



**PERFORMANCE EVALUATION OF SERVICE QUALITY AND USER SATISFACTION  
IN SELECTED ZIMBABWE UNIVERSITY LIBRARIES**

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Submitted: January 2024

## DECLARATION

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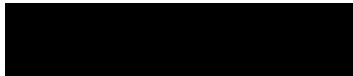
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## **ABSTRACT**

This study examines the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The study objectives were to establish reasons for the criticality of performance evaluation in university libraries, to identify the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction, to examine how the service quality of libraries is affected by technologies, to assess service quality characteristics that contribute to user satisfaction, and to evaluate the decline in the usage statistics of the selected university libraries. This study aimed to determine the centrality of the performance assessment of service quality and user satisfaction. The focus is on the selected institutions in Zimbabwe. The study further identifies the contextual areas affecting service quality, user satisfaction, and performance evaluation methods. It provides an opportunity to advance our knowledge of library operations and services, improve our understanding of user expectations, and enhance efficient service delivery. This is crucial in the Information Science fraternity in several ways. For instance, the theoretical perspectives of the study are intended to provide and contribute to the knowledge of performance evaluation of service quality and user satisfaction in university libraries in Zimbabwe. The study adopts the Expectation Confirmation Theory (ECT) as the theoretical lens to view the research hypotheses. It also uses a pragmatic paradigm to address the different research questions. The study also employs a combined quantitative and qualitative approach using a survey questionnaire, interviews, and observation for data collection. A survey questionnaire was administered to 1330 postgraduate library users, and semi-structured interviews were conducted with nine purposively selected library managers. Qualitative data were analysed using thematic analysis, while quantitative data were analysed using the statistical package for social science (SPSS) 2021 to generate descriptive and inferential statistics to actualise the study's objectives. The reliability and validity of the instruments were ascertained through test-retest reliability using Cronbach's alpha on 30 postgraduate students from a university that was not selected. A reliability analysis was conducted on an instrument comprising 43 items. The Cronbach's alpha showed that the questionnaire had acceptable reliability ( $\alpha = 0.852$ ). The study adhered to the ethical protocol of the University of KwaZulu-Natal. The study findings established that respondents strongly felt that performance evaluation, user feedback, and user suggestions of library services are more

critical to library performance and improving library services. The results revealed that library policies, procedures, and regulations affect most service quality and user satisfaction. The findings of this study showed that the use of computers has increased library performance. It was also found that physical library visits declined owing to the proliferation of technologies. The findings indicate that libraries have resources and facilities that meet users' needs. The library staff were highly commendable. The study concludes that variables such as performance evaluation, service quality, and user satisfaction contribute to library service quality. The study also concluded that university libraries that subscribe to local and international associations and organisations develop more in their management. The selected libraries can raise their standards by becoming members of local and international associations. It was concluded that the availability of electronic resources enhances research quality by supplementing hard copies. University libraries should invest in electronic resources and ensure that they subscribe to various of these resources to increase the accessibility of their collections. The study recommended that work on performance measurement and evaluation be performed regularly. Every academic library's measurement and evaluation team must suggest proper planning for conducting performance surveys. The study also recommends that specific standards be observed to allow university libraries to use different indicators and the revised standards procedures in their operations. There was a need for collaborative efforts through national associations (ZimLA), Zimbabwe Library Consortia, and other international associations (IFLA, AFLIA and American Library Association (ALA)). The study recommends that university libraries keep pace with the latest technological advancements. The study also recommends that library management create a section in the library dedicated to eliciting user needs. This study also recommends that library staff be trained and retrained on how to maintain library statistics. The findings, conclusions, and recommendations will help university libraries strengthen their systems and strategies for improving the provision of their services. More importantly, evidence-based modern benchmarking tools will usher in a new dimension of managing university libraries. The study proposes a more refined model and instrument for measuring the service quality and user satisfaction of libraries. Finally, this study has the potential to improve the user experience of university libraries.



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## **DEDICATION**

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

**ACBF:** African Capacity Building Foundation  
**ACRL:** Association of College and Research Libraries  
**AFLIA:** African Library and Information Associations and Institutions  
**AKU:** Aga Khan University  
**ALA:** American Library Association  
**ALIA:** Australian Library and Information Association  
**ALT:** Adaptation-level theory  
**AMQP:** Advanced Message Queuing  
**ARL:** Association of Research Libraries  
**BUSE:** Bindura University of Science and Education  
**BYD:** Bring Your Device  
**CCTV:** Closed-circuit television  
**CDT:** Cognitive dissonance theory  
**CES:** Customer Effort Score  
**CFA:** confirmatory factor analysis  
**CHS:** College of Health Sciences  
**CILIP:** Chartered Institute of Library and Information Professionals  
**Cipfa:** Chartered Institute of Public Finance and Accountancy  
**COVID-19:** Coronavirus disease  
**CPUT:** Cape Peninsula University of Technology  
**CS/D:** Customer Satisfaction and Dissatisfaction  
**CSAT:** Customer Satisfaction Rating  
**CSE:** customer service excellence  
**DDS:** Data Distribution Services  
**DEA:** Data Envelopment Analysis

**DRC:** Disability Resource Centre  
**DU:** Dhaka University  
**EBL:** Evidence-Based Librarianship  
**ECT:** Expectation Confirmation Theory  
**EDT:** Expectation Disconfirmation Theory  
**EFA:** Exploratory Factor Analysis  
**EIFL:** Electronic Information for Libraries  
**FA:** Factor Analysis  
**FUPRE:** Federal University of Petroleum Resources  
**GPA:** Grade Point Average  
**GUS:** General user surveys  
**HEDPERF:** Higher Education Performance  
**HEQAM:** Higher education quality assessment model  
**HEQC:** Higher Education Quality Criteria  
**HTML:** Hypertext markup language  
**ICAZ:** chartered institute of Zimbabwe  
**ICTs:** Information and Communication Technologies  
**IFLA:** International Federation of Library Associations and Institutions  
**ILL:** Interlibrary Loan  
**INASP:** International Network for the Availability of Scientific Publications  
**IoT:** Internet of Things  
**IR:** Institutional Repository  
**IS:** Information Systems  
**ISO:** International Standard Organisation  
**ISPs:** Internet Service Providers  
**IT:** Information technology  
**KMO:** Kaiser-Meyer-Olkin  
**KPIs:** Key Performance Indicators  
**LIBER:** Association of European Research Libraries  
**LIBI KIOSK:** Library kiosks  
**LibQUAL:** Library Quality

**LMS:** Library Management Systems  
**MIT:** Massachusetts Institute of Technology  
**MSU:** Midlands State University  
**NAAC:** National Accreditation and Assessment Council  
**NCC:** Nigerian Communication Commission  
**NITDA:** National Information Technology Development Agency  
**NPS:** Net promoter score  
**NUST:** National University of Science and Technology  
**ODLIS:** Online Dictionary of Library and Information Science  
**OPAC:** Open Public Access Catalogue  
**ORCID:** Open Researcher and Contributor Identifier  
**PCA:** Principal component analysis  
**PE:** Performance evaluation  
**PERI:** Programme for Enhancement of Research Information  
**PLA:** Public Library Associations  
**PLQIM:** Quality Improvement Matrix  
**QM:** Quality Management  
**QoS:** Quality of Services  
**RDS:** Research Data Services  
**SAZ:** Standard Association of Zimbabwe  
**SCESSICAL:** Standing Conference of Eastern, Central and Southern African Library and Information Associations  
**SCONUL:** The College, National and University Library Society  
**SEM:** Structural equation modelling  
**SERVPERF:** Service Performance  
**SERVQUAL:** Service Quality  
**SLIC:** Scottish Library and Information Council  
**SNS:** Social Networking Sites  
**SOPs:** Standard operating procedures  
**SPSS:** Statistical Package for the Social Sciences  
**SQ:** Service Quality

**T-CaST:** Theory Comparison and Selection Tool

**UGC:** University Grants Commission

**UKZN:** University of KwaZulu-Natal

**USA:** United States of America

**UX:** User experience

**WUA:** Women's University of Africa

**YMSU:** Yusuf Maitama Sule University

**ZIMCHE:** Zimbabwe Council for Higher Education Act

**ZimLA:** Zimbabwe Library Association

**ZULC:** Zimbabwe University Libraries Consortium

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Introduction**

This study investigated the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. This study focuses on postgraduate students and staff at four university libraries in Zimbabwe. This chapter outlines the study context by focusing on the following areas: introduction, purpose of the study, statement of the problem, objectives of the study, research questions, research hypothesis, limitations, and significance of the problem. The chapter discusses the theoretical framework and study methods and summarises the chapter. Contextual issues such as the study's variables and theories are discussed in detail in the following chapters.

### **1.2 Background to the study**

Service quality, user satisfaction, performance evaluation, and associated methods in multiple contexts are topical research issues. For instance, Vedung (2017) called for more research to understand citizens' perspectives on assessment and focus on relevant criteria of merit and performance measurement standards. Also, Gao, Edfors, Rusek and Tufvesson (2015) criticised the existing performance evaluation tools and methods commonly relied upon and called for them to be abandoned for substantive and statistical reasons. Similarly, the culture of conducting punitive performance evaluations often for career progression and staff promotion has not helped objectivity and the development of high standards for users of services such as the university library (Dabholkar, 2015). Consequently, existing service quality research has many weaknesses, such as originating from the service provider and overreliance on simple analytical tools such as cross-tabulations. The study variables are defined below to shed more light on and provide the research direction.

Ncwane (2016) states that library services are resources that are accessible to library users. These facilities include distribution or lending, index, online databases, online archives, Internet services, photocopying, and discussion rooms. The term performance evaluation refers to the methods and processes used by organisations to assess the level of performance of their services and employees. The process adds to the newly developed body of knowledge about library

service quality steps, usually including measuring service performance and providing feedback regarding performance level and quality (Trivedi and Bhatt, 2019). Furthermore, the performance evaluation process involves providing performance feedback to the evaluated services, enabling them to change their performance strategies to suit the desired results. Amin and Shoid (2017) argue that customer satisfaction is a result of the feedback process. Amin and Shoid (2017) state that user satisfaction can be based on how pleased library users are with the library's content and services. In addition, the library's customer satisfaction and service quality are linked to the user's actions and attitudes towards the library environment, collections, programmes, facilities, and personnel. Trivedi and Bhatt (2019) examine library service quality from the user's perspective and assesses users' expectations of library services.

.

Simply put, it is a disparity between users' expectations and perceptions of service efficiency at the library's level of service. The above explanations show that service quality is essential for closing the gap between customer expectations and usage. One can conclude that service quality focuses on the interaction between customers and service providers, and the gap or differences between expectations and perceptions of the services provided. This study revolves around the above variable to create new dimensions on the topic under review.

Meanwhile, leading professional bodies in the information science domain, such as the International Federation of Library Associations and Institutions (IFLA), the Association of College and Research Libraries (ACRL), and the Public Library Associations (PLA), have called for new initiatives to support the assessment and evaluation of work carried out by libraries (Matthews, 2017). Product or service quality is the sum of its features and characteristics, which influence its ability to meet specific needs (ISO, 2019). The Standard Association of Zimbabwe (SAZ), a quasi-government organisation affiliated with the International Standards Organisation, is in charge of Quality Management (QM) system accreditation, training, and auditing (Basera, Mwenge and Ruturi, 2019). According to the same scholars, there is no literature connection in Zimbabwe in the QM field. Appropriate library accreditation, training, and auditing that can improve library service utilisation are crucial to the quality of library services and customer satisfaction. As such, this research investigates the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction (Research Question 2).

Mohindra and Kumar (2015) define service quality as the degree to which a service meets customer expectations. Furthermore, service quality, its elements, and measurement scales are poorly understood (Kaura *et al.*, 2015). For this reason, Hussain, Al Nasser and Hussain (2015) approve of the use of dimensions such as reliability, responsiveness, communication, security, safety, assurance, and tangibility to measure service quality in the context of aviation and its users. Accordingly, due to the interdisciplinary nature of service quality and the need for originality, the current study brings insights (such as dimensions, indicators, measurement scales, and variables) from other knowledge domains into a study in Information Science to shed new light on an old issue (library performance).

Accordingly, Hussain, Al Nasser, and Hussain (2015) add texture to the study. Unfortunately, measuring e-service quality in information services centres, including libraries, is not well established, and ever-changing user expectations are poorly formulated (De Beer and Mushunje, 2020). The present study advances our understanding of service quality in the context of university libraries in the Zimbabwean landscape. In the case of user satisfaction research, there is a significant weakness in the lack of theories explaining their relationships with diverse scenarios (Montesdioca and Maçada, 2015). The current study promotes the use of an insightful theoretical perspective for new theoretical contributions to emerge (*Section 1.9 details the theoretical framework*). For instance, the inquiry probes the usefulness of university libraries based on user satisfaction and brand loyalty (by library users).

On the one hand, performance evaluation (PE) refers to the tools and procedures that companies use to determine the level of performance of their programmes and staff and provide input to them (Van Dijk and Schodl, 2015). User satisfaction, on the other hand, has been defined as meeting the needs and desires of users and making them feel satisfied with what the library has to offer. This study aimed to determine why performance evaluation is essential for the selected university libraries (Research Question 1) and which aspects of performance evaluation standards greatly influence service quality and user satisfaction. (Research question 2). Furthermore, this study investigated which service quality characteristics contribute to library user satisfaction (Research Question 4). In short, performance evaluation, service quality, user

satisfaction, and associated variables were used to frame the study. For example, map direction can generate new insights into university management portfolios, scholarships, and society on the best standards, designs, and service quality underpinnings. In addition, it is fundamental to investigate the relationship between the elements and variables of interest already mentioned in the environment of Zimbabwe university libraries.

Nkala and Ncube (2020) believe that higher education in Zimbabwe faces many challenges, including economic decline, hyperinflation, and quality assurance. The challenges highlighted above have affected the performance and operations of universities in Zimbabwe, including their libraries. Dwindling finances demand investment in performance evaluation and the promotion of service quality to drive positive user experiences. Similarly, Majoni (2014) emphasises that through the Zimbabwe Council for Higher Education Act of 2006 (ZIMCHE), the Government of Zimbabwe has established a body to monitor the quality of higher learning institutions. A study conducted on university students' low library usage showed that university students' use of library facilities and services is deficient (Ncube, 2015). The study recommended that the library must conduct regular user surveys to determine the changing needs of its patrons. This low usage was due to several factors, which are also examined in this study. Issues related to low library usage statistics are topical worldwide. For example, there was a decline in library user numbers and visits in the UK between 2010 and 2015 (Chartered Institute of Public Finance and Accountancy, 2016). Furthermore, American library usage is decreasing, and there is a downward drift of library users (Meyer, 2016). In developing African countries, the Internet has obscured library services (Asogwa, Ugwu, and Idoko, 2016). The overriding purpose of the study is to determine the centrality of the performance assessment of service quality and user satisfaction in the university libraries of Zimbabwe. The focus is on unravelling the reasons for the decline of physical visits to the library while usage of their digitally networked resources is soaring (Kyumana, 2021). This study further identified the contextual areas affecting service quality, user satisfaction, and performance evaluation methods. However, not all governments have effective and efficient evaluation procedures and quality promotion policies for their programmes outcomes. Few nations have well-established assessment systems for measuring educational outputs and outcomes, particularly in the industrialised world. However, it should be highlighted that the scope of evaluation in higher education, particularly in university libraries, is

not static and may need to adapt to the changing perspectives and demands of the sector (Ajjawi *et al.*, 2020).

University librarians in Zimbabwe face significant technological challenges and lack adequate funding while pursuing their desire to support their academic libraries (Mavodza, 2014; Mabweazara, 2018; Chisita and Fombad, 2020; Mavodza, 2022). The challenges mentioned lead to a huge compromise in quality and, as a result, affect library user presence. Providing quality services and satisfaction to library users increases library service uptake, thereby increasing user satisfaction and quality services. To provide resources to their students, most university libraries in Zimbabwe have subscribed to numerous online databases and other e-resources (Mawere and Sai, 2018). Zimbabwe University Libraries Consortium (ZULC) provides electronic library services to Zimbabwe university libraries. Through the Greenstone initiative, the ZULC consortium collaborated with the Electronic Information for Libraries (EIFL) organisation to help university libraries establish publicly available digital repositories in 2007. Through their initiative for the Enhancement of Research Information (PERI), the INASP implemented electronic services and funded several training programmes for librarians. In addition, the Institute of Commonwealth Universities (ICU) and Book Aid International provide all university libraries with current relevant printed books annually.

Furthermore, despite Zimbabwe's virtual library initiatives, several academic libraries have yet to develop online presents (Mavodza, 2014). The compromised library-quality services were due to the absence of a web presence. According to Chisita (2017a), academic libraries in Zimbabwe seem to be lagging in terms of shifts and uncertainties in the information technology environment, causing some quality processes to suffer. This is related to service quality and customer loyalty. In light of this, this study aimed to examine the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries.

Several tools are available to evaluate the quality of library services, including LibQUAL and SERVQUAL. LibQUAL is based on patron opinions and expectations regarding the services that libraries should offer. It assesses the quality of library services in three dimensions: the impact of four services, information control, and library as a space. It is a typical method for evaluating the



quality of library services. Tools like SERVQUAL are considered inadequate to measure service quality and user satisfaction (Shoeb and Ahmed, 2020). SERVQUAL is somewhat short-sighted in its outlook, and its applicability may cause issues in gauging service quality and customer satisfaction. Thus, it may be limited in practical usage (Shoeb and Ahmed, 2020; Kumar and Mahajan, 2019). Consequently, the above tool appears to be limited in measuring service quality and user satisfaction. Furthermore, its effectiveness has been overused and tends to be generic rather than context specific.

The SERVQUAL tool has several shortcomings. For example, it cannot exclusively cover online services, and this limitation encumbers the supply of certain information. Thus, the current study seeks to add value to our understanding of multidimensional methods for assessing efficiency and user satisfaction. This study may contribute to the development of a new instrument centred on the evaluation of academic libraries quality services and user satisfaction. For example, one university library created its instrument, while others relied on publicly available tools, such as LibQUAL and transformational MaCoTra. Tools such as SERVQUAL are considered inadequate for measuring service quality and user satisfaction; therefore, new tools should be developed (Shoeb and Ahmed, 2020). University library management should develop instruments according to their environment. This study proposes insights, components, and measures in developing an instrument that selected university libraries and others worldwide could use. *(See full details in Appendix 10: Proposed performance evaluation of quality and user satisfaction instrument).*

This research aims to use data collected in the context of Zimbabwe to shed new light and inform global knowledge on the theory and practice of service quality, user satisfaction, and performance evaluation. Even when similar studies have been conducted, we need to develop our understanding of the abovementioned issues because performance assessment research should be conducted periodically as libraries and users constantly evolve in every society. This study focuses on postgraduate students and Librarians (University and Deputy Librarians) at four university libraries in Zimbabwe. Full details of the selected universities and the procedure for their selection are presented in Chapter 4.

### **1.3 Purpose of the study**

This study aimed to determine the centrality of the performance assessment of service quality and user satisfaction in the university libraries of Zimbabwe. The focus was on selected institutions in Zimbabwe. This study further identified the contextual areas affecting service quality, user satisfaction, and performance evaluation methods.

