examine the cost implications of acquiring electronic information resources. The main purpose is to encourage the easy accessibility of e-resources and knowledge sharing.

Your participation will involve answering questions surrounding e-resource acquisition and access, barriers to access, and advantages and disadvantages of using OA for the academic libraries in acquisition of electronic information resources, and this questionnaire should take only about **15 minutes** to answer. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time. The results of the research study may be published, but your name will not be used. Your identity will not be associated with your responses in any published format.

Findings of the study will be used as a source of information and will assist in guiding the management of e-resource budget allocation at the University of the Western Cape with no cost to you, other than the time it takes you to complete the survey.

If you have any questions about this research project, please feel free to contact the researcher on 082 072 0110 or at pearlvnd41@gmail.com or the UWC Research Office, at HSSREC, Research Development, on 021 9594111 or at research-ethics@uwc.ac.za.

Thanks for your consideration!

APPENDIX B: ETHICS CLEARANCE FROM UWC



UNIVERSITY of the
WESTERN CAPE



24 May 2021

Ms P Vanda
Library & Information Science
Faculty of Arts and Humanities

HSSREC Reference Number: HS19/7/8

Project Title: The cost of acquiring electronic information resources and its implications for academic libraries: A case study of the University of the Western Cape.

Approval Period: 26 November 2020 – 26 November 2023

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

The permission to conduct the study must be submitted to HSSREC for record keeping purposes.

The Committee must be informed of any serious adverse events and/or termination of the study.

A handwritten signature in black ink, appearing to read 'Patricia Josias'.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

NHREC Registration Number: HSSREC-130416-049

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

APPENDIX C: PERMISSION TO CONDUCT RESEARCH AT UWC

The University of the Western Cape is a Public Higher Education institution established and regulated by the Higher Education Act, No. 101 of 1997 (Republic of South Africa), with the language of instruction being English. The University is duly accredited by the Council on Higher Education and its degrees and diplomas are registered on the National Qualifications Framework in terms of the South African Qualifications Authority Act, No. 58 of 1995.



CONDUCTING RESEARCH AT THE UNIVERSITY OF THE WESTERN CAPE ANNEXURE AGREEMENT

Conditions to guide research conducted at the University of the Western Cape

ANNEXURE

CONDITIONS TO GUIDE RESEARCH CONDUCTED AT THE UNIVERSITY OF THE WESTERN CAPE

The onus rests on the researcher/investigator to observe and comply with the conditions set out below with the aim to conduct responsibly ethical research. Clarity must be sought from the authorising office should the interpretation of the conditions be unclear. University staff and offices may opt not to participate in any study should they feel it infringes on their own work or research.

1. ACCOUNTABILITY

- 1.1. The University reserves the right to audit the research practices of the researcher/investigator to assess compliance to the conditions of this agreement.
- 1.2. Data collection processes must not be adapted, changed or altered by the researcher/investigator without written notification issued to the authorising office.
- 1.3. The University reserves to right to cease research if any proposed change to the data collection process is found to be unethical or in contravention of this agreement.
- 1.4. Failure to comply with any one condition in this agreement may result in:
 - 1.4.1. Disciplinary action instituted against a researcher/investigator employed or registered at the University;
 - 1.4.2. The contravention reported to the organisation employing or registering the external researcher/ investigator.

2. GOVERNANCE

- 2.1. Approval to conduct research is governed by the Protection of Personal Information Act, No 4 of 2013, which regulates the entire information life cycle from collection, through use and storage and even the destruction of personal information and it is incumbent on the researcher/investigator to understand the implications of the legislation.
- 2.2. The researcher/investigator must employ the necessary measures to conduct research that is ethically and legally sound.

APPENDIX D: PERMISSION TO CONDUCT PRE-TESTING



INSTITUTIONAL PLANNING AND QUALITY ENHANCEMENT

MS PELISA VANDA

PERMISSION FOR MS PELISA VANDA TO CONDUCT A PRE-TESTING OF THE QUESTIONNAIRE FOR RESEARCH FOR HER MASTER STUDY ENTITLED "THE COST OF ACQUIRING ELECTRONIC INFORMATION RESOURCES AND ITS IMPLICATIONS FOR ACADEMIC LIBRARIES"

Dear Ms. Pelisa Vanda

This is to confirm that you have been granted permission to conduct a pre-testing of the questionnaire for research at the Central University of Technology for your master study entitled "the cost of acquiring electronic information resources and its implications for academic libraries"

The conditions of the conditional permission are:

- The pre-testing of the questionnaire will not interrupt any of the official activities at The Central University of Technology;
- You will supply us with the copy of your report;
- The cost of all related activities will be covered by yourself;
- Recruitment of participants is the sole responsibility of yourself;
- Voluntary nature of the potential participants decision to consent to participate should be strictly observed;
- You should not disclose a potential participant's decision to participate or otherwise to any other party;
- Permission does not compel, in any sense, participation of staff members or students in your survey;

Senior Director: Institutional Planning and Quality Enhancement

Mr. I. Mokhele

30/03/2021