### **1.4 Statement of the problem**

Performance evaluation is crucial for every organisation, and its evaluation and maintenance are the responsibility and task of its management. According to Rehman, Ur and Pervaiz (2007), university libraries in developing nations have shifted their focus from expanding collections to satisfying consumer demands. Libraries in advanced countries have moved away from inputs and outputs and towards result-based service quality evaluations through micro-institutions. Developing countries, such as Pakistan and many others in Africa, continue to face a shortage of support. Unlike developed countries, patronage feedback is rarely sought while planning present and future services in developing countries. In Pakistan, the quality of library facilities and user satisfaction are not evaluated regularly (Rehman, 2016 in Rehman, Ur and Pervaiz, 2007). The challenge in underdeveloped nations, such as Zimbabwe, is that their governments do not adequately support university libraries, which impacts service quality.

Studies in developed nations, such as the UK, were conducted by Gyau, Liu and Kwakye (2021); Afthanorhan, Awang, Rashid, Foziah, and Ghazali (2019); and Twum, Adams, Budu, and Budu (2022) to evaluate the quality of service in library environments using customer satisfaction and other marketing or company components. However, few studies have been conducted in Africa, particularly in Zimbabwe, on the relationship between customer satisfaction and service quality, testing the service quality dimensions on both service quality and customer satisfaction (Moyo and Ngwenya, 2018; Basera, Mwenge and Ruturi, 2019; Chabaya, Chadamoyo and Chiome 2011; Zikhali, Mukeredzi, Weda and Nyamayaro 2011). Even among those that used service quality dimensions to evaluate service quality and relate directly or indirectly to customer satisfaction, they used neither all nor some of the variables of SERVQUAL (Kuo, 2003). Moreover, our perception, knowledge, and understanding of the relationships among performance assessment, quality of service, customer satisfaction, and related methods need to be improved. Notably, the application of performance evaluation on the so-called extension of

the standards to integrate the digital age is flawed and not sufficiently robust, and this study will improve this integration. Even though many Zimbabwean academic institutions have prioritised the provision of e-libraries in their strategic plans, student adoption is still low. Bad marketing strategies, a shortage of resources among students, and exorbitant data charges by Internet Service Providers (ISPs) are all contributing factors this (Mawere and Sai, 2018). In addition, studies have shown a declining trend in the use and adoption of library services across libraries and a sharp increase in non-users of academic libraries (Kiilu and Otiike, 2016). With the advent of technology, research needs to focus on how it affects library service quality. The existing models are static and generic and have not been developed specifically for a specific environment. Consequently, SERVQUAL, LibQUAL, and SERVPREF are somewhat short-sighted in their outlook, and their applicability may cause issues in gauging service quality and customer satisfaction. Thus, their practical usage may be limited (Shoeb and Ahmed, 2020; Kumar and Mahajan, 2019). As a result, these tools appear to be limited in measuring service quality and user satisfaction. Moreover, their effectiveness has been overused and tends to be generic rather than context specific.

User satisfaction with the quality of the library is related to the behaviour and attitude of the user toward the library environment, library collections, library services, library facilities, and library staff. Various generations of library patrons that interact with the facility highlight different user preferences and behaviours. For instance, it is unexpected that categories of university library users, such as veterans, boomers, and Generation X, share exact user expectations. In the same way, it is fundamental to collect data from evolving millennials and Generation Z users of the library to analyse their satisfaction with library experiences (Chalomba, 2016). Developing a robust framework that is modern, efficient, diverse, and inclusive would be helpful. Therefore, this study investigated performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries to provide research solutions that could help improve the situation from practical, policy, infrastructural, and human resource perspectives.

### **1.5 Objectives of the study**

The main objective was to evaluate the performance evaluation of service quality and user satisfaction in the selected Zimbabwe university libraries. The following specific objectives were addressed.

1. Establish reasons for the criticality of performance evaluation in university libraries.
2. Identify the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction.
3. Examine how the service quality of libraries is affected by technologies.
4. Assess service quality characteristics that contribute to user satisfaction.
5. Evaluate the decline in the usage statistics of the selected university library.

### **1.6 Research questions**

This study focused on performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The specific questions are as follows.

1. Why is performance evaluation critical to the selected university library?
2. Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction?
3. How does technology affect service quality in university libraries?
4. Which service quality characteristics contribute to user satisfaction in libraries?
5. Why are library usage statistics declining in the selected university library?

### **1.7 Research hypotheses**

The following null hypotheses will be tested:

1. There is no significant relationship between performance evaluation and service quality characteristics and user satisfaction.
2. There is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty.

### **1.8 Significance of the study**

This study provides an opportunity to advance our knowledge of library operations and services, improve our understanding of user expectations, and enhance efficient service delivery. This is crucial in Information Science fraternity in several ways. For instance, the theoretical perspectives of the study are intended to provide and contribute to the knowledge of the performance evaluation of service quality and user satisfaction in university libraries in Zimbabwe. The ECT theory clarifies facts regarding the performance evaluation criteria, customer satisfaction metrics, and quality service standards. It also enables library managers to forecast what they should anticipate as they work to enhance service delivery. Innovative

theoretical lenses commonly used in other disciplines and business models are used to shed new light and guide research. The results of this study will aid Library and Information Science (LIS) practice. It will also help library managers with various intuitions for formulating and realigning their policies for enhanced service delivery. Through knowledge mobilisation, the performance evaluation of library services can affect university practitioners and policymakers. The impact can be attained through knowledge mobilisation by igniting changes through engagement and networking.

Furthermore, the study benefits universities in Zimbabwe, as the literature and findings will help strengthen systems and strategies for improving their services. More importantly, evidence-based modern benchmarking tools will be used in a new dimension of managing university libraries. Best practice standards may be established in university libraries to raise standards. Procedures, such as Standard Operating Procedures (SOPs), can assist university libraries in achieving their objectives and enhancing quality and user satisfaction. Finally, the study can potentially improve university library user experience and society. The goal of this research is to advance humanity. The readership becomes inquisitive, poses questions, and is involved in learning about and resolving issues impacting university libraries.

### **1.9 Theoretical framework**

Different theories have been expounded to unravel performance evaluation of service quality and user satisfaction in various organisations. The study adopts ECT as the theoretical lens to examine the relationship between the study hypothesis and objectives. The adoption of ECT was performed after subjecting several relevant theories to the procedures by Creswell (2021) on adopting a theoretical framework for research. In theory, the four primary constructs are expectation, performance, disconfirmation, and satisfaction (Jiang, 2009). The appropriateness of the model for the current study is based on the need for insights and new data. This theory has been applied in several scientific fields, including psychology, marketing, consumer behaviour, and information systems, to explain post-adoption satisfaction (Chalomba, 2016). This theory assumes that satisfaction is an outcome of service quality. Users have prior expectations of services. If they receive positive benefits, they are satisfied; if they receive adverse actions, they are dissatisfied. It also helps to improve the quality of services. This explanatory power allows

independent investigations to examine why clients are satisfied (or not) with a particular product or service. This study applies this theory to determine the relationships between the variables in the study, that is, performance evaluation, service quality, and user satisfaction, and to comprehend the aspects of performance evaluation standards that contribute the most to quality services and user satisfaction in Zimbabwe. While the theory has been used in other industries, it can also be used in libraries' service delivery, and the same process applies to answering "why" questions. Significantly, the theory explores why performance evaluation is critical and why library usage statistics are declining in selected universities. The approach will further test the relationship between high performance on service quality characteristics and user satisfaction, and between the following variables: user satisfaction, availability of technological tools, and library customer loyalty.

Table 1 below details how the constructs of ECT directly relate to the critical questions of the study.

**Table 1: Research questions and theoretical framework**

S/N	Research Questions	Constructs of the ECT
1.	Why is performance evaluation critical to the selected university library?	Expectation, performance
2.	Which aspects of performance evaluation standards contribute the most to quality services and user satisfaction?	Satisfaction, product quality
3.	How does technology affect service quality in university libraries?	Expectations, product quality
4.	Which service quality characteristics contribute to user satisfaction in libraries?	Expectation, satisfaction
5.	Why are library usage statistics declining in the selected university library?	Confirmation, disconfirmation

### **1.10 Methods**

This research uses the pragmatic paradigm. This worldview was used because it combines multiple methods to address different research questions (Wahyuni, 2012). The present study employs a combined quantitative and qualitative approach. Its use is expected to provide more evidence for studying research problems than quantitative or qualitative research alone (Creswell and Clark, 2007). This study used a survey design. The survey design is consistent with pragmatic research philosophy, which is pluralistic and allows for the application of combined methods. The target population in this study consisted of library patrons who were postgraduate students and a small sample of Librarians (University librarians and their Deputies) (for reasons of validation) at the selected universities in Zimbabwe. For the library staff, the research employed a census method which means that data was collected from all the Librarians (University and Deputy Librarians) of the library. Four universities were selected for this study. Purposive sampling based on a quantitative strand was used in this study. In purposive sampling, university libraries with specific characteristics or experiences were selected, focusing on a relatively small number of sites (Elder, 2009). The four universities were selected based on site performance, qualified subjects, and adequate resources (Harper, Zuckerman, and SHEP Cooperative Research Group, 2006). Another critical factor was the researcher's experience, qualifications, and research field. The sample was drawn from postgraduate students and Librarians (University librarians and their Deputies) from four selected universities in Zimbabwe. For the library staff, the research employed a census method which means that data was collected from all the Librarians (University and Deputy Librarians) of the selected university libraries. Quantitative data were collected through a closed-ended questionnaire, while qualitative data were collected through semi-structured interviews and observation (Ndenje-Schwilwe, Ngulube, and Stilwell, 2011). Qualitative data were designed considering themes, and reporting followed the same trend (Kvale, 1996). The study evaluated the following ethical issues: protection from harm, informed consent, privacy and confidentiality of research data, honesty, and accuracy in line with the ethical protocol at UKZN (Babbie and Mouton 2010; Cohen, Manion and Morrison 2000). Table 2 maps the research questions to the required research approach.

**Table 2: Research questions mapped onto quantitative and qualitative attributes**

S/N	Research Questions	Research approach
1.	Why is performance evaluation critical to the selected university library?	Quantitative and qualitative
2.	Which aspects of performance evaluation standards contribute the most to quality services and user satisfaction?	Quantitative
3.	How does technology affect service quality in university libraries?	Quantitative and qualitative
4.	Which service quality characteristics contribute to user satisfaction in libraries?	Quantitative
5.	Why are library usage statistics declining in the selected university library?	Qualitative

### **1.11 Limitations and delimitations of the study**

This study was conducted at selected university libraries in Zimbabwe. The results can only be generalised to universities. Public, special, and school libraries were excluded. The research population included University librarians, Deputy librarians, and postgraduate students from selected universities. The selection of university librarians and their deputies was based on their involvement in university managerial matters and their experience, mainly because the University Librarian is the chief policy and administration officer whereas Deputy Librarian is the chief operations officer. Postgraduate students have vast expertise in library use, spanning more than two years, in different environments. Such limitations imply that undergraduate students, other libraries, and university staff were left out. The problem arising from such selections is the limited data presentation from the university subjects. The use of librarians by the researcher could be affected by bias. The researcher, a librarian, was bound to interact with his peers, and discrimination issues cannot be exclusively ruled out, however, they were



minimised as per the approaches employed. For instance, the researcher had to use librarians from other institutions, leaving the university library to avoid such bias. While there was a need to observe scenarios in each case, the time to do so was limited. The researcher used assistants to shed more insight into other developments that might have been left out. The researcher used multiple research methods, such as observation, interviews, and questionnaires. As much as the uptake of performance evaluation studies of libraries in developed countries was high, Africa, particularly Zimbabwe, was presumed to be low. There is a need to develop performance evaluation models to create new dimensions for this study. This study was affected by COVID-19 restrictions. Libraries were closed during the COVID-19 pandemic. The UKZN ethics clearance department halted the data collection. As such, data collection was affected as it was moved to the time when University libraries were opened. Most of the postgraduate students (masters and PhD) were not full-time, and it was difficult to reach as many respondents as was planned. Besides, some respondents declined to respond to the four-point Likert Scale survey, claiming they did not understand its use in the subject of performance evaluation of library services. Also, there are some limitations to the combined research approach. The combined research method requires more time, effort, and money, as it includes two phases of research (Molina-Azorin, 2016). The researcher was, however, prepared for this and sourced research grants from his university. Conversely, the researcher used email and Survey Monkey to collect data from the postgraduate students online.

The study was limited to the university libraries of Zimbabwe. The study does not cover all academic libraries as it focuses on four selected libraries. The selected university libraries were located in different provinces, namely the Masvingo, Manicaland, Midlands, Matabeleland, and Mashonaland regions of Zimbabwe. The selected libraries included state universities and a private university. At the time of research, Zimbabwe had 18 officially recognised universities, 12 state-funded universities, and six private or religiously affiliated universities (<https://www.4icu.org/zw/>). The National University of Science and Technology (NUST), Midlands State University (MSU), Bindura University of Science and Education (BUSE), and Women's University of Africa (WUA) were selected for this study. The four universities were selected based on site performance, qualified subjects, and adequate resources (Harper, Zuckerman, and SHEP Cooperative Research Group, 2006). The study adopts ECT as the

theoretical lens to view the research hypotheses. The ECT theory has been found to be the most appropriate for this particular study, as it is directly related to the five objectives of the present study.

### **1.12 Definition of key terms**

**The following key terms and concepts relevant to the study were defined:**

**Performance evaluation:** performance evaluation is a structured and effective process used in academic libraries to assess the effectiveness of library services and products.

**Library performance:** It is a measure of a library's ability to satisfy the requirements and expectations of its postgraduate users.

**Service quality:** In this context service quality is an indicator of how well a library meets the requirements and expectations of its customers. Service quality is the extent to which library services satisfy or even surpass the expectations and needs of users. Numerous variables, including the service environment, service process, service result, and service interaction, can affect the quality of library services.

**User satisfaction:** User satisfaction measures how well a product or service meets a user's needs, expectations, and preferences. The university library's usability, usefulness, design, performance, support, and usage of library materials or services are used as measuring elements, which might have an impact on library performance.

**Expectations:** Expectations are university library users' firm views or hopes that the library will provide the expected service, or they will get what they desire.

**Library service:** These are academic library services offered by the library including circulation, reference, current awareness, interlibrary loans, photocopying/printing, orientation and information sessions, selective information dissemination, audio-visual services, and multimedia.

**Library standards:** These are a set of regulations, conditions, or standards that university libraries prescribe for cataloguing and classification; housekeeping issues; professional duty service delivery protocols; performance to be identified; library operations to be determined; library procedures to be defined; and measurements of quantity and quality to be used in describing materials, products, systems, services, or practices.

**Library best practices:** These are the practices that university libraries adhere to and are the best ways to perform their daily processes, functions, or activities that lead to superior performance. These pertain to daily routines such as housekeeping issues, cataloguing and

classification, circulation activities, photocopying, book binding, and other activities that are performed by librarians to improve university libraries' performance and efficiency.

**Usage Statistics:** Usage statistics deals with data collection, analysis, and presentation data (Mood, 2018). In this study, university libraries collected various statistics for planning, developing, and evaluating their services. Examples include circulation, visits, collection, acquisitions, electronic resource usage, reference/chat transactions, and library instruction sessions.

**COVID-19 pandemic:** The COVID-19 pandemic, also known as the coronavirus pandemic, is a global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

**Quality assurance:** Quality assurance is described as the systematic efforts taken by librarians to ensure that the products and services delivered to customers meet the contractual and other agreed-upon performance, design, reliability, and maintainability expectations of that customer.

### **1.13 Structure of thesis**

Chapter One examines the introduction and purpose of the study, statement of the problem, objectives of the study, research questions, research hypothesis, limitations and delimitations of the study, structure of theses, definition of terms, significance of the study, and the theoretical framework. It also provides an outline and summary of the research methods used in this study.

Chapter Two reviews the theories selected for this study. These theories include the Assimilation theory (Festinger, 1957), Contrast theory (Hovland, 1997), Assimilation-Contrast Theory (Anderson, 1973), Negativity Theory (Carl Smith, 1968), and Disconfirmation Theory (Oliver, 1981). Also, there is the Cognitive Dissonance Theory (1957), Adaptation Level Theory (1964) and Expectation Disconfirmation Theory (2014) as well as ECT (Spector, 1956). In the LIS domain, SERVQUAL, LibQUAL, and SERVPREF have been used as tools to measure library performance.

Chapter Three reviews the literature on performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The literature review is based on a vast number of sources. These include books, academic and professional journals, reports, theses and

dissertations, conference proceedings, unpublished manuscripts, and Internet sources. This chapter outlines the work done, gaps in the existing literature, and the study's contribution.

Chapter Four discusses the research methods used during the research process. This chapter examines the research paradigm, approach, research design, study population, sampling procedure, validity and reliability of instruments, data collection instruments, interview instruments, observation checklist, survey questions, data analysis, ethical issues, and the summary.

Chapter Five analyses and presents the data collected on performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. This study uses an explanatory sequential mixed method for data presentation and analysis.

Chapter six looked at the discussion of the findings. The discussion revolved around performance evaluation, user feedback, and user suggestions for library services that were critical to library performance and improving library services.

Chapter Seven provided a summary, conclusion, and recommendations for evaluating service quality performance and user satisfaction in selected Zimbabwe university libraries. This section presents a summary of all chapters of the study.

#### **1.14 Summary of chapter**

This chapter presents the case study by unpacking the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The research agenda was fuelled by the importance of encouraging a continuous performance evaluation process and its contribution to improvements in the management of university libraries. The research objectives focused on the performance evaluation of service quality and user satisfaction in the selected Zimbabwe university libraries. Service quality, user satisfaction, performance evaluation, and associated methods in multiple contexts are topical research issues. The study adopts ECT as the theoretical lens to examine the relationship between the study hypothesis and objectives. The adoption of ECT was performed after subjecting several relevant theories to the procedures of Creswell (2017) on adopting a theoretical framework for research. The current study provides

insights (such as dimensions, indicators, measurement scales, and variables) from other knowledge domains into Information Science to unpack issues on library performance. The following chapter discusses the theoretical framework underpinning this study.

## **CHAPTER TWO**

### **THEORETICAL FRAMEWORK**

#### **2.1 Introduction**

Research processes are anchored in the best theories. The importance of an approach lies in its ability to assist the researcher in identifying and organising the connections among various phenomena that may seem unrelated (Garner, Wagner and Kawulich, 2009). In this regard, theory should drive the research process from beginning to end, providing a framework for action and understanding. The same authors note that the theoretical framework comprises a theory's theoretical principles, constructs, concepts, and tenets (Grant and Osanloo, 2014). It connects all research aspects from the problem formulation to its conclusion (Lysaght, 2011). This study adopts ECT as the theoretical lens. The theory underpins the entire investigation: the research objectives and hypotheses. This research combines the theory selection criteria from Birken *et al.* (2018), Grant and Osanloo (2014), Ngulube, Mathipa and Gumbo (2015), Creswell and Creswell (2017; 2013), and Shoemaker, Tankard and Lasorsa (2004), who corroborated the criteria to be used for theory selection. They further agreed that a theory should be applied to various disciplines to cross-pollinate and generate ideas.

##### **2.1.1 Purpose of the theoretical frame**

Theoretical perspectives can enrich and enhance research (Cooper and Meadows, 2016). Wilson and Mclean (2011) note that theories generate new knowledge by focusing our thinking so that we notice unique aspects of nature. This approach enables a researcher to connect a single study to a broader knowledge base to which other researchers contribute (Berken *et al.*, 2017). A theoretical framework aims to make research findings more meaningful and acceptable to the theoretical constructs in the research field, ensuring generalisability (Akintonye, 2015; Adom *et al.*, 2016). Ngulube, Mathipa and Gumbo (2014) further argue, “Nothing can be studied empirically without the theory and research methods.” Kivunja (2018) opines that without having a theoretical basis, one cannot conduct a proper study; hence, it is important to decide on one. In other words, the theoretical framework must stem from the description of the issue, literature survey, methodology, presentation, and discussion, and the findings and conclusions

drawn from the analysis must correlate with every element of the research process. It is also helpful to find alternative theories that challenge the perspective adopted (Grant and Osanloo, 2014). Additionally, the theoretical framework should provide a reliable, descriptive ‘blueprint’ for the study. For instance, it should act as a guideline for research by providing steps to be followed by the research from introduction to the research conclusion.

Creswell and Creswell (2017) define a theory as a set of interrelated constructs, variables, definitions, and suggestions that provide a structured view of phenomena by defining variables' relationships to explain natural phenomena. Collins and Stockton (2018) view theory as the lens through which the researcher views the world. The theoretical framework is a ‘blueprint’ for the entire dissertation inquiry (Grant and Osanloo, 2015:3; Ngulube, Mathipa and Gumbo, 2014). Ngulube (2017) further holds that a theoretical perspective is the glue that holds together the components of social research. He also states that the theoretical perspective gives focus and direction to empirical studies and enhances the goals of the investigation. Mills and Birks (2014:260) posit that a theory is an "explanatory system consisting of a set of concepts related to each other through logical connectivity patterns." In this regard, the theoretical framework weaves all the research chapters into one logical presentation of facts and ideas.

Similarly, Babbie (2016) expounds that a theory provides logical explanations and directs researchers' flashlights in observing interesting patterns of social life. He further postulates that a theory answers the “What” or “Why” questions. An approach gives meaning to why people do what they do and explains why something happens and how events are coined (Ngulube, Mathipa and Gumbo, 2014; Abend, 2008). For instance, in this research, the theory attempts to explain why performance evaluation is critical to the selected university libraries and why there could be a decline in the use of library services. Similarly, Neuman (2011) notes that theoretical perspectives offer a direction for inquiry. Additionally, he conceives of theory as a systematic explanation of observations relating to particular life aspects.

According to Imeda (2014), the purpose of a theoretical framework is to help researchers see the main variables and concepts in a given study. For instance, expectations, performance, satisfaction, confirmation, and disconfirmation are some of the constructs discussed in this study. Further, the author recognises that a theoretical framework provides the researcher with a general approach, methodology, research design, target population and sample, data collection, and

analysis tools. The theoretical framework guides the collection, interpretation, and explanation of the data. Theories provide structures on how a researcher defines what knowledge is, how we can know it, what values go into knowing what we know, and the process of studying experiences (Grant and Osanloo, 2014). Ravitch and Carl (2016) concur that the theoretical framework assists researchers in situating and contextualising formal theories in their studies. A theoretical framework serves as the focus of this study and is linked to the research problem under investigation. It also directs the study design and data analysis strategy for researchers. In other words, a theoretical framework is the central aspect of research, and as such, it must be defined accordingly to connect all chapters. Expectation Confirmation Theory (ECT) was selected for this study as a more plausible theory based on the theory selection procedure in line with Creswell and Creswell (2017). Grant and Osanloo (2014) endorsed Creswell and Creswell (2017) by arguing that the chosen theoretical framework must emphasise the study's purpose and importance.

This chapter reviews the selected theories based on the adopted theory selection procedure before presenting the study's choice of theory(ies). The criterion for determining the theoretical framework aligns with Creswell and Creswell (2017) and Creswell (2021). Creswell and Creswell (2017) note that a theory's selection depends on its appropriateness, ease of application, and explanatory power. According to Ngulube, Mathipa and Gumbo (2015), a theory is chosen for its ability and elegance in explaining a social phenomenon (Vithal, Jansen and Jansen, 2013). Grant and Osanloo (2014) presented a checklist that can aid researchers in identifying a suitable theoretical framework for their research. The index considers the discipline to which the theory will be applied, the methodology plan for the study, the theoretical constructs and specific theoretical properties selected to meet the study objectives, and the survey's research questions (Adom, Dickson, *et al.*, 2016). A theory's consistency is measured by its explanatory ability, its predictive power, and its scale (the number of cases that they suit well) (Schoenfeld, 1998:4). For example, the theory selection procedure involved identifying related theories and subjecting them to additional criteria established by authors such as Birken *et al.* (2018) on a theory comparison and selection tool (T-CaST) to arrive at the selected theories. Birken *et al.* (2018) developed the Theory Comparison and Selection Tool (T-CaST) to help researchers and practitioners prefer an appropriate approach. The device consists of four criteria domains



(usability, testability, applicability, and familiarity) that are used to identify a possible theory for a research project. The T-CaST tool, in addition to the criteria of Creswell (2009, 2013), is suitable for this study because one theory would eventually be selected from a pool of approaches with some standard features.

### **2.1.2 Related theories**

Different theories have been extended to explain the performance evaluation of service quality and user satisfaction in various organisations. Some of these theories include the Assimilation theory (Festinger, 1957), Contrast theory (Hovland, 1997), Assimilation-Contrast Theory (Anderson, 1973), Negativity Theory (Carl Smith, 1968), and Disconfirmation Theory (Oliver, 1981). In addition, the Cognitive Dissonance Theory (1957), Adaptation-level theory (1964), Expectation Disconfirmation Theory (2014), and ECT (Spector, 1956). These theories have been applied in various disciplines and industries. For instance, the Assimilation theory (Festinger, 1957), Contrast theory (Hovland, 1997), Assimilation-Contrast Theory (Anderson, 1973), Negativity Theory (Carl Smith, 1968), Disconfirmation Theory (Oliver, 1981; Cognitive Dissonance Theory, 1957), and Adaptation Level Theory (1964) have been used in psychology and consumer satisfaction (Aigbavboa and Thwala, 2013; Isaac and Rusu, 2014). They were also used in service industries and in consumer behaviour (Kim 2011). However, some theories were reviewed in line with the theory selection criteria to develop a unified approach for the study. The current study adopts ECT as propounded by Spector in 1956.

According to Creswell (2016), the theoretical framework exposes the relationships between the variables under study. The organisation of this chapter is informed by Creswell and Creswell (2017) and is divided into sections. Section 2.1 introduces the chapter, and Section 2.2 presents an overview of related theoretical literature. The following sections critically review some related theories as part of the theory determination and selection procedure approved by Creswell and Creswell (2017) and Creswell (2014; 2016; 2021; Ngulube, Mathipa and Gumbo, 2015; Schoenfeld, 1998:4; Birken *et al.*, 2018; Shoemaker *et al.*, 2004 and Grant and Osanloo 2014). Consequently, Section 2:3 elaborates on the Assimilation theory, while Section 2:4 discusses Contrast Theories.

## **2.2 Overview of related theoretical literature**

Various theoretical approaches have been proposed for explaining the relationship between service quality and user satisfaction. Consistency theories suggest that when expectations and product performance do not match, consumers feel tension (Oliver, 1980). However, pressure must be relieved by adjusting the expectations or perceptions of the product's actual performance. Nine related theories were critically explored to explain the constructs, assumptions, variables, and underpinnings of this study's central theory. The subjection of these theories to a selection criterion is to help come out with a view that will answer the research questions, speak to constructs, and expound on study processes. Some theoretical approaches fall under the umbrella of theories of consistency (Peyton, Pitts and Kamery, 2003:42). These theories include the Assimilation theory (Festinger, 1957), Contrast theory (Hovland, 1997), Assimilation-Contrast Theory (Anderson, 1973), Negativity Theory (Carl Smith, 1968), Disconfirmation Theory (Oliver, 1981), Cognitive Dissonance Theory (1957). In addition, the Adaptation Level Theory (1964) and Expectation Disconfirmation Theory (1981) were reviewed.

In the field of Library and Information Science LibQUAL has been used as a tool to measure Library performance. LibQUAL+ was developed from the gap model SERVQUAL and is specifically for libraries. The fact that LibQUAL was created, tested, and validated in the US, which has a different environment and culture from most other parts of the world, has drawn criticism even though it has been used to collect data from more than 1.5 million library users from more than 1,200 institutions in about 26 different countries (Rehman, Kyrillidou and Hameed, 2014). From the foregoing developments it was deduced that LibQUAL is static and generic and was not developed for a specific environment. As a result, LibQUAL is somewhat short-sighted in its outlook, and its applicability may cause issues in gauging service quality and customer satisfaction. Thus, it may be limited in practical usage (Shoeb and Ahmed, 2020; Kumar and Mahajan, 2019).

For instance, the services offered at a library in the United States will differ from those in an African or Asian nation. As a result, numerous studies have examined the validity and reliability of LibQUAL in various settings. Despite the instrument being deemed appropriate in most countries, research in Pakistan discovered that one of the 22 elements was cross-loading and

was left out. Similarly, in a study conducted in South Africa by Moon (2007), several respondents reported that certain statements on the effect of service were imprecise and vague, necessitating a review of the tool to make it more appropriate for the South African setting. Despite being widely used around the globe, there is little data on LibQUAL's use and applicability in Africa and Zimbabwe in particular. Other than South Africa and Egypt, there are no other published studies of LibQUAL use in other African nations (Moon (2007). Consequently, the researcher proposed a domestic tool created in the context of the Zimbabwean environment for this research. See details of the *proposed performance evaluation of quality and user satisfaction instrument* in Appendices 10, page 327.

It is important to review related theories when one monolithic theory is inadequate to explain and describe a multi-faceted phenomenon. Two or more approaches may be used to study one phenomenon; therefore, the theories complement each other (Ngulube, Mathipa and Gumbo, 2015). Multiple approaches have provided varying perspectives on the same issue. Thus, each researcher must decide which lens to use or blueprint to follow to build an argument, establish the context of the problem, and explain the findings. The researcher must review related theories to justify the research questions, the problem, and the significance of the study and as a way to help determine the research design and analysis plan. Grant and Osanloo (2014) note that no theory best suits any research. However, it is the duty of the researcher to choose and provide a valid reason for theory selection to ensure that the theory conforms to and follows the purpose of the study structure, research questions, relevance, and design. Reviewing related theories allows researchers to choose the best theory for their study. The associated theories intersect with epistemological values and broaden the way of thinking about the concepts in this study. They apply answers to “how” the theory connects to the research problem, the study’s purpose, significance, and design. Rich approaches will offer both structures for the dissertation and concepts and meanings. This process will help focus on the study’s design and analysis plan to build the research (Osanloo, 2014; Ngulube, Mathipa and Gumbo, 2015). Overall, the adopted theory selection procedure demands that related theories be reviewed based on the associated criteria mentioned earlier.

### **2.2.1 Assimilation theory**

Festinger propounded the Assimilation theory in 1957. Generally, assimilation is adjusted according to the culture or state of adapted. Festinger's (1957) theory of dissonance forms the foundation of the Assimilation theory (Isac and Rusu, 2014). The theory of Assimilation states that users try to minimise the discrepancy between their expectations and service performance. In this case, library users will try to reduce the inconsistency between their expectations of library services and performance. According to Anderson (1973), consumers try to avoid dissonance by adjusting their perception of a particular product to bring it closer to their expectations. By receiving various kinds of product information from their experiences, associates, advertisements, and sales representatives, consumers turn them into understanding. They would like them to be consistent with each other. Library users may obtain different information on the services from library staff, academic staff, and students and form an understanding that will reduce dissonance. The constructs of this theory are expectations, performance, dissonance, and perceptions. The theory assumes that consumers are motivated to adjust their expectations and perceptions of product performance. If consumers change their expectations or perceptions of product performance, dissatisfaction will not result from the post-usage process (Peyton *et al.*, 2003). Some researchers have discovered that the control of product performance can lead to a positive relationship between expectations and satisfaction (Anderson, 1973). Dissatisfaction can occur unless the assessment process starts with customers' negative expectations. In reality, assimilation becomes possible by absorbing the negative expectations of users and turning them into positive ones.

Peyton *et al.* (2003) argue that Assimilation theory has several weaknesses. First, the strategy assumes that there is a correlation between expectations and satisfaction, but it does not explain how a discrepancy in aspirations will lead to fulfilment or discontent. Second, the theory claims that consumers are sufficiently driven to change their expectations or perceptions of a product's results. In this case, dissatisfaction could never occur unless the assessment processes began with negative consumer expectations. The testability and parsimony of this theory are unclear (Creswell and Creswell, 2017; Shoemaker *et al.*, 2004). Its applicability to various disciplines, settings, and populations is unclear, particularly in LIS. The theory lacks explanatory power/testability, for example, the ability to provide explanations of variables and generate

hypotheses that can be empirically tested (Birken, 2017). However, such theories are imperative to provide a historical basis for the study's theoretical foundation, as they cover relevant constructs. Reviewing this theory and subjecting it to the theory selection criteria critically examined the related approaches and developed an appropriate theory that speaks to the objectives, hypothesis, and the entire study.

### **2.2.2 Contrast theory**

Hovland, Harvey, and Sherif introduced the Contrast theory in 1957 (Peyton and Kamery, 2003). The Contrast theory states that when expectations are not matched by actual product performance, the disparity between perceptions and performance can lead the user to exaggerate or magnify the distinction. Cardozo (1965) claims that contrast theory presents an alternative view of the consumer post-usage evaluation process in contrast to the Assimilation theory, which presumes that post-usage assessment leads to findings regarding the influence of perceptions on satisfaction in opposite expectations. The constructs of the Contrast theory are expectations, product performance, satisfaction, and forecasting. The assumption is that a product or service is rejected if it does not produce the expected results. The Contrast theory argues that consumers exaggerate any contrast between expectation and product appraisal. The Contrast theory suggests that a surprise effect exists, leading to an exaggeration of the difference. Anderson (1994) further developed this theory into the Assimilation-Contrast Theory. If, for example, the library raises the expectations of its users during orientation, but the library clients' experience is slightly less than the expected level, the product/service would be rejected as very unsatisfactory. In the same vein, under-promising in library service marketing and over-delivery will also cause positive disconfirmation to be exaggerated (Vavra, 1997:44-60). While this theory can fit into other disciplines, including Library Science, empirical data cannot verify or support it (Birken, 2017). The theory is inappropriate, not easily applicable, and lacks explanatory power (Creswell, 2017; 2021). Moreover, it is extremely complicated. The theory does not relate to the variables of the current study, such as quality of services. Measuring Assimilation and Contrast theory results is impractical (Creswell, 2016; 2021). Moreover, Creswell and Creswell (2017) and Shoemaker *et al.* (2004) believe that the theory is complicated and that its predictive power is limited and cannot be used in this study.

### **2.2.3 Assimilation-Contrast Theory**

Anderson propounded the Assimilation-Contrast theory in 1973, according to Keller (2001). This theory combines two approaches, Assimilation and Contrast. Marketers have long been interested in understanding how consumers form their preferences and how brands affect their decision-making processes (Keller, 2001; Aaker, 1996). The theoretical constructs are product performance, disconfirmation, satisfaction, and expectations. This theory posits that satisfaction is a function of the magnitude of the discrepancy between the expected and perceived performance. In organisations, clients move within acceptance or rejection areas based on their perceptions.

On the one hand, the principle of Assimilation-Contrast implies that if the output is within the approval spectrum of a consumer, even if it may fall short of standards, the difference would be overlooked. Assimilation succeeds, and performance is considered appropriate (Vavra, 1997). On the other hand, if performance falls below the rejection range, the contrast will prevail, the difference will be exaggerated, and the service will be deemed unacceptable. If the difference between expectations and perceived product performance is acceptable to a customer, the customer would assimilate the perception towards their expectations. If the difference arising from an unmatched expectation exceeds the customer acceptance limit, the customer magnifies this difference (Anderson, 1973). This theory suggests that promotional activities can lift consumer standards to a level that would effectively place them below the level of rejection. Similarly, librarians should raise the service level by conducting promotional and orientation activities to enable users to adopt them.

A substantial difference between perceived output and expectations results in opposing outcomes, and the pattern of the customer increases the difference in perception. Concerning the difference perceived between expectations and the actual output of the product, assimilation or contrast occurs. This theory aims to highlight that both the Assimilation and Contrast theory frameworks are valid for studying customer satisfaction. This theory has been empirically tested. However, Oliver (1980) argues that there are perceptual differences between disconfirmation and satisfaction. In another development, the theory does not consider service quality, which is one of the hypotheses of the current study. Therefore, considering the selection criteria of Creswell

(2016:2021) and the checklist of Osanloo (2004), this theory was eliminated from this research because it does not fulfil the study objectives.

#### **2.2.4 Negativity theory**

Carlsmith and Aronson (1963) proposed the Negativity theory. Negativity theory, just as Assimilation, Contrast and Assimilation-Contrast theory do, has its foundations in the disconfirmation process. Anderson (1994) first introduced this theory to the consumer satisfaction literature. The elements of this theory include expectations, dissatisfaction, perceived performance, and customer emotions. Anderson (1973) posits that when consumers' expectations are strongly sustained, they will answer any information negatively (Olshavsky, and Miller, 1972; Peyton *et al.*, 2003:44). If the perceived performance falls below expectations or exceeds expectations, there will be a disappointment. In libraries, user statistics may decline if their expectations are not satisfied. Dissatisfaction affects library operations. The authors hypothesised that even a pleasant result would be perceived as unpleasant when customer expectations are set to receive an unpleasant one. Similarly, an undesirable effect would be perceived as more unpleasant under the same conditions. They asked their respondents to taste bitter and sweet solutions, manipulate their expectations regarding the tastes, and record their evaluations under various states. When a painful solution was expected and the sweet solution tasted, an unmatched expectancy resulted in a rating of less sweet, which would support ontrast theory. Carlsmith and Aronson (1963) explained this conflict by suggesting that an unprecedented expectation in consumers' emotions will result in an aversive negative state, which causes them to generalise this adverse effect to all other objects. The theory implies that any unmatched expectation, regardless of being exceeded or left short, would result in a lower perceived performance rating than actual or objective performance. According to Creswell (2016; 2021) and Shoemaker *et al.* (2004) criteria for consideration in evaluating theories, the opposing theory lacks testability, simplicity, explanatory power and predictive power. Additionally, the theory does not cover some of the fundamental variables in the present study, such as quality services and user satisfaction. This study cannot adopt this theory because of its limited scope.

### **2.2.5 Disconfirmation theory**

The Disconfirmation framework was compared based on the perceptions of clients and their perceived performance scores. The Disconfirmation Theory is a consumer satisfaction prediction. A person's expectations are validated when a product performs as expected. When a product performs worse than anticipated, expectations are verified negatively. Abolishment is positive when a product outperforms expectations (Churchill and Suprenant, 1982). In the university library scenario, library user statistics may decline when library services are disarrayed. The four constructs that define the conventional disconfirmation paradigm are expectations, performance, and satisfaction. More significantly, satisfaction is seen as the product of purchase and use, arising from comparing the anticipated benefits and incurred purchase costs by consumers regarding the expected consequences. When library users are satisfied, they will revisit the library, and when they are not happy, user numbers decline, and negative perceptions are drawn.

The Disconfirmation theory suggests that 'satisfaction is linked to the size and course of the experience of disconfirmation that arises as a result of the contrasting performance of service with expectations' (Vavra, 1997). In a meta-analysis, Szymanski and Henard discovered that the disconfirmation model is the best client satisfaction indicator. Ekinici and Sirakaya (2004) cite the updated concept of Oliver on the principle of disconfirmation, which notes that satisfaction is a guest's reaction to satisfaction. University library users react to library services and their judgement is informed by product quality. It is a decision that a function of the product or service, or the product or service itself, has given (or offers) a pleasant level of consumption-related fulfilment, including levels of under- or over-fulfilment (Ekinici and Sirakaya, 2004).

Mattila and O'Neill (2003) argue that Disconfirmation theory is among the most highly regarded satisfaction theories, which contends that satisfaction is linked to the magnitude and trajectory of the knowledge of disconfirmation that occurs due to contrasting service performance against expectations. Satisfaction is the outcome of direct contact with a product or service, which arises from contrasting experiences with a norm (e.g., expectations). Research often demonstrates that service delivery is more critical than the result of the service process, and disappointment with



the service always occurs when the guests' experiences do not meet their standards. University libraries should strive to improve their services in order to attract users.

In application, satisfaction is comparable to attitude because it can be measured as satisfaction with such product characteristics. The theory responds to almost all the objectives in this research but does not consider the quality aspect, which is one of the main areas in this study. Creswell (2016, 2021) notes that the selection of a theory should depend on its appropriateness, ease of application, and explanatory power. However, Disconfirmation theory lacks currency, and its applicability is incomplete as it answers only on the part of user satisfaction, leaving quality services and performance evaluation.

### **2.2.6 Cognitive dissonance theory**

According to McLeod (2018), cognitive dissonance refers to a situation involving conflicting attitudes, beliefs, or behaviours. Simply put, there is a lack of consensus. This is an unpleasant feeling triggered by two opposing views simultaneously. Cognitive dissonance causes a sense of mental distress that leads to a shift in one of the habits or values, a decrease in pain, and a return to equilibrium. For example, when students steal books from the library, but know that stealing results in one being arrested or suspended from the university, they are in a state of cognitive dissonance. It is more likely that students who know about the consequences of stealing from the library will avoid such behaviour. Festinger's (1957) cognitive dissonance theory suggests that individuals have an inner drive to hold all their attitudes and behaviour in harmony and to avoid disharmony (or dissonance). Furthermore, the theory proposes that people have a motivational drive to reduce dissonance by changing their attitudes, beliefs, and behaviours. The dissonance reduction pattern is known as cognitive continuity theory. Something must change if there is an inconsistency (dissonance) in attitudes or actions to remove the incoherence. According to Khan and Yuosf (2018), the Cognitive Dissonance theory has been used to analyse religious behaviour (Festinger, Carlsmith, 1964) and in curing phobias (Cooper, 1985), measuring safety regulations, social security, innovation, marketing, crime, and voting behaviour (Akerlof and Dickens, 1982). The use of this theory in various sectors and disciplines makes it acceptable across disciplines. Psychologists have used this approach in many areas of psychology, including the assessment of attitudes and prejudice (Leippe and Eisenstaedt, 1994), moral cognition (Tsang, 2002), decision-making (Akerlof and Dickens, 1982), happiness (Lyubomirsky and Ross, 1999), and therapy

(Axson, 1989). It is one of the most influential theories in social psychology regarding the study of attitudes and attitude-behaviour consistency. Cognitive dissonance theory is a well-established construct in consumer behaviour research.

This theory suggests that individuals have cognitive elements or knowledge about their past behaviour, beliefs, attitudes, and environment (Oshikawa, 1968). The variable explained by this theory is user satisfaction. The theory is directly related to Research Question 5 of the study in answering why there could be a decline in user statistics in selected libraries. Consumers continually receive product information from their experiences, associates, advertisements and sales representatives. Such experiences are welcomed in libraries through orientation and user education. These bits of information are cognitions that consumers prefer to be consistent with one another (Halloway, 1967). When people have two psychologically conflicting ideas, they attempt to reduce their mental discomfort by altering or distorting one or both cognitions. The stronger the cognitive dissonance, the more motivated they are to reduce it by changing the cognitive element (Brehm, Jack and Aurther, 1962). This theory comprises the following features/constructs: expectations, perceived performance, disconfirmation, and satisfaction. This theory was quickly adopted in the consumer behaviour industry to explain the discomfort buyers or clients are often subjected to after making a purchase or transaction. The theory implies that people have a motivational drive to minimise dissonance by modifying their behaviours and values or by justifying or rationalising them (Festinger 1957).

Research on cognitive dissonance has yielded both positive and negative findings. This weakness outweighs the strengths, making it unsuitable for this research. The theory is broadly applied and has the advantage of being empirically tested (Birken, 2017). However, from a theoretical point of view, there is a problem in that we do not physically detect cognitive dissonance; thus, we do not objectively measure behaviour. Consequently, cognitive dissonance is arbitrary (McLeod, 2018). Library users sometimes do not plan their activities, causing random choices and conflicts within themselves. There is still some reluctance regarding the word 'dissonance'. Is it a thought, perception, or thoughts about perception? The revision by Aronson of the notion of dissonance as an inconsistency between the self-concept of a person and the perception of their actions suggests that dissonance is nothing more than guilt.

In addition, as this theory forecasts, individual variations often exist in whether people behave or not. Highly anxious individuals were more likely to do so. Many individuals seem to be able to deal with substantial dissonance and do not encounter the stresses expected from the theory. Finally, many findings supporting cognitive dissonance theory have low explanatory power. There is doubt about how the research findings can be generalised to settings typical of everyday life. Most experiments used students as participants, which raises the issue of biased samples. From this standpoint, the results cannot be generalised. Measuring cognitive dissonance among library users is difficult. Cognitive Dissonance theory cannot be used in this research as it does not fulfil the theory selection criteria of Birken *et al.* (2018), Grant and Osanloo (2014), Ngulube, Mathipa, and Gumbo (2015), Creswell (2016; 2021), and Shoemaker *et al.* (2004). The theory does not meet the objectives of the study and the research questions of the survey (Adom, Yeboah, and Ankrah, 2016).

### **2.2.7 Adaptation-level theory**

Harry Helson propounded the Adaptation-Level theory in 1947. Bowling (2014) defines Adaptation-level theory (ALT) as the process by which a person becomes insensitive to the effects of constant stimuli. ALT is a psychological concept that explains that the basis of an individual's judgement of a particular result depends on their past experiences and recollections of encounters with similar stimuli. The constructs of the theory are judgement, knowledge, adoption, and inspiration. The assumption of this theory is that judgement is a result of experience. This approach was first used in psychophysics, then in behavioural psychology, and later in economics (Edwards, 2018). The theory is founded on the premise that people typically assess the services provided based on their interactions with recently offered services.

Henry's theory explains the relationship between an individual's experiences and present-day judgement. For instance, in library services, users reflect on their previous experiences and judge their present service. A person's past experiences and encounters linked to similar stimuli play a critical role in determining their adaptation-level when a similar situation occurs. This hypothesis relies on the assumption that the subjective judgement of a person is based on the prevailing norm (or adaptation-level) of a particular individual. The ALT is often expressed as a mathematical formula. Nevertheless, it can be used in other areas with little to do with

mathematics. For instance, an individual might consider a newly introduced library system to be much more effective because of its presentation, which might be relatively the same depending on his previous experiences. According to this theory, this judgement is an outcome of the combination of earlier experiences of the individual combined with the general service of the new library system. In this regard, as the newly introduced library system becomes more effective, the library user's perception of the new library system will also shift towards a more practical approach.

According to ALT, the degree of an individual's adaptation is regulated in the order of their relevance by measuring similar stimuli. In library service provisions, the adaptation-level principle of Henry implies that librarians should genuinely attempt to quantify the effect on their clients' subjective decisions that can be generated by the 'general expectations and adaptation levels. 'Understanding the influence of previous experiences on library clients' present evaluation provides library managers with better insights into their service delivery and helps them persuade, influence, or alter the client's judgement in their favour. The level of user understanding results in high adaptation levels among library users. While the theory can fit Shoemaker's *et al.* (2004) four selection criteria domains (usability, testability, applicability, and familiarity), it does not cover the study's other objectives. It cannot be used in this study. The theory lacks appropriateness and explanatory power (Creswell, 2016; 2021).

#### **2.2.8 Expectation disconfirmation theory**

Oliver (1980, 1997) conceptualised the Expectation Disconfirmation theory. Expectation Disconfirmation Theory (EDT) is famous for measuring satisfaction (Oliver, 1980). Hossain (2018) argues that the most popular and widely used model for studying customer satisfaction and dissatisfaction (CS/D) in the field of marketing is Oliver's (1980) Expectancy Disconfirmation theory. Disconfirmation is a customer's assessment of a product's performance regarding its expectations. EDT and Cognitive Dissonance theory (CDT) share common values in user satisfaction and quality of services. The standard approach to studying client satisfaction involves comparing prior customer expectations with observed performance (Elkhani and Bakri, 2014). Expectation and outcome performance are critical variables that can influence the judgement of satisfaction measures (Elkhani and Bakri, 2014). Customer satisfaction is a crucial

factor for predicting customer purchase tendencies. An organisation can adjust happiness by increasing perceived product performance or decreasing expectations based on EDT.

There are four essential constructs in Oliver's (1980) Expectation Disconfirmation model: expectation, performance, disconfirmation, and satisfaction. Customers can develop their expectations of product or service performance from various sources of communication. When customers' perceived performance of a specific product or service is better than their expectations or desires, positive disconfirmation will occur. Similarly, negative disconfirmation emerges when customers perceive the performance to be worse than what they expected or desired about the quality of a specific product or service. According to Yi (1990), positive disconfirmation leads to customer satisfaction, and negative disconfirmation means that the perceived performance of products or services might not attract customer satisfaction. EDT has been applied by many types of research in different fields for a better understanding of customers 'expectations' and the necessities for their satisfaction. These areas include marketing (Oliver, 1980a), tourism (Gotlieb, 1994), psychology (Bhattacharjee, 2001a), information technology (Khalifa, 2002), repurchase behaviour and retention (Picazo-Vela, 2009) and the airline industry (Chen, 2008 and Finn, Wang, and Frank, 2009). In another development, the EDT was used for evaluating Library Service Quality and User Satisfaction (Jayasundara, Ngulube, and Minishi-Majanja, 2009; Shi, Holahan, and Jurkat, 2004). EDT has been used in an integrated framework to simultaneously evaluate library service quality and satisfaction (Hossain, 2018).

Although EDT is still the most widely used model for studying customer satisfaction, its limitations have been criticised. In marketing, it was discovered that expectations might not always be the best pre-purchase standard to predict the influences on customers' evaluation of purchases. Researchers have identified alternatives. For example, desire as a pre-purchase standard has been reported to be a more powerful predictor than expected in certain purchasing situations (Spreng and Richard, 1993). When studying library user satisfaction, information needs may be a better pre-purchase standard for application in the disconfirmation model (Shi, Holahan and Jurkat, 2004). Other studies illustrate that the term 'expectation' is commonly used as a disconfirmation intermediary, based on which service quality and user satisfaction are judged.

Moreover, concerning the operational efficiency of the Expectancy Disconfirmation Theory and its revised edition in satisfaction measurement processes, the researcher opposes using expectation as a disconfirmation standard based on evidence from other researchers, such as Oliver (1980) and Patterson (1993). The above theory provides fertile ground for this study's chosen theory, as it resembles the Expectation Confirmation Theory, which will be reviewed in subsequent paragraphs. All overhead views were primarily drawn from consistency theories (Oliver, 1980). Their primary focus is user satisfaction, which is part of the study. The theories reviewed above do not apply to this study, because they do not match the selection criteria approved by (Creswell, 2016; 2017; 2021; Ngulube, Mathipa and Gumbo, 2015; Schoenfeld, 1998:4; Birken *et al.*, 2018; Shoemaker *et al.*, 2004 and, Grant and Osanloo, 2014).

### **2.2.9 Expectation confirmation theory**

This study adopts ECT as a theoretical lens to view the research hypotheses. The reviews of the previous theories were conducted in line with the adopted theory selection procedures (*see section 2:1*) that subjected related theories to selection criteria and considerations to contextualise the study and broaden its scope in coming up with a unified theory for the analysis. Furthermore, Grant and Osanloo (2014) argue that a theory should be able to provide explanations of variables and effects and generate hypotheses that can be empirically tested. For instance, the study hypothesised that there is no significant relationship between performance evaluation and service quality characteristics and user satisfaction, and that there is no meaningful relationship between user satisfaction, availability of technological tools, and library customer loyalty. According to Grant and Osanloo's (2014) checklist, which aids researchers in identifying the most suitable theoretical framework for their research inquiry, ECT theory has been found to be most appropriate for this particular study, as it is directly related to the five questions in the present study. The five research questions were as follows: (i) Why is performance evaluation critical to the selected university library? (ii) Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction? (iii) How does technology affect service quality in university libraries? (iv) Which service quality characteristics contribute to user satisfaction with libraries? (v) Why do library usage statistics decline in the selected university library? The researcher also claims that, since service

quality and satisfaction are treated as closely related constructs, both can be simultaneously evaluated at the same time using the same confirmation standard. Based on this premise, the present study integrates all models by which service quality and user satisfaction can be evaluated using a single structure (Hossain, 2018).

The appropriateness of the model for the current study is based on the need for insights and new data. Moreover, the theory has shed new light on the private sector, the corporate world, and industry-led contexts. Additionally, the core attributes of the theory are directly related to the research objectives in a way that informs and advances knowledge. Adopting a theoretical lens from a customer behaviour perspective is out of the quest to extend what we know and the need to transform research in higher education underpinned by interdisciplinarity, originality, and using a lens in another knowledge domain to inform Information and Library Science. This theory has been applied in several scientific fields, including psychology, marketing, consumer behaviour, and information systems, to explain post-adoption satisfaction (Chalomba, 2016). ECT has been used extensively in marketing to gauge consumer satisfaction and post-purchase behaviour (Susanto, Chang and Ha, 2016).

The theory is widely used in consumer behaviour literature to study consumer satisfaction, post-purchase behaviour, and service marketing in general (Oliver, 1980). Tri-Agif, Noorhidawati, and Ghalebandi (2016) note that ECT suggests that confirmation is based on the pre- and post-behaviour that influences continuation, intention, and satisfaction. The origin of ECT dates back several years. According to Joo and Choi (2015), ECT has been adopted and expanded across higher education institutions, including LIS (Oghenere, Ondari, and Nekhwevha, 2018) because of its parsimony and strong explanatory power (Hong *et al.*, 2006; McKinney *et al.*, 2002; Susarla *et al.*, 2003). The fact that ECT has been used in LIS, in many disciplines shows its popularity, acceptability, and perceptions of influence among a given group of scholars or reviewers. For example, it has been used to determine the continuance intention to use e-books among higher education students (Tri-Agif., Noorhidawati. and Ghalebandi, 2016). Also, it has also been used in Information Systems (IS) research to investigate the continued or long-term use of Information Technology products and services (Bhattacharjee, 2001a; Bhattacharjee and Premkumar, 2004; Chiu *et al.*, 2005).

Furthermore, it has also been used in IT continuance research (Islam, Mäntymäki, and Bhattacharjee, 2017) and later in future behaviour (Oliver, 1980). More importantly, ECT has penetrated the library and information science disciplines and has gained momentum in predicting library development. For instance, it has recently been used to investigate factors affecting students' continuance intention to use online resources in the context of academic libraries (Joo and Choi, 2015). ECT suggests that consumers' satisfaction with a product or service determines their repurchase intention. The above narration shows that ECT is applicable in various disciplines, settings, and populations, and is one of the criteria for theory selection. Additionally, it offers a rich source for generating hypotheses (Berken *et al.*, 2017).

According to Oliver's (1980) arguments, repurchase intentions greatly depend on prior satisfaction, while satisfaction is obtained from disconfirmation and expectation for the products or services, among which 'disconfirmation' has the most substantial direct influence upon satisfaction. ECT consists of five constructs: (i) expectation, (ii) performance, (iii) confirmation, (iv) satisfaction, and (v) repurchase intention. This indicates that expectations result in post-purchase satisfaction along with perceived performance (Jiang, 2009). The constructs directly relate to the research questions of this study. This study adopts ECT as a theoretical lens to view the research hypotheses. The appropriateness of the model for the current study is based on the need for insights and new data. This theory has also shed new light on appreciating the private sector, corporate world, and industry. In addition, the core attributes of the approach are directly related to the research objectives in a way that can inform and advance knowledge.

Moreover, this theory is unique and can be distinguished from other theories or frameworks. The adoption of a theoretical lens from a customer behaviour perspective is premised on the quest to extend what we know and on the need to transform research in higher education that is underpinned by interdisciplinarity, originality, and the use of a lens in another knowledge domain foreign to Information and Library Science (Miller and Pate, 2019). Library users in academic libraries go through four stages when evaluating library services. First, users form an initial expectation of a specific service before use. Second, they accepted and used this service. Following the initial application, library users form perceptions of library service performance.



Third, the participants evaluated their perceived performance. Fourth, they include gratification based on confirmation and expectation levels. Finally, gratified library clients form a repurchase intention, whereas dissatisfied users discontinue their subsequent use. Library management should invest in customer satisfaction to increase its clientele base (Anderson and Sullivan, 1993:160).

Recently, ECT has been used extensively in marketing to gauge consumer satisfaction and post-purchase behaviour (Susanto, Chang and Ha, 2016). The usefulness of ECT has been demonstrated over a wide range of product repurchase and service continuance contexts: automobile repurchases (Oliver, 1993), camcorder repurchases (Spreng *et al.*, 1996), institutional repurchase of photographic products (Dabholkar, Shepherd and Thorpe, 2000), restaurant services (Swan and Trawick, 1981) and professional business services (Patterson *et al.*, 1997). Consumer satisfaction is determined by initial expectations and confirmation (Islam, Mäntymäki and Bhattacharjee, 2017). According to ECT, buyers first develop expectations about a product or service before purchasing it. After purchasing a product or service, they assess its performance during actual use. This theory assumes that satisfaction is an outcome of service quality. Users have prior expectations of services. Confirmation may be positive if actual performance exceeds initial expectations, negative if performance falls short of expectations, and zero if expectations meet expectations (Churchill and Surprenant, 1982). Positive confirmation results in satisfaction and increases future repurchase intentions, while negative confirmation creates dissatisfaction that reduces or eliminates repurchase intentions. If users meet complementary services, they are gratified; if they meet adverse actions, they are dissatisfied. The application of the theory also helps improve quality services. The explanatory power available by the theory allows independent investigations by manipulating either of the components or formats to examine why clients are satisfied (or not satisfied) with a particular product or service. This study draws from this theory to determine the relationships between the variables in the study, that is, performance evaluation, service quality and user satisfaction, as well as to comprehend aspects of performance evaluation standards that contribute the most to quality services and user satisfaction in Zimbabwe. While the theory has been used in other industries, it can also be used in developing countries, such as Zimbabwe, to predict library development. The exact process applies to answering “why” questions. For instance, the current research questions (i) and (iv)

were answered. Significantly, the theory will enable an exploration of why performance evaluation is critical and why library usage statistics could decline in the selected universities. The theory will further help test the relationship between high-performance in-service quality characteristics and user satisfaction. The relationship between the following variables should also be harnessed: user satisfaction, availability of technological tools, and library customer loyalty. According to the theory selection checklist by Osanloo (2014), ECT can be applied in this study in accordance with the research methodology, and the constructs are sufficient to explain the variables under study (Osanloo, 2014). Despite its strengths, ECT has weaknesses. ECT focuses mainly on consumer repurchase intentions. It cannot capture the quality factors of library services. It needs to be altered in defining the subject, as ECT deals with consumers rather than the service (Bhattacharjee, 2001).

In this study, library user expectations represented their prospects for library services. A library patron will establish pre-ordained expectations of the library services offered. According to the ECT, perceptions based on the performance of a product are directly prejudiced by pre-use expectations and, consequently, directly affect confirmation or otherwise of opinions and post-use satisfaction with library information services. After using the library information resources, library clients can be confirmed or disconfirmed. In contrast to the initial expectations of the consumer, these evaluations or assumptions were made. A happy consumer will establish an intention to repurchase, whereas a dissatisfied consumer will cease to engage in subsequent use (Ratnasari and Sensuse, 2017). If a service or product beats the deeply held expectations of the customer, the confirmation is positive, which is theorised to improve the satisfaction with library information services after use. When the result varies from the user's initial expectations, the verification is malicious, which is expected to decrease the post-use or post-adoption satisfaction with library information services (Salubi, Ondari-Okemwa and Nekhwevha, 2018). Table 3 summarises the theories discussed above.

### **2.3 Chapter synthesis**

The entire chapter integrates analysis in the survey of theoretical literature using an integrated approach approved by Creswell (2007). The adopted approach involved critically analysing, summarising, and integrating the existing body of knowledge in theoretical literature in the study area. It provided a comprehensive understanding of the current state of relevant theory, identified

gaps or inconsistencies and contributed to the development of new theoretical insights and perspectives. Finally, Table 3 and other paragraphs signpost the analysis in further details. For example, Table 3: Summary of theories and section 2.3 Summary of Chapter, pages 40 to 43 synthesises the whole chapter.

**Table 3: Summary of theories**

<b>S/N</b>	<b>Origins</b>	<b>Assumptions /Arguments</b>	<b>Attributes/ constructs</b>	<b>strengths</b>	<b>Weaknesses</b>
1	Assimilation theory (Festinger, 1957).	Consumers are sufficiently driven to change their standards and perceptions of product efficiency.	Expectations, performance, dissonance and perceptions.	Give the history and base for the theory under study, mainly as it covers the same constructs.	It lacks explanatory power to explain variables (Birken, 2017).
2	Contrast theory (Hovland, 1997).	A product or service will be rejected if it does not produce the expected results.	Expectations, product performance, satisfaction and prediction.	The theory has the potential for further development to give further insight into the selected approach through its variables.	It cannot be verified and cannot be supported with empirical data (Birken, 2017).

3	Assimilation-Contrast theory (Anderson, 1973).	The promotional efforts should elevate the expectation of customers to such a level that it would successfully position below the level of rejection.	Product performance, disconfirmation, satisfaction, and expectations.	The theory was tested empirically (Oliver 1980).	The theory does not consider service quality, which is one of the hypothesised variables in this study.
4	Negativity theory (Carlsmith, 1968).	When standards are firmly maintained, customers will respond to any details negatively.	Expectations, dissatisfaction, perceived performance and customer emotions.	The theory shares constructs with other theories and can easily interact with different approaches.	The applicability of this theory to Library practice is questionable as it is difficult to measure. It's superfluous.
5	Disconfirmation theory (Oliver, 1981).	When a product performs above the expected levels, discontinuation is positive.	Expectations, performance, disconfirmation and satisfaction.	The theory does address the study's objectives in total and gives direction to the leading theory of the study.	The theory lacks currency, and its explanatory power is weak. It may be abstract Measuring disconfirmation .

6	Cognitive Dissonance theory (1957).	People have a motivational drive to reduce dissonance by changing their attitudes, beliefs, and behaviours.	Expectations, perceived performance, disconfirmation, and satisfaction.	The theory is broadly applied in many fields and has the advantage of being tested empirically (Birken 2017).	The theory is not generalisable to research findings and settings typical of everyday life.
7	Adaptation-level theory, (1964).	Judgement is a result of experience.	Judgement, experience, adoption and stimuli.	It can be used in other fields that have nothing to do with mathematics.	A.L. theory is a bit complicated since it is mainly used in mathematics.
8	Expectation disconfirmation theory (1980).	Customer satisfaction is one of the crucial factors in predicting customer purchase tendency.	Expectation, performance, disconfirmation and satisfaction.	The expectancy disconfirmation theory is the most widely used model for studying customer satisfaction.	ETD may not always be the best pre-purchase standard to predict the influences on the customers' evaluation of the purchases.

9	Expectation Confirmation theory (Oliver, 1980).	Satisfaction is an outcome of service quality.	Expectation, performance, confirmation, satisfaction and repurchase intention.	The theory is unique and can be distinguished from other theories or frameworks.	ECT mainly focuses on consumers' repurchase intention and cannot capture service quality factors.
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## 2.4 Summary of Chapter

This chapter reviews theories related to the study. Different approaches were reviewed based on the adopted theory selection plan to evaluate the performance evaluation of service quality and user satisfaction in selected university libraries. The ECT was selected for this study after all relevant theories were subjected to a rigorous selection procedure. The other views were subjected to a thorough review, and were eliminated based on the theory selection tool and their use, currency, and context specific to the field of study. ECT was deemed applicable as guided by (Creswell and Creswell, 2017; Creswell 2013; 2016; 2021; Ngulube, Mathipa and Gumbo, 2015; Schoenfeld, 1998:4; Birken *et al.*, 2018; Shoemaker *et al.*, 2004, Grant and Osanloo, 2014). The selection of ECT for this study was based on its appropriateness, ease of application, and explanatory power (Creswell and Creswell, 2017). According to Grant and Osanloo (2014), choosing a theoretical framework requires a deep and reflective understanding of the problem, purpose, importance, and research questions. ECT contextualises the research findings. The research hypothesis was tested, applied, and located within the established theory. The theories reviewed above were subjected to the selection criteria approved by (Creswell, 2021; Ngulube, Mathipa and Gumbo, 2015; Schoenfeld 1998:4 Birken *et al.*, 2018; Shoemaker *et al.*, 2004; Grant and Osanloo, 2014). The five constructs of ECT that dominated this chapter were expectation, performance, confirmation, satisfaction, and repurchase intention. The literature related to this study is reviewed in the next chapter.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This section reviews the literature on performance evaluation of service quality and user satisfaction in the selected Zimbabwe university libraries. Paul and Criado (2020) define literature review as a broad overview of previous research on a particular subject. A literature review in doctoral studies gives a theoretical basis for the research and helps to determine the nature of the survey (Ince, Hoadley, and Kirschner, 2020). Blaxter, Hughes and Tight (1996) define the literature review as a crucial summary and assessment of existing materials dealing with knowledge and understanding in a given field. Based on earlier definitions, the literature review calls for an acute and critical analysis of sources of information on a subject area. This provides a direction for the research under consideration. The literature review is based on a vast number of sources. These include books, academic and professional journals, reports, theses and dissertations, conference proceedings, unpublished manuscripts, and Internet sources.

##### **3.1.1 Purpose of literature review**

A literature review aims to understand existing studies and discussions related to a specific topic or field of research, and present that knowledge in the form of a written article. The function of the literature review is to classify, locate, and complement finished research work and other materials on specific research issues. This enables researchers to understand other research projects in the same area, narrow or explain the research issue, and discuss the research topic in a broader context (Snyder, 2019). Hart (2018) holds a similar view. He argues that the literature review helps separate what has been done from what needs to be done, discover essential variables related to the topic, synthesise, and obtain a new perspective. The current research concentrates on performance assessment, quality services, and customer satisfaction among other related variables. It also helps to recognise the relationship between ideas and practice. It establishes the context of the issue or question and rationalises the problem's significance and understanding of the subject's nature. It also links concepts and theory to applications, defines the critical methodologies and research techniques to be used, and places research in a historical context to show familiarity with state-of-the-art developments (Hart, 2018). A successful and well-managed analysis offers a solid basis for advancing expertise and facilitating theoretical

growth (Webster and Watson, 2002). The researcher reviewed the literature on the conceptual topic of the present study. The adopted approach helps to identify the relevant research and evolution of the concept of service quality and customer satisfaction, as well as trends in the evaluation of library users' preferences. Creswell (2021) suggests that the literature review should meet three criteria 'to present results of similar studies, to relate to the present study to ongoing dialogue in the literature, and to provide a framework for comparing the results of a study with other studies. The literature review describes key research patterns in addition to evaluating the overall strengths and shortcomings of existing research. The literature review aims to provide background information on the subject of the study to assess the significance of the subject. It also helps to demonstrate familiarity with the subject/problem and "carve out space" for more research that allows scholarly contact (Hart, 2018).

A literature review will precisely answer the research questions and conclusions by examining various sources and finding different viewpoints from several scientific studies. It can also help discover areas in which further research is required, which is a critical component of theoretical frameworks and conceptual model building (Snyder, 2019). Literature analysis is an analytical technique used to answer research questions and test research hypotheses by examining the relationship between two different variables; for example, in this study, to determine the relationship between service quality and user satisfaction in academic libraries. Literature reviews are paramount when forming a theory (Paul and Criado, 2020). This study's literature review provides a foundation for creating a new conceptual model or perspective. It can help map the evolution of a specific research area over time (Antons and Breidbach, 2018).

### **3.2 University library services**

Today, many university libraries worldwide are charged with better management of resources, offering improved services to their patrons, and determining how to enhance their organisations' service quality and performance level. University libraries have played a central role in the expansion of science and knowledge. Consequently, libraries try much harder to improve their client services. University libraries and information centres aim to respond to customers' needs (Mehrerjedi, 2017). Taiwo, Ayandare and Olusalo (2015) write that the library's primary function is to meet user satisfaction regarding library performance. The importance of quality service



delivery in multiple contexts and cultures cannot be overlooked. Currently, library service quality and user satisfaction are necessary to increase the effectiveness and efficiency of the library business. The university library provides services like books and other library material loans, interlibrary loans, and a reference desk (Kim, Wiggins, and Sadusky, 2019). Unique services, such as research assistance, citation consulting, subject guides, media services, workshops, and thesis format consulting, are available at some university libraries. According to Clink (2015), the library should be part of the university's effort to increase student engagement by addressing specific student needs. This can be accomplished by providing space, collections, and personnel to assist students in completing their degree programmes.

The needs of users and quality of information services in university libraries are constantly changing (Herman, Wimmer and Rebman, 2020). They further stated that library users' perceptions are the most overlooked factor in library management decisions. University libraries should be able to accommodate user information demands and preferences. Current facilities can be converted into e-services by using information and networking technologies. On the other hand, library professionals can recognise users' perspectives of certain services. This would aid in the creation and design of information systems and services (Herman, Wimmer and Rebman, 2020).

According to Rehman, Ur and Pervaiz (2007), university libraries in developing nations have shifted their focus from expanding collections to satisfying consumer demands. Libraries in advanced countries have moved away from inputs and outputs and toward result-based service quality evaluations through micro-institutions. Developing countries, such as Pakistan and many others in Africa, continue to face a shortage of support. Unlike developed countries, patronage feedback is rarely sought while planning current and future services in developing countries. In Pakistan, the quality of library facilities and user satisfaction are not evaluated regularly (Rehman, 2016 in Rehman, Ur and Pervaiz, 2007). The challenge in underdeveloped nations, such as Zimbabwe, is that their governments do not adequately support university libraries, which impacts service quality.

According to Kumar and Kasirao (2017), university library services worldwide vary from institution to institution. The shared services offered by universities are as follows: circulation service, Online Public Access Catalogue (OPAC) Service/Web OPAC, orientation programme for fresher, and E-Resource Retrieval Facility (Ncwane, 2016). Training and demo on e-resources retrieval, Content Page Alert service on Current Journals, Current Awareness Services of newly acquired books, and other resources (new arrival books and periodical and reference/information services). Additional benefits include reservation of book services, reprographic services, suggestions, and demand for book-ordered services. These services provide performance metrics including library user retention, service quality evaluation, and user satisfaction axioms. Sanitation in the library, sufficient ventilation and aeration, and general safety from potential threats, such as fire, are all part of library services (Musonda-Mubanga, and Chakanika, 2018). The current study examines relevant literature to assess university libraries' strengths and limits and provides library managers with opportunities to improve their libraries' performance.

### **3.2.1 University library service quality and standards**

University libraries are critical for delivering essential research, teaching, and learning services. One of the basic precepts of value strategies, according to Town (2016), is "quality is what the consumer says it is." Hermon and Altman (1998) also defined service quality as a reduction of the gap between user expectations and actual service delivery. The researchers concluded that the relationship between customers and service providers and the gap or disparity between expectations and perceptions of the services supplied determine service quality. This study focuses on performance evaluation, quality services, and user satisfaction variables to add new perspectives to the subject at hand.

According to Lewis and Little (2016), taking appropriate steps to respond to library quality, services, and standard findings is critical. University libraries have shifted their focus from input and output to a more in-depth understanding of client loyalty and service quality. However, it is essential to remember that input and output data are still required for additional high-quality research and benchmarking. User surveys and focus groups, for example, can help clarify customer expectations and concerns while providing success measures for current projects (Hiller and Belanger, 2016).

The research was conducted by Ahmada and Abawajyb (2014) to determine the effectiveness of the Quality of Services (QoS) on the dimensions of understanding the user's viewpoint. This study addressed the research question of digital service providers from a different perspective. Various models and mechanisms have been developed to evaluate the quality of the resources in digital libraries. This study proposed a new model suitable for assessing the efficiency of digital library services. The level of QoS provided by digital service providers directly influences the perception and satisfaction of end users of digital services.

Interestingly, research has centred on a new dimension in digital libraries. The technical fluency of university libraries can be improved only when management dissects and uses these dimensions. Digital library expansion is a field that requires more research, as new and ever-changing developments are emerging.

Reid (2020) researched the Scottish Library and Information Council to assess the old framework for quality standards in Scotland and to contribute to the development of a new structure. A systematic review gathered all reported quality assessments of Scottish public libraries using focus groups with heads of service and impact sessions with library personnel. The findings led to a new approach for assessing and analysing service quality and the value and effect of public libraries in Scotland. The Public Library Quality Improvement Matrix (PLQIM) was developed by the Scottish Library and Information Council (SLIC) in 2005–2006 as the first tailored quality criterion for public libraries in Scotland. The SLIC began to consider quality control, consistency, and improvement more seriously in the early 2000s. Most local Scottish authorities participated in at least one Quality Improvement Audit between 2007 and 2012, with others going through multiple measures and, in some circumstances, spanning multiple evaluation periods. University libraries in Zimbabwe might borrow the public library's function of determining consistency to concretise and foster library-quality systems. Consequently, the SLIC developed a model for self-evaluation and improvement (Reid, 2020). They were tasked with assessing the degree to which the quality metrics and rates were (a) reliable and relevant, and (b) requiring adjustment to reflect the change in the performance of library services seen in assessment reports so far. Reid (2020) says that the results showed that the PLQIM mechanism

had become more affluent, broader, and perhaps even more complex than the initial conception. Indeed, the process has been beneficial in helping library services to understand what constitutes 'adequate' performance. The self-evaluation of local authority library services strongly encouraged the importance of demonstrating value and impact, but this did not always provide justice to the process. The benefits of the service system as a method for benchmarking, performance management, service assessment, and progress planning are evident and unquestionable, among others. This research demonstrated both the value of providing a workable quality standards structure and the robustness of the original PLQIM. The current study encourages the development of a new approach for assessing and analysing service quality matrix in the context of Zimbabwe university libraries.

Waqar, Soroya and Malik (2015) investigates the quality and standards provided by front desk workers in medical school libraries in Lahore, Pakistan. They discovered that changes were needed in all five service quality categories, as expectations were more significant than impressions in all five areas. According to studies comparing the preferences of male and female library patrons, male patrons place more substantial value on staff attentiveness. In a related study, Mohamed, Seenath, and Sajna (2016) looked at the calibre of services offered by the Infonet Digital Library Consortium at the University of Calicut in India. They discovered that students' views were lower than their expectations and that the services of the University of Calicut did not fulfil their expectations. Quality services, user satisfaction, and standards are considered to be exclusively associated in studies so far; they are symbiotically related. It has been theorised that there is a link between user satisfaction and service quality.

Long and Saunders (2016) of the Department for Quality Assurance in the UK concluded that the quality of academic libraries in the United Kingdom heavily depends on the relationship between library staff, academics, a diverse range of students, and other professional support staff to manage libraries and associated resources effectively. Good university libraries provide services that enable learning and are supplemented by academic services that assist learners in developing academic skills. The relationships mentioned above illustrate the need to recognise the standards of academic libraries to include activities such as strategy and preparation, cooperation, customer

service, and management and leadership. Similarly, a review of library requirements aids quality and user satisfaction in university libraries worldwide (Kerr, Atkinson and Cooper, 2016).

Evaluating library service quality is vital for library management. The key objective of assessing service quality is to evaluate service efficiency, diagnose service issues, manage service delivery, and provide optimum services to all customers (Nor *et al.*, 2019). This is part of the feedback loop on how well the library operates. This assessment is more effective if it is conducted continuously to find ways to improve existing services or to determine if existing facilities should be discontinued (Mathews, 2018).

The staff at university libraries must take ownership of their collections. An appraisal philosophy must consider service quality when incorporating and engaging library personnel (Hiller and Belanger, 2016). According to these authors, attempts have been made at Washington University to foster an appraisal culture in which line managers and administrators prioritise evidentiary decision-making and user-centred emphasis. During a quality review at the Maynooth university library, all library personnel were allowed to participate in creating the self-assessment study. Fallon and Purcell (2016) support the preceding views by stating that library administrators should gain buy-in, and that involving staff in these processes, which they perceive to be separate from their daily operational concerns, can be challenging to achieve, especially when using business tools such as the balanced scorecard. In addition, well-developed methods for obtaining the necessary data for quality procedures must be implemented with well-defined library staff duties. In this study, library managers were encouraged to adopt performance evaluation systems to track staff involvement in quality and user engagement controls.

Mohindra and Kumar (2015) argue that university libraries would play a critical role in providing quality services to their clients in the age of the information revolution. In addition, they argued that, considering the complex nature of library services, it is imperative to know the preferences of users and their satisfaction with library services. An improved understanding of user needs, and satisfaction can lead to new insights into university libraries. They also noted that it is crucial to assess the quality of the library services offered and customer satisfaction, because the performance of any library depends on how well the services survive to satisfy the demands of

its users. They further described service quality by measuring how well the service corresponded to customer expectations. They contend that user satisfaction is linked to meeting the needs of users. In addition, they indicated that customer satisfaction with the services means that the library, as a service organisation, is effective in delivering high-quality services. Therefore, both service quality and customer satisfaction principles are closely connected and critical to every service organisation's success, including academic libraries. As a result, this study examines the relationship between user satisfaction and quality of services.

Ali, Zhou, Hussain, Nair and Ragavan (2016) conducted a study investigated the effect of Malaysian public universities' service quality on international student satisfaction, institutional image, and loyalty. The findings of this study shed light on how service quality affects student satisfaction, and how student satisfaction affects institutional vision and student loyalty. While Ali *et al.* (2016) do not look at university libraries, the insights from these findings can help Zimbabwean library managers improve the quality of service they provide, enhance student satisfaction and loyalty, and strengthen the image of universities in the African continent.

Fonia and Srivastava (2017) held that service quality is evaluated using what customers expect from the services delivered. They further state that service researchers emphasise the importance of studying customer-perceived quality, since customers are the only ones entitled to decide what quality is. Service quality is evaluated by comparing customer expectations with the service delivered. Assessing service quality in libraries is an essential part of library management. It is a feedback loop component of how well the library is performing. Such an evaluation criterion also contributes to the development of best practices in librarianship where standards are critical.

Einasto (2017) present a tool to assess the quality of e-services in academic libraries. Based on a theoretical study of current (e-) quality service models, the eUTLib performance instrument was used (Einasto, 2017). The study was conducted at the library of the University of Tartu in Estonia to determine their suitability in academic libraries, as well as the findings of qualitative and quantitative studies. This research shows how academic libraries can use an e-service quality assessment tool based on the tolerance zone principle and a compelling performance mapping method. The recommended aspect of quality analysis enables the collection of information

needed to focus strategic planning on important programmes to users and to efficiently distribute the library's resources. This study proposes an alternative method and evaluation scale to measure the e-service efficiency of academic libraries. Although published research on the quality of academic library e-services has increased, it has primarily focused on user preferences. This study is one of the few to investigate the quality of library e-services based on user expectations and the parameters that users consider relevant to quality assessment. The findings of this study can be used to provide guidelines and baselines to Zimbabwe university libraries in their efforts to improve user satisfaction and quality services.

Assessing the consistency of the service helps in planning and optimising the performance of organisational functions. University libraries are essential because they are considered hubs in which country-specific information is provided. Iranian universities are working to improve the efficiency of their library services (Ramezani, Ghazimirsaeed, Azadeh, Bandboni and YektaKooshali, 2017). Zimbabwean university libraries can use the same scale to assess their level of user satisfaction.

### **3.2.2 Higher education library services**

The higher education sector has been growing; globally, it has become a fully-fledged service industry. Higher education institutions are increasingly recognised as part of the service industry (Galeeva, 2016). Similarly, the growing competition to increase enrolment figures has enforced the need to adopt a student as a customer's approach to delivering education (Yildiz and Kara, 2015). More importantly, universities and the education sector must evaluate service performance regularly to manage and improve service quality and user satisfaction. The fundamental nature of the study area in the Library and Information Science field is demonstrated by the sub-disciplinary focus of user studies, user acceptance, user surveys, domain analysis, performance evaluation techniques, and process and service quality (SQ). Ultimately, the aims are to evolve new ideas and insights, improve academics' user experiences of library services, and advance global knowledge.

Tanveer, Karim and Mahbub (2018) argue that higher education is mainly based on teaching, learning, and research on the contributions of knowledge to societal development. According to Amin *et al.* (2017), facilities such as libraries, textbooks, learning and living environments, and

other equipment that support the teaching and learning processes are essential for achieving educational quality. Educational providers must ensure that these facilities are adequate and dependable to meet students' needs. Knowledge is primarily created and communicated through teaching and research. University libraries are integral to teaching and research. Education and study depend on the library, and achievements in teaching and research are impossible without the library (Ranganathan, 2012). For instance, in the Middle East, the government of the Kingdom of Saudi Arabia exerts much effort to achieve a highly recognised education level by maintaining and improving Higher Education Quality Criteria (HEQC). HEQC was introduced because of the rapidly growing demand for higher education quality in developing countries (Noaman, 2017). Libraries are no exception to this development because they are regarded as the heart of universities in providing information for their academic activities. In a highly competitive academic environment, students are becoming more selective and demanding of their choice of university. Hence, it is essential for educational institutions to be interested in receiving feedback on the quality of their facilities and services (Oluwunmi, Durodola and Ajayi, 2016). With library services contributing to the growth of universities, performance evaluation of service quality and user satisfaction becomes necessary.

Noaman *et al.* (2017) studied library services using the higher education quality assessment model (HEQAM) in Saudi Arabia. The model includes e-services criteria, a modern university component. The study concludes that the HEQAM model is flexible and can be applied to many universities in developing countries. This study is significant to the current research as it looks at the higher education aspect that covers the library component. Libraries should take a leaf from these developments and conduct micro-research on performance evaluation of quality and user satisfaction in libraries. This area has not received much attention thus far. However, the study was limited in that its data collection focused solely on students and excluded staff members at the university.

On the other hand, Kumar and Mahajan (2019) see the university library as offering a range of services to fulfil the needs of the academic community. As a service provider, its performance evaluation is critical for determining whether a library meets its specific objectives and justifies its spending. Library users are said to be satisfied when the quality of services matches the



expected level. Libraries in Zimbabwe should apply performance assessment criteria and guidelines to check for competition from other information service providers to perform similarly in service delivery.

University libraries can better survive and attract stakeholders by delivering efficient and effective services to their users in an age of commodification of higher learning services and intense global competition. In the past few decades, university libraries have been under pressure due to social and economic changes, a vaporous technological environment, reduced funds, increasing user demands, an increase in audit culture, and peer comparisons. For these reasons, university authorities have been forced to assess library service quality (Kumar and Mahajan, 2019). A high quality of service and customer satisfaction should be the ultimate goal of any library, irrespective of its type and nature. Customers are central to any service organisation, and their viewpoint is fundamental for assessing quality in academic libraries.

To improve the quality of services, university libraries must first understand their customers' prime needs and demands. Library managers must recognise that those days had passed when library quality was measured in terms of several actual library transactions, the total collection held, the amount of budget allocated, and staff strength. Such methods are now old-fashioned and based on statistics alone; the assessment of the quality of a library is inappropriate (Nitecki, 1996; Hariri and Afnani, 2008). Therefore, the performance of a library should be assessed in terms of collection, staff, services, physical space, and facilities (Afthanorhan, Awang, Rashid, Foziah and Ghazali, 2019). Library Service Quality Assessment helps ascertain total quality in terms of resources and services and thus maximises the utilisation of products and services offered by them (Kumar and Mahajan, 2019). Moreover, such a customer-based assessment can serve as a planning tool by providing valuable feedback and necessary information to identify the strengths and weaknesses of libraries and information. In addition, service quality assessments empower librarians as well as patrons and thus result in a better relationship.

### **3.2.3 University library services internationally**

The technological era's transformation of library facilities has created a once-in-a-lifetime opportunity for academic libraries to reinvent themselves in response to new demands for electronic science research communication emerging in the scientific communities that

university libraries serve. According to Tenopir *et al.* (2017), e-science work has been implemented in European university libraries to create a comprehensive road map for sharing, storing, accessing, and utilising library resources. Such outcomes would propel selected university libraries in Zimbabwe to collaborate and share resources, while reducing costs.

Abdallah and Bilal (2015) believe that numerous studies and reports have been published on evaluating library service quality in the United States of America (USA) and other Western countries in the past ten years. A study by Veena and Kotari (2016) in the Sri Dharmasthala Manjunatheshwara College (SDM) e-library, Ujire, India, revealed that most students were satisfied with the textbook collection, circulation services, and library space. Furthermore, the authors recommended that the library organise user orientation or awareness programmes at the commencement of every educational session. This schedule will help learners and research scholars effectively use library resources. Similarly, according to Khan, Ali and Kumar (2019), in Middle Eastern countries, external auditors consider the satisfaction of library users and other services provided by university libraries to be a key factor in quality audits and accreditation processes. University libraries in Zimbabwe must use these audit metrics and studies to investigate the importance of service quality in other countries and to improve their library management style. In Iran, universities aim to increase the quality of their library services, assess the quality of facilities, and be mindful of the differences in user preferences. Measuring service quality offers details needed to recognise the strengths and disadvantages of library programmes. The Iranian university assessment, therefore, provides an incentive for strategic planning and enhancement of the quality of different areas of information-related services (YektaKooshali, *et al.*, 2018). Insights from these experiences will help university libraries improve their services and performance evaluation tools. University libraries in Zimbabwe can use such assessments to strengthen their services and user satisfaction metrics, and attract users to their libraries.

Kumar and Kasirao (2017) analyse the use of resource centre materials, user satisfaction with library resources services, and the information-seeking behaviour of students, faculty members, and non-teaching staff of the Great Lakes Institute Management in India. The results showed that libraries played a pivotal role in meeting the demands of library users. However, there is a need for guidance to help users meet their information needs. While these studies on user satisfaction

used library users as subjects in information gathering, they did not involve library staff, who are stakeholders, and could add value to their findings. The current study includes library staff.

Mohindra and Kumar (2015) surveyed India to assess the library quality associated with user satisfaction with the AC Joshi library. A modified SERVQUAL instrument was used to examine items related to different library service attributes. The model was primarily used in New Zealand and US libraries (Hernon and Altman, 1998). SERVQUAL was developed from five dimensions: assurance – employees' knowledge and courtesy and ability to convey trust and confidence; empathy – caring and individual attention given to customers. Reliability is the ability to perform the promised service dependably and accurately; responsiveness is the willingness to help customers and provide prompt service; and tangibles are the appearance of physical facilities, equipment, personnel, and written materials (Hamzah, Lee and Moghavvemi, 2017). It was found that library environment and services significantly predicted user satisfaction. This study is critical to libraries in developing countries because the tool has been tested and widely used. However, the SERVQUAL tool has some shortcomings. For example, they cannot exclusively cover online services, and this limitation encumbers the supply of certain information. Thus, the current study adds to our understanding of multidimensional methods for assessing efficiency and user satisfaction. This study contributes to the development of a new paradigm/model centred on the evaluation of customer services.

Research Data Services (RDS) are now available in many academic libraries in North America and Europe. According to surveys conducted in North America, many larger organisations offer various forms of RDS (Tenopir *et al.*, 2015b). Libraries' research data resources vary by developing and maintaining institutional data repositories, providing data mining and visualisation software, and training data management researchers. They also offer advice on institutional policies; help develop data management strategies and metadata for datasets and help with intellectual property management. The information gathered from the survey allows for the identification of areas that require improvement. It has also been used to consider best practices and reallocate resources as necessary (Hakala and Nygren, 2010).

Digital library systems in the United States have attracted more interest and support than in other areas (Audunson and Shuva, 2016). In North America, the data services of academic libraries have recently emerged as a new area. It appeared during a fascinating period when academic libraries transitioned to handling more digital content while seeking to further engage in the educational research process (Wang, 2013). The literary world is also transitioning into a new model of study called e-science, which is characterised by data intensive and networked research. Libraries are also interested in handling and curating the ever-increasing volume of data, which appears to be a natural extension of the current role of libraries. Even though the research site is located in an African region, the literature review used a global lens because the issues at stake are universal and not unique to Zimbabwe.

According to Shahid (2018), technology has changed library services worldwide. In this digital age, Pakistani libraries provide excellent remote libraries and information services to their users. Aga Khan University (AKU) has ten, albeit small, spread across six countries in South Asia, East Africa, and the United Kingdom. It is one of the universities in the developing world that provides specialised library services through cutting-edge technology. Customers can also access online assistance from the universities. Academic research electronic services may influence university libraries in Zimbabwe to offer remote services to its users nationwide.

Hussain, Nasser and Hussain (2015) investigate the linkages between a service provider's image, customer expectations, perceived value, and customer loyalty in a Dubai-based airline. Customer satisfaction has become a principal factor in achieving organisational goals. The results suggest that the investigated variables positively influence customer satisfaction. While measuring customer satisfaction in the airline industry has become routine and more relevant, it may be extended to the domain of libraries to improve services and user satisfaction, as well as best practices by library managers. Perhaps empirical evidence of the role of expectations, value, and user satisfaction in the airline industry context is fundamental to the landscape of university libraries.

Nasokha and Abdullah (2017) conducted a study in Malaysia on the perception of library marketing (products, promotions, and staff) and its relationship with user satisfaction. The results

also indicate a positive and moderate relationship between staff, products, promotions, and user satisfaction. The findings of the study are helpful for libraries to realise that the marketing strategies applied will contribute to user satisfaction. The library should improve its marketing strategies to make them relevant in this era. Marketing analysis measurement scales were incorporated into the current study to provide new insights into the Library and Information Science field through an interdisciplinary lens.

Choshaly and Mirabolghasemi (2019) examine the impact of LibQUAL+™ on user satisfaction at the University of Kebangsaan Malaysia (UKM). The LibQUAL+ model is the most common and well-known library survey method. According to Herrera-Viedma (2017), LibQUAL+ has involved over 1,100 libraries since 2000, including community college, academic law, health science, public, and university libraries. The results indicated that services, information control, and the library as a place have a significant and positive impact on the overall satisfaction of library users, with the effect of service ranking as the most important predictor of library user satisfaction. This study expands on previous research by developing a performance evaluation instrument that would allow Zimbabwean libraries to better understand their customers' standard of service assessments and use that information to plan their operations. *(See full details in Appendix 10: Proposed performance evaluation of quality and user satisfaction instrument.)*

### **3.2.4 Library services in Africa**

The quality and performance of university libraries are critical concerns in African higher education. African libraries cannot be left out of this expansion, and this work aims to investigate African library services in terms of quality and user satisfaction. Tiemo and Ateboh (2016) drew our attention to user satisfaction with library information resources and services at the College of Health Sciences (CHS) library, Niger Delta University, Nigeria. This study aims to determine user satisfaction with library information resources and services. Interestingly, the results showed that users were satisfied with the lending services of the library, renewal of library materials, and extended hours of Internet services in the library. The main reason for their satisfaction was the involvement of library staff in helping users use library facilities and user education packages offered by the library. It reported that users were dissatisfied with the limited reference materials in their various subject areas and national and international journals because they were not up to

the standard. Ijiekhuamhen (2015) studied user satisfaction with academic library performance by determining the client's satisfaction with library services, infrastructure, and collection provided by an academic library at the Federal University of Petroleum Resources (FUPRE) in Nigeria. The results showed that members were delighted by these services. Users recommended that the library increase operation hours, current resources, and Internet bandwidth. These studies were limited to user satisfaction, which was one of the variables in this study. These surveys help evaluate library strengths and weaknesses and allow library managers to enhance user satisfaction. The findings of this study can be used to build a firm understanding of the user base because service quality and user satisfaction complement each other.

Musonda-Mubanga and Chakanika (2018) studied student satisfaction as a metric of the quality of library services at the University of Zambia. This study was used as a proxy to evaluate the quality of the library's services at the institution. A 5-point Likert scale and a questionnaire survey were used to collect data from 189 students. The SERVQUAL methodology was used to assess the quality of the data collected. The data were analysed using descriptive statistics for quantitative data and theme analysis for qualitative responses. The findings showed that the students were dissatisfied with the level of library services. The library lacked proper orientation towards library services, particularly regarding the use of e-resources and obtaining study materials. Inadequate study space, lack of personal responsibility by students for institutional property, insufficient funding for the department, bureaucratic inefficiency, and vulnerability in the event of a fire outbreak were among the issues faced by librarians. In general, students believed that library services at the University of Zambia were of poor quality. This professed dissatisfaction with the study materials to which they had access. Therefore, libraries in Zimbabwe should emphasise electronic resource availability by providing orientation, user education, and marketing strategies targeting their patrons.

Adam (2017) conducted a study on the Assessment of Library Service Quality and User Satisfaction among undergraduate students of Yusuf Maitama Sule University (YMSU) Library in Nigeria related to preceding research. The goal of this study was to determine how satisfied undergraduate students are with the library service quality of services and facilities available at the YMSU Library. This study adopted a cross-sectional survey methodology. A simple random

sampling technique was used, and a sample size of 120 registered undergraduate students was evaluated using a questionnaire. Of 120 questionnaires distributed, 84 copies were completed and returned for analysis, giving a response rate of 70.0%. The information gathered was coded and entered into SPSS version 20.0, which was analysed using descriptive analysis with fundamental frequency and percentage. According to the study's findings, undergraduate students' perceptions of the YMSU library's city campus facilities, resources, and services were highly satisfactory. However, it is suggested that the YMSU library administration maintains a high level of user satisfaction by improving the provision of current and relevant information resources, modern facilities, and appropriate services that satisfy users' needs and expectations. Furthermore, to maintain high levels of customer satisfaction, all issues revealed by the survey must be addressed. While the present study involves postgraduate students, the lessons learned from the study can be applied to Zimbabwe university library management systems.

Itumeleng, Malcolm and Anis (2014) evaluate user satisfaction with library services at the University of Limpopo, Medunsa Campus (Medical University of Southern Africa). The study defined user satisfaction as the evaluation of a product or service in terms of whether that product or service has met its needs and expectations. The study aimed to assess the services and resources provided by the library and determine whether users are satisfied with them. It was discovered that users effectively use the library, its services, and its resources. It was concluded that areas that needed attention were the increase in book and journal collection, photocopy machines, improvement of the Internet service, growth of library hours, and development of benefits from library staff. Accordingly, the areas outlined above drive the agenda of the current study.

Cobblah and Van Der Walt (2016) investigated the impact of helpful information services on academic performance at Ghanaian universities. They concluded that there is a link between effective library services and educational attainment in Ghanaian universities. The study also discovered that library users were generally satisfied with these services. Research space, book lending, and internet access are the most effective and well-funded access facilities. According to this study, inadequate staff training programmes were also found to have an impact on library

employees' ability to provide effective library services. This type of critical feedback is essential to the current study.

### **3.2.5 Library services in Zimbabwe**

When Zimbabwe gained independence in 1980, the country had only one national university: The University of Zimbabwe. Since then, the number of higher education institutions in Zimbabwe has increased enormously. The growing number of public and private universities has led to the emergence of academic libraries in Zimbabwe (Mavodza, 2014). Establishing eight universities between 1999 and 2005 (five public and three private) prompted a relook on quality assurance in university education. There are more than 14 recognised universities, nine recognised polytechnics, and 12 recognised teacher colleges in Zimbabwe. The general responsibility for higher education lies with the Ministry of Higher and Tertiary Education (Garwe, 2016).

The establishment of many universities in such a short time has led to declining standards (Garwe, 2015). However, this resulted in establishing a new body that would advise the minister on all relevant issues related to quality assurance, monitoring and evaluating the performance of higher education providers, standardisation of higher education qualifications, and accreditation of new higher education provisions. Consequently, the Zimbabwe Council for Higher Education (ZIMCHE) was established in 2006 to guarantee and sustain quality university education in Zimbabwe (Garwe, 2015; Thondhlana and Garwe, 2021). ZIMCHE is made up of 21 Council members appointed by the Ministry of High and Tertiary Education, Innovation, Science and Technology Development (MHTSTD) over a three-year period. Three members were drawn from important international higher education and quality assurance concerns. Members are selected in such a way as to ensure that the functions of the Council are executed by high standards of professionalism and in line with best practices (Garwe 2015). Developments in Zimbabwe's higher education, need for quality services, and library user satisfaction are recipes for performance evaluation.

According to Nkala and Ncube (2020), higher education in Zimbabwe faces several challenges including economic stagnation, hyperinflation, and quality assurance. The difficulties described have impacted the success and operation of Zimbabwean universities, including their libraries.



Nonetheless, rising financial resources necessitate investment in performance evaluation and service quality promotion to improve the positive user experience. According to Garwe (2016), higher education institutions in Zimbabwe are continuously searching for innovative ways to improve the quality of educational provisions to remain globally competitive. Quality in higher education has recently been emphasised and has affected every facet of post-secondary studies in Zimbabwe (Garwe, 2015). University libraries are no exception to development as they need to maintain their quality services. Some organisations look into the provision of quality library services in Zimbabwe. Mavodza (2014) noted that university libraries in Zimbabwe face significant technological challenges and lack adequate funding while pursuing their desire to support the academic community competitively. The Zimbabwe University Library Consortia (ZULC) has provided much-needed structural support and development in the information provision sector. ZULC was established in 2001 to examine library resourcing issues in libraries of higher education institutions (ZULC, 2016). It has revamped the provision of electronic resources and offers training in library delivery methodologies.

Zimbabwe university libraries must improve their standards and services to match those of other regional libraries. In Zimbabwe, quality services have become a top priority in service delivery industries, and university libraries are ideal places to provide quality services to improve their services and retain clients. Several studies on quality service delivery have been conducted in Zimbabwe by (Chabaya, Chadamoyo and Chiome 2011; Zikhali, Mukeredzi, Weda and Nyamayaro 2011). However, the authors mentioned above only examined service delivery from a limited management perspective. These studies, which are the focus of this literature review, did not include performance evaluation, user experience, or quality services in library settings.

Moyo and Ngwenya (2018) empirically identified context-specific service quality dimensions at Zimbabwean State Universities. This study aimed to establish the criteria that students use to evaluate service quality, that is, the determinants of student-perceived service quality applicable to Zimbabwean State universities. The study also sought to measure university-wide overall service to explore differences in service quality perception based on selected students' demographic characteristics. A case study method is used in this study. Focus group discussions were used to qualitatively categorise service quality variables, which were then quantitatively

assessed by administering questionnaires to 294 students. Exploratory factor analysis was used to reduce service quality variables to service quality dimensions. The study showed that most students perceived overall service quality at universities as average, while some had a negative perception of overall service quality. This research indicates that service quality is an appropriate tool for measuring the quality of service in the university sector in Zimbabwe. Moyo and Ngwenya (2018) concluded that future studies should uncover faculty and staff perceptions, in addition to those of students. Findings from such studies could assist in creating an integrated, holistic, and user-centred framework for evaluating library services and resources. For university libraries to gain a competitive advantage and improve their image, evaluation of services should be conducted continuously. Therefore, university managers regard this instrument as an essential tool for evaluating, supporting, and enhancing the quality of their services. Since university libraries are part of the university sector, some critical lessons can be drawn from this study to improve services.

### **3.2.6 Performance evaluation at university libraries**

Performance is a crucial imperative of every organisation, and its evaluation and maintenance are the responsibility and task of its management. Performance evaluation refers to the tools and procedures that businesses use to assess the success of their programmes and employees. In general, this method evaluates the performance of applications and provides feedback on the extent and quality of their performance (DeNisi and Pritchard, 2006). The performance evaluation process entails providing performance feedback (i.e., quality performance information) to the evaluated services, allowing them to adjust their strategies to match their desired performance (Masal and Vogel, 2016; Latham, Locke and Fassina, 2002).

Performance measurement and evaluation must be conducted regularly. Every academic library evaluation team must suggest proper planning for conducting the survey. Surveys performed periodically can help the library track its users' changing needs and expectations. Related academic libraries could plan appropriately to improve their facilities and services. These programmes are critical to ensure that academic libraries provide better library resources and services to meet the needs and expectations of their users. Based on the results of the survey, improvements to library facilities and services may be made from time to time (Mokhtar, Shaifuddin, Satirah, Saman and Baba, 2018).

The need for performance evaluation emanates from the notion that 21st-century academic libraries are irrelevant to the technological developments that have placed physical libraries at the periphery of information provision. The physical library is deemed irrelevant, as all information that could be required can be accessed from a computer by clicking a button. Karim (2018) states that measuring library performance and user satisfaction is a crucial managerial activity. This is an important issue, especially for libraries and information centres. A specific point of view on performance and management is required regarding an organisation that provides public services, hence the case of public and university libraries. University libraries must react to the increasing needs of users for quality and modernity in library services (Friedrich, 2017).

Owusu-Ansah and Gogo (2014) evaluate the performance appraisal system at the University of Cape Coast Library. The study used a survey approach to collect data from library staff members. It was discovered that library staff (76.8%) agreed that the library had a performance appraisal system. According to the participants, a performance appraisal system was crucial to adequately determine staff input, motivate workers, and ensure productive performance. Most library employees (70.2 %) stated that their immediate supervisors evaluated their work output at UCC library. The authors suggested that the rating criteria or qualities be made clear, appraisers be trained, appraisal interviews or discussions and counselling be conducted, appraisals be conducted frequently, responsibility for appraising staff be assigned, staff motivation be encouraged, computer software be used, and appraisal systems be reviewed regularly. If academic libraries in Zimbabwe learn from these developments, their services and usage levels can be improved.

Some desired outcomes are for libraries to embrace technology in their operations. They must be on par with their competitors by raising their ambience, providing information and navigation tools, and using mobile reference services (Otiye, 2016). Evaluating performance service quality offers excellent potential in providing information gathering for better decision-making, reviewing the overall service, variety, or planning for progress. Performance evaluation is critical to organisational development, including that in libraries. Measuring library performance can

focus on the entire library system or its components, as the assessment needed could be at any level of a given library or information system. In this study, library performance is measured for the selected university libraries.

Research performance evaluation of service quality and user satisfaction in university libraries operating in the fast-paced global technological era can bring positive results that may improve library operations. Irokanachi and Nkiko (2015) opine that the need for performance evaluation emanates from the notion that 21st-century academic libraries are irrelevant to the technological developments that have placed physical libraries on the fringes of information provision. They further argue that sustaining an academic library is capital- and resource-intensive. All library leaders and managers must engage in performance evaluation (input and output) to ensure the effectiveness and efficiency of all its activities. Performance evaluation of service quality will, therefore, justify investments and potentially improve the services offered at academic libraries and inform the user experiences of libraries. The authors argue that library investments have a tremendous impact on student retention, university rankings, and accreditation. They concluded that academic libraries should inculcate a culture of performance assessment that involves a continuous and periodic evaluation process and manage functional processes either reactively or proactively through deliberately designed parameters.

Vrabková and Friedrich (2017) assert that performance measurement is performed using various procedures and methods; the measurement verifies (records, monitors, and analyses) the state, level, and changes in organisational performance and system objectives. University libraries and information centres aim to respond to customers' needs. When centres clearly understand user needs and the materials and sources required, administrators can make accurate and timely decisions without spending unnecessary resources. One of the essential tasks of each university library is to contact its patrons to ensure that its needs are met. Paying attention to users' needs is a significant factor in high informatics systems. Assessment is the only tool for measuring the performance of a system and its capabilities and assures that it is used optimally. The main reason for library performance evaluation is to reach the optimal goal of always satisfying customers and enhancing the efficiency and effectiveness of library operations.

Performance evaluation provides the overall results of university library development and critical management strategies. Performance evaluation of service quality in an academic library is a systematic and objective internal and/or external assessment of its design, goals, implementation, and results of ongoing or completed activities, project programmes, or policies. This is done to determine the extent of fulfilment of outlined objectives, relevance, efficiency, effectiveness, impact, and sustainability of the library's progress (Tommaro, 2015).

Karim (2018) assesses the library performance at Dhaka University's (DU) residential hall libraries in Bangladesh. The study's primary goal was to examine the expectations of University Residential Hall Library users regarding quality services. It was also intended to determine how well the university's residential hall libraries could provide this service to their users. Three categories of main data (desired service, minimum service, and perception) were obtained from the DU residential students using the modified SERVQUAL questionnaire. The report determined that various types of measures are required. According to the analysis, the maximum number of service items falls short of satisfying customer needs. This study made some exploratory recommendations to improve the efficiency in academic library services. The current research encourages university libraries to employ various methods to guarantee service quality and ensure customer satisfaction. Using different techniques and tools can enhance universities' operations.

Taiwo, Ayandare, and Olusola (2015) opined that the library's primary goal is to meet user satisfaction regarding library performance. Thus, the availability of library marketing will help achieve this goal. One way to evaluate whether the marketing strategy applied by the library is meeting the standard is a survey that may be conducted to obtain the user's feedback (Garoufallou, Siatri, Zafeiriou and Balampanidou, 2013). Performance evaluation in university libraries should pay special attention to technological advances that have historically pushed physical libraries to the outskirts of information delivery. According to Huang *et al.* (2022), systematic theoretical and behavioural model frameworks are used in performance evaluation models and strategies in university libraries using scientific approaches, such as data mining. The quality and efficiency of library services determine library user satisfaction. This study highlights

the flaws in the current structures of the Zimbabwe university library in eliciting a systematic performance evaluation criterion.

### **3.2.7 Aspects of performance evaluation standards**

The standards that contribute to performance evaluation are clear policies, such as authorised borrowing, overdue fines, damage and loss policies, patron privacy, collection development procedures, intellectual freedom, selection guidelines, and copyright and interlibrary loan policies. The Standard Operating Procedures (SOPs) created by university libraries are specific to their operations and describe the processes necessary to carry out tasks following existing operational guidelines. Documents containing instructions on how to carry out client services, information services, technical services, library systems, and the marketing and promotion sections of the library are classified as procedures. Academic libraries should incorporate best practices into their daily operations, conduct regular performance evaluations, and offer comfortable environments to their users.

### **3.3 Performance evaluation standards**

Specific standards should be upheld to manage library operations and produce high-quality services. According to Elliott (2020), a set of standards has been developed to help shape library operations, such as ISO 11620. The International Standard Organisation (ISO) provides guidelines for evaluating libraries of all types. The ISO aims to advance and endorse the use of performance indicators in libraries and spread knowledge about how to conduct performance measurements. Sahak and Omar (2012) and Amoah (2022) describe Key Performance Indicators (KPIs) as a clear and efficient measurement framework that allows the company to understand and monitor customer service progress, consistent with the organisation's vision and mission. These indicators have been designed to help developing and developed countries with knowledge and skills related to associated processes and procedures. This International Standard enlists the performance indicator criteria for libraries and sets out a set of metrics to be used by libraries of all types. It also offers guidelines on how performance metrics should be applied in libraries in which such metrics are not already in use (ISO 11620, 2006). As a focus of this research, university libraries need standard procedure manuals to guide their daily operations. Performance evaluation is a widely used technique to provide critical input to improve business decision-making at all levels, including the strategic, organisational, and individual levels. Performance

indicators can be used in Zimbabwean universities to gather helpful information to improve library performance.

A performance indicator is used to describe activities in both quantitative and qualitative terms. The performance indicator determines the importance of the activities described and the associated methods (Shakooii, 2009). According to the Berlin Declaration of 2004, there are three essential explanations as to why ISO 11620 is preferred. First, ISO is a highly reputable organisation that is well-known worldwide, even outside the library market. As a result, ISO test findings are given more credence outside the library's restricted domain. This performance outside of the library domain offers university library services. Second, ISO 11620 provides an even better assurance of production and upgrading. Third, the ISO standard includes a significant number of measures. Various indicators give university libraries the choice to use different indicators and the latest version in their operations (ISO 11620, 2008). To meet the required standards in their operations, universities in Zimbabwe must register with reputable best practice standards organisations.

Reid (2020) studied the SLIC from 2012 to 2017. This study reviewed Scotland's previous quality performance standard assessment and created a new framework. Data were gathered through a systematic review of all published quality audits of Scottish public libraries, focus groups with heads of service, and workshops with library staff. The findings created a new approach for assessing and evaluating the quality of provision and the value and impact of Scottish public libraries. This study encourages university library managers in Zimbabwe to recognise the breadth and depth of performance standards evaluation to develop their library user base.

Sahak and Omar (2012) conducted a study investigate the success of standard library metrics in an academic setting. In 2011, the Malaysian Academic Library agreed to adopt the United Kingdom Standard International Organisation for Standardisation (ISO) 11620:2008. The metrics were divided into five calculation areas based on the British Standard categories. These categories are resources, access, infrastructure, use, efficiency, potential, and development. The research was designed to increase awareness among University Librarians about the metrics and

measurement areas frequently used to assess the effectiveness of the library, as well as how it can help build KPIs that are more practical, relevant, insightful, and valid measures.

According to Poll and Boekhorst (2007), Western handbooks contain a plethora of benchmarks to evaluate academic library standards. Some of these are the BIX Library Index for Academic Libraries (2002), Bertelsmann Foundation, and German Library Association. Further, there is the Swedish Quality Handbook 2004 (Adrial *et al.*, 2005), HELMS 1998 (UK Higher Education Library Management Statistics), and UK Higher Education Library Management. Consequently, the government should support university libraries in Zimbabwe by implementing these criteria as there is a low level of crucial innovations in the sector in Zimbabwe.

Finally, the Association of Colleges (ACRL) has developed another standard in the library sector. The measure was intended to be applied to libraries that support academic programmes in higher education institutions, including libraries. Standards have been developed as tools to help libraries set individual objectives within the context of their institutional goals. They provide quality and quantity measures and guidance for assessing each component of library operations and providing library services (Renirie, 2020).

### **3.3.1 Library best practices**

Quality improvement in today's academic world is impossible without Best Practices and Accreditation; best practices are determined by reviewing scientific evidence of their effectiveness. Academic libraries currently use best practices to improve product and service quality (Jharotia, 2019). A library's collection, services, and outreach capacity are evaluated as part of the accreditation process. Significant changes have recently been observed in library and information services, with libraries taking on additional responsibilities in higher education. Libraries play an essential role in learning, teaching and research.

There has been a universal demand for creating best practice standards to increase the quality of library services. Various organisations have developed models for all collections, thus making the guidelines adaptable. The College, National, and University Libraries Society (SCONUL) created its prototype in 1996 and revised it twice since its inception, with the most recent update (two variations) in 2005. The survey focuses on library services and covers topics related to



demographics, library operations, satisfaction ratings, and the value of programmes and facilities, as well as overall satisfaction with the services offered by the library (SCONUL, 2017). The short survey focused on customer satisfaction, the medium review included library use, and the long survey was further expanded to include demographics. Various academic libraries, such as the Massachusetts Institute of Technology (MIT), have access to library surveys that can be accessed. Such surveys are utilised in universities to gather the critical feedback needed to enhance the quality of services.

The University Grants Commission (UGC) established the National Assessment and Accreditation Council (NAAC) in 1994 as an autonomous entity with headquarters in Bengaluru, India. NAAC's mission, as stated in its vision statement, is to make quality assurance an intrinsic component of higher education institutions' operations (Mammen, 2020). NAAC indicates and directs library best practices as a method or technique practiced in modern libraries to provide better quality services. It is a creative and problem-solving process that prepares libraries and information centres. The present study aims to understand best practices in libraries from scholarly opinions and suggestions, especially NAAC guidelines, and to examine how university libraries implement these parameters to meet quality services for overall academic achievement. Laskar and Dey (2020) examined library best practices in chosen colleges affiliated with Assam University in Silchar, India. This study aimed to determine how thriving libraries were prepared for best practice innovation. A survey method was used with a standardised questionnaire and personal observations. The findings revealed that the selected universities met NAAC's minimal best practices and library service excellence standards. This study reviewed the related literature and proposed additional factors to suit user needs. The methodology used in this study is the most notable takeaway; observation has the advantage of generating informative data, which this research uses and anticipates. When establishing library standards and luring patrons, administrators in selected Zimbabwean libraries must draw cues from surveys and observation techniques.

On October 26, 2005, NAAC organised a workshop for academic libraries to identify best practices in library and information services and created some of the best practices listed below that might improve the academic information environment and usability of academic libraries. ii)

Inclusion of sufficient information about the library in college prospectus. iii) Compiling student/teacher attendance statistics and placing them on the notice board. iv) Display newspaper clippings on the notice board periodically. v) Career/employment information/services. vi) Internet facilities for different user groups. vii) Information literacy programmes. viii) Suggestion box and timely response. ix) Display new arrivals and circulate a list of them to academic departments. x) Conducting book exhibitions on different occasions. xi) Organising book talks. xii) Instructors' annual best user award for students. xiii) Organising annual competition. xiv) Conducting periodic user surveys. NAAC's best practices can potentially transform the way university libraries operate.

Best practices ensure success in any field using knowledge and technology. In library and information science, best practices are used to improve service quality. Solving a problem creates new opportunities and positively impacts the entire institution. Best practices can be used to innovate and develop policies, strategies, processes, programmes, or practices (NAAC, 2006). Best practices are the ideal way to succeed and keep up-to-date in any sector. They are innovative ideas for solving process methods or techniques to obtain better quality results. Many scholars suggest best practices in library and information science and for researchers to manage libraries in day-to-day library management and services.

In 2015, a working group was commissioned by the Association of European Research Libraries (LIBER) and charged with investigating lessons learned and good practices in library support as well as identifying new and developing library services using various tools and methods. A survey was conducted to investigate this subject matter. It was administered to 308 LIBER university libraries in May 2017. Survey questions focused on the following areas: demographics of the size of the library and breadth of the institution, the use of general user surveys (GUS), the use of other methods of assessment, and user knowledge such as how users perceive library strengths could be gained from these methods. GUS is generally defined as surveys directed to all users or user groups to learn how users perceive library services as a whole. The results provide rich insight into the library services most valued by users, the methods most commonly used for library assessments, the methods used by libraries with the most prosperous user

understanding, how GUS are used, and the overall changes most often made based on user surveys.

The best practices in university libraries can be derived from various sources. It will be easier to obtain a clearer view of consumer requirements and satisfaction if mixed methodologies (including quantitative and qualitative) are used (Askew, 2015). Evaluating library services against established benchmarks, such as Investors in People and Customer Service Excellence, will help provide a basis for growth, quality improvement, and independent evaluation of achievement (Cunningham, 2016). University libraries in Zimbabwe may also use methodologies and best practices from various industries, such as banks and the hotel industry, to offer customer service. The evaluations indicated earlier assistance in locating critical information to establish a best practice model appropriate for a particular library. Benchmarking can be used by library managers in selected Zimbabwe university libraries to gather ideas from other libraries and develop a solid library policy.

### **3.3.2 Effects of technologies on service quality in university libraries**

With the invention of Information and Communication Technology, libraries are now using various technologies to aid their services. New technological advances affect how information is handled in libraries and information centres. The impact of new technologies is felt by libraries in every aspect. According to Olasina (2011), the majority of librarians' working practices and environments have drastically changed because of new technology. It is predicted that this transition will continue as we move closer to a fully virtualised world. Computing, communication, and mass storage technologies are areas of continuous development that reshape how libraries access, retrieve, store, manipulate, and disseminate information to users. Since its inception, the academic library has been an integral part of institutions of higher learning, rather than an appendix or adjunct.

University libraries have been elevated to new heights because of technological advancements. In this technologically advanced age, delivering library and information services online is also possible, making libraries more user-friendly and interactive. Information technology has encouraged library professionals to provide real-time information using ICT and social media

resources and services. Social Networking Sites (SNS) or social media have given universities tremendous capacity to deliver real-time services. Bhattacharjee, Bhattacharjee, and Sinha (2016) conducted a study in Tripura, India to learn about social media awareness and preferences, particularly among library users. The research sample consisted of graduate and postgraduate students. This study uses a survey method. This research illustrates the student community's pattern of social media use. In addition, the study also mentioned their evolving trend or perceptions of library services, which contributes to determining the possibilities of the effects of using social media or social networking sites for library extension services. Social network applications are library game changers because of their simplicity and appeal. University libraries will adopt these technologies to enhance their quality of service. According to this study, social media usage can help library operations by bringing in more patrons, increasing the effectiveness of instant messaging, providing high-quality services, and enticing younger generations to use library resources.

Atkinson (2017) outlines the downturn in library importance and use as two-pronged, on the one hand, the growth of online services and, on the other, the product of perceived self-sufficiency in the use of information technology by many staff and students. University libraries must adopt constructive contact and promotion approaches. It is essential to raise awareness of library resources and show the importance and advantages of libraries and library use for users, potential users, and university managers who provide funding. Libraries, including the University of Sheffield, have acknowledged the need to develop strategic communications, invest in staffing resources to deliver them, and ensure that they are professional, modern, and suitable for different publics (Lewis and Little, 2016). Levesque (2016) identifies a wide variety of communication platforms, including print articles, websites, and social media, that must be used efficiently and appropriately. Liaison and interaction with individual staff and user groups can be a contact tool for active participation in university/departments or community committees.

Managing “Big Data” has become a significant challenge in this data-driven environment, where libraries gather large quantities of data from people, habits, computers, algorithms, and the Internet. Big data refers to datasets that are more complex than conventional database software systems and applications capable of capturing, storing, processing, and analysing data (Pedrycz

and Chan, 2015). How libraries work over the Internet, social media, and other online cultures has changed. Therefore, it is important to consider performance assessments and service quality. Electronic libraries have a significant influence on the efficiency of library use. Without adequate infrastructure, the provision of value-added goods and services is difficult. University libraries in the 21<sup>st</sup> century should be equipped with technical resources to support their users continuously.

All information is now becoming increasingly digitally available, from business, education, sports, connectivity of people, entertainment, and library services. All of these have produced vast sources of awareness (Singh, 2017). Emerging technologies pose some challenges to library growth, and their integration will increase service quality and attract library users. California State University-Sacramento introduced a laptop rental system to improve general user traffic in libraries and help students use learning resources to enhance university facilities (Hsu, Cummings and Wang, 2014; Gu, 2011). After launching the laptop loan programme, 180 wireless laptops were on circulation. The scheme was a way of persuading library customers to use the library, as more companies are now introducing library-like online information systems. This thesis focused on the California State University report, in which service quality assessment explores users' expectations and their recognition of library innovation. Adopting a resource-loaning scheme in selected Zimbabwe university libraries may boost research quality and usage.

Hartle, Becker and Mhlauli (2017) survey all aspects of library operations to determine the degree of satisfaction with library facilities and to identify areas for change and future growth. Hartle, Becker and Mhlauli (2017) conclude that the exponential growth of information and digital technologies for accessing and using data has rapidly created many problems for conventional library service delivery models such as the location and use of physical items. Functioning in a globalised world creates a need for librarians to take advantage of information technology (IT) to serve diverse communities that often belong to an equally diverse array of cultures – financial, national, linguistic, and academic – that impact library and information search habits, user satisfaction, and expectations. For example, Millennials and Net Generation use computer-driven technology to make up most university library users (Dimock, 2019). Younger people have different attitudes toward accessing knowledge from older generations. Google and other online search sites have become the main entry points in university libraries for

students to search and access information. University libraries should rely on web search engines that younger people use for their research.

Adeh and Hayatu (2020) conducted a study to evaluate the use of library services by undergraduate students at Ahmadu Bello University in Zaria, particularly during exam periods when patronage peaked. Data were collected using a cross-sectional survey research design. According to the findings, undergraduates at Ahmadu Bello University, Zaria, use the library to read their books during exams, and the wireless Internet, wired Internet, and computer services provided by the MTN Net Library. The study also found that undergraduates primarily use the library space and its Internet and computer services. Finally, the study discovered that lack of space, insufficient number of computers, lack of comfortable chairs, poor digital services, scarce power outlets for students' laptops, and lack of support from library staff are among the main difficulties undergraduates face when using library services during examinations. The study concludes that management should create a library section that elicits user needs. The library space should be fully equipped, and more space in the library could be freed up if some of the library's older resources are weeded and closely accessed. They are only accessed if they are specifically requested. Some of the available spaces can be partitioned by library management to create room for small-group discussions. Library management in selected Zimbabwean libraries could start lobbying government parastatals to donate accessible ICTs. NITDA, NCC, and the Ministry of Communication are all government agencies. Lobbying will assist them in obtaining additional ICTs required for undergraduate use.

Kumah (2015) conducted a study at the University of Ghana to compare Internet and library use among graduate students. This was built on the assumption that graduate students spend more time on the Internet than on libraries. Convenience sampling was used to select the sample for this study. Questionnaires were used to collect data. The Statistical Package for the Social Sciences was used to analyse and interpret the data collected. According to the findings of this study, students do not seek information outside the library. They use both the library and the Internet, but the Internet is used more frequently than the library; therefore, it is the preferred source of information. It was recommended that the library be reconfigured to keep up with the recent research advances. In this study, graduate students were used to unpack their library

usage. From the same research, Zimbabwean university library administrators can learn how to increase library and internet usage.

Lately, students admit that they do not need to borrow books because they can access online resources (Kiilu and Otiike, 2016). In the resultant proliferation of information, advancements in information technology have led to complexity in the needs and preferences of information users. The idea that IT would put a growing percentage of the available information tools on the scholar's desk rather than on library shelves has modified user expectations for other library services.

Libraries will thrive by introducing new technologies (Onuoha and Obialor, 2015). Nevertheless, libraries have been slow to adopt online services for mobile users, and library managers and information resources managers have to realise that their core market, like all others, has changed drastically in recent years (Weinstein and Macfarlane, 2017). Murray (2015) claimed that university libraries must have a strong presence in both marketplaces (physical and digital worlds), in line with the New Economics and Technology Libraries' Client Quality mandate. University libraries often recognise evolving customer preferences more easily and incorporate new information technologies.

Patrick, Aghojare, and Ferdinand (2015) aver that the primary aim of libraries and librarians is to fulfil the needs of academic library users. Universities take on new students with specific requirements and ambitions. Digital technologies, databases, and increasingly creative ways of accessing information have made libraries increasingly difficult for both librarians and users. The lack of a consistent understanding of the best use of library resources owing to new technologies and the difficulty of accessing information sources can all contribute to consumer dissatisfaction.

Kusekwa, Munyoro, and Chikonzo (2017) argue that libraries worldwide are adapting to technological changes in library service delivery. The desire to please library users is the driving force behind the introduction of technological innovations within library services. Similarly, libraries must redefine themselves in a world where their buildings no longer represent a store of knowledge that is inaccessible elsewhere. Service providers need to continually analyse customer

satisfaction across educational facilities, especially library services, with a view towards continuous improvement from the student perspective. The explanation for ongoing assurance is that library clients are deeply engaged in the education process and, thus, need to look at the quality of both programmes and education.

### **3.3.3 Service quality characteristics contributing to user satisfaction in Libraries**

The characteristics of a good or service that deliver the functional ability of customers' needs and wants are known as quality characteristics. Customers value these characteristics of a product. The service libraries provide to their users are examples of quality characteristics. Library environment and facilities play a significant role in customer loyalty. Consequently, library facilities and the environment have an impact on library user satisfaction. According to Ejovwokoghene (2022), a large percentage of undergraduate library users were satisfied with the physical surroundings of their university libraries. This finding contrasts with the results of Kalpana and Komathy's (2012) study, which found that a significant proportion of patrons were dissatisfied with the library's environmental conditions, notably ventilation. Library staff are essential for user satisfaction, patronage, and the use of library resources and services. Having a well-stocked collection and suitable facilities will not provide the overall satisfaction users seek; competent staff must be available to assist users in locating whatever they require, and library staff must be friendly and approachable. Collections, loaning and returning services, the overall atmosphere, electronic database systems, and online reservation and renewal are the top five crucial service quality features ranked by users, according to Wang and Shieh (2006). Furthermore, there is no significant difference in the perceived importance of service quality dimensions across institutes or statuses. These are some of the qualities that a sound university library should possess.

Tijjani (2019) conducted a service quality analysis of Malaysian private university libraries in the context of transformative marketing. By distributing a self-administered questionnaire to students at these private universities, this study sought to determine and quantify how satisfied students were with the services provided by Malaysian university libraries. Parasuraman's classic SERVQUAL model inspired the survey instrument. Two hundred eighty-seven responses were gathered from library patrons for this study. After data were analysed with SPSS and Smart PLS 3, it was shown that the "Tangibles" component of service quality has the greatest role in



consumer satisfaction. The study proved useful for university decision-makers and librarians. Management should prioritise the physical library, seating configuration, printing and scanning capabilities, and e-library materials. University libraries should improve these quality characteristics to enhance library utilisation and keep students happy. To improve responsiveness directly related to students' satisfaction, library managers, particularly university libraries, should emphasise replying to student inquiries as soon as possible. There is little model emulation in university libraries in Zimbabwe. By considering the various service quality characteristics inside libraries, these models might offer fresh perspectives on the design of libraries.

Zeithaml, Bitner, and Gremler (2018) report that user satisfaction is derived from a product or service's capability to satisfy the necessary needs and expectations. Marshall *et al.* (1998) stated that service quality can be accomplished by critically thinking about complete services that meet users' needs. University library users are high when the service delivered is of prodigious value, improving their quality of life, and gratifying a crucial requirement for most library users. Mairaj and Naseer (2013) identified that users were satisfied with the services and resources provided by the Punjab Institute of Cardiology Library, especially library assortment and arrangement, reference and exchange services, staff assertiveness, and the cooling and heating structure of the library. Ahmed (2017) stated that four SERVQUAL dimensions—empathy, responsiveness, assurance, and reliability—can significantly influence users' satisfaction with library services. Alam (2020) revealed that a library's tangible facilities and staff responsiveness significantly influence user satisfaction. Twum *et al.* (2020) stated that all service quality dimensions are positively correlated with library user satisfaction. Moses *et al.* (2016) showed that service quality significantly affects library user satisfaction. Suki and Suki (2013) affirmed that public libraries and service quality user satisfaction were highly correlated.

Kumasey's (2014) study on Service Quality and customer satisfaction: Empirical Evidence from the Ghanaian public is essential for service quality and customer satisfaction. This study examines service quality and customer satisfaction in Ghanaian public services. This study used a correlational research design and purely quantitative research approach. Data were collected from 304 participants by using a questionnaire. The hypotheses were tested using the Pearson product-moment correlation test. The results showed that service quality is significantly and

positively related to customer satisfaction. In addition, customer perceptions and expectations were significantly and positively associated with customer satisfaction. The implications of these findings are then presented. The link between service quality and user satisfaction helps managers ensure that customers receive excellent services. The service provided must be of the highest quality because it is only a quality service that can attract and retain customers to an organisation. The current study aims to test the following hypothesis: there is no significant relationship between performance evaluation and service quality characteristics and user satisfaction. However, studies indicate a strong link between service quality and user satisfaction.

In a related research, Safi and Alagha (2020) conducted a study titled *The Relationship Between Service Quality and Customer Satisfaction in India*. This study examines the relationship between service quality and customer satisfaction in the private telecommunications sector in India. This study used primary and secondary data. A total of 310 customers from private telecommunications companies were surveyed using a structured questionnaire. Statistical tools, such as Cronbach's alpha and correlation coefficients, frequencies and percentages, descriptive statistics analysis, and correlation analysis, were employed to assess the relationship between the dependent and independent variables. The results reveal a significant relationship between service quality and customer satisfaction. This study contributes invaluable information to both academics and managers for theoretical and practical purposes. The current study used the same tools to evaluate library performance, service quality, and user satisfaction in the selected universities. While the study focused on the telecommunications sector in India, it provides some insights into library service development. Library managers in Zimbabwe can use statistical tools to extract vital information on library development.

Amanullah, Hasan, and Hafez (2021) examine the impact of service quality dimensions on user satisfaction in the public library in Bangladesh. A structured questionnaire was developed and distributed to 150 respondents taking public library services from the Barisal and Patuakhali districts. Convenience sampling was applied to collect the primary data. Several hypotheses were extracted from the conceptual framework and tested using multiple regression analysis. The study's findings show that service quality dimensions have a certain degree of relationship with public library user satisfaction. It also showed that tangibles were the most dominant predictors

among the five (5) significant predictors, mostly leading to public library user satisfaction. In addition, the results show that empathy and the assurance dimension are essential to user satisfaction. Therefore, these findings will be beneficial for university library management. They can obtain an idea of how to improve the overall service quality of their libraries to achieve a higher degree of satisfaction. The selected libraries in Zimbabwe could use these surveys to obtain feedback. Different methodologies provide various solutions for the management of libraries.

### **3.3.4 University libraries and customer (user) satisfaction**

Customer (user) satisfaction and value addition have existed since time immemorial. The relationship between performance evaluation, quality of service, and customer satisfaction cannot be emphasised. Kotler and Keller (2008) define user satisfaction as the user's feelings regarding the product they are using or the outcome of their expectations. Users will be satisfied with the library if the services, facilities, and library resources meet their initial expectations after using them (Larson and Owusu-Acheaw, 2012). Amin and Shoid (2017) argued that user satisfaction has been described as addressing user needs and their appreciation of what the library offers. They state that user satisfaction can be defined simply as how satisfied library users are with their quality and services. Additionally, user satisfaction and library service quality are related to users' behaviour and attitude toward the library environment, library collections, library services, library facilities, and library staff (Chen and Shen, 2019). If users are satisfied with a library's facilities and services, they will promote it to their friends (Motiang *et al.*, 2014).

Student satisfaction is a short-term attitude from assessing a student's educational experiences (Yusoff, 2015; Weerasinghe, Lalitha, and Fernando, 2017). As a result, student satisfaction is defined as a consequence of the relative level of experience and perceived performance of educational services during the study period (Mukhtar *et al.*, 2015). In this study, student satisfaction is defined as a subjective feeling of satisfaction or disappointment that results from a person's evaluation of library services concerning their expectations. In addition, the quality of the classroom and feedback, lecturer-student relationships, interactions with fellow students, course content, available learning equipment, library facilities, and learning materials

significantly affect university student satisfaction (Weerasinghe, Lalitha, and Fernando, 2017). User satisfaction is a result of the high quality of university libraries.

Kaushamalika and Weerakoon (2020) believe that customer satisfaction refers to whether users obtain the desired information resources, facilities, and services at the library and how users judge the services of a library. The purpose of a library is defeated if its users are not satisfied with its resources and services. Therefore, information services should be developed not only to meet user needs and improve prompt services but also to anticipate users' needs in the future. Library management must thoroughly understand users' needs through periodic assessments (Kaushamalika and Weerakoon, 2020). Okewale (2017) stresses that librarians should be competent in all aspects of librarianship, which include basic foundational knowledge in librarianship, readers' services, information and communication technologies (ICTs) handling and use, reference services before library professionals can adequately and effectively market library services and information products, librarians must be knowledgeable, skilled and must possess good attributes or disposition in these core aspects of librarianship. University libraries should have a strong customer strategy, which includes recognising their varied consumers; better understanding their needs as individuals, specific user groups, topic areas, and collectively; and aiming for high satisfaction rates. Utilising these tactics will require knowledge of how users function and search for information.

Some libraries have begun to involve their users more extensively in co-designing services (Trischler and Kelly, 2016). Understanding users can help capture more in-depth information on the needs that result in higher-value services for customers. Similarly, Vijeyaluxmy (2015) suggests that it is inevitable for a university library to provide more fertile information sources to its users to meet information needs in the immediate environment in which information explosion and customer care are significant challenges. In this context, library management needs to conduct user studies annually to provide feedback from users on how well the library meets their information requirements. The survey results should be conveyed to the administrative body regarding the necessary steps toward library development and user satisfaction. Consequently, this study strongly emphasises customer satisfaction and service quality.

Raza (2017) measures the relationship between Pakistani Islamic banks' customers, service quality, and customer satisfaction. The research employed a revised SERVQUAL model by adding a unique compliance element within the service industry context. A questionnaire-based, self-administered field survey was conducted using updated SERVQUAL measurements. The data were obtained from the Islamic Bank's 450 walk-in customers. The survey data were analysed statistically through exploratory factor analysis, followed by confirmatory factor analysis (CFA) and modelling structural equation (SEM) analysis to assess the perceptions of service quality and customer satisfaction. The results show that the multifaceted service scale standard correlates strongly and substantially with the one-dimensional range of customer satisfaction. By extension, the compliance aspect of the SERVQUAL model proved its value by showing the highest contributing factor in the overall model. In addition, this research has practical consequences for decision-makers in Islamic banks to better understand the behavioural intentions of customers of Islamic banks. Although this study focused on banks, university libraries may use exact measurements and metrics arbitrarily to spur library innovations and quickly gain users' attention. The same traits can be used to instil confidence among library staff. Some of the constructs and measurement scales of SERVQUAL validated by Raza (2017) in the context of banking customers relevant to the current study and the setting of Zimbabwe are integrated to add scope and breadth.

Al-Azzam (2015) conducted another survey of service-offering channels in the banking system in various forms, such as Internet banking, Automated Teller Machines (ATM), telephone banking, and banks. The study used the service quality (Parasuraman *et al.*, 1988) with five dimensions to evaluate its effect on customer satisfaction among Arab bank customers in Jordan. The results indicate that the higher the service quality, the greater is the customer satisfaction. The findings show that customer satisfaction is an appropriate tool for measuring service quality in the banking sector in Jordan. Drawing lessons from the banking sector is imperative for enhancing customer service in university libraries. Banks would quickly attract library managers' attention because they have well-defined service provision structures (Osinde, 2019 Soltani-Nejad *et al.*, 2021).

Many instruments have been developed to assess and investigate customer satisfaction with services provided by university libraries. Many of these approaches have become benchmarks for evaluating similar phenomena in the marketing, retail, healthcare, and education sectors (Afful-Arthur, 2016). For example, in higher education settings, Perusaman *et al.* (1985, 1988), Zithmal *et al.* (1990), Jaramila and Mulki (2007), Abdullar (2005), Awan *et al.* (2008), (Anvuri Rostami *et al.* (2005), Firduas (2005, 2006), and Srirahayu, Anugrah, and Layyinah (2021) have developed and created several instruments for measuring user satisfaction. These tools and instruments were SERVQUAUL, SERVMPER, HEDPERF, LibQUAL, and Net Promoter Score (NPS). NPS is one of the metrics used to evaluate customer service activities.

Customer Acquisition Cost (CAC) is another customer satisfaction metric that measures the quality of customer service and overall customer satisfaction. Moreover, turnover is one of the parameters used to evaluate and forecast an organisation's difficulties and to avoid adverse effects. Customer Satisfaction Rating (CSAT) assesses whether a product or service meets customers' needs. The metric is a combined NPS and CSAT Customer Effort Score (CES) (Srirahayu, Anugrah, and Layyinah, 2021). The metric measures the effort that customers are expected to engage in a particular engagement with a company. Library administration will be able to assess the present status of user experience and how to avoid disappointment and maintain client loyalty. However, using resources such as new contacts informs measuring customer satisfaction programmes (Srirahayu, Anugrah, and Layyinah, 2021).

Osaze, Blessin, and Ademola (2015) conducted a study on customer service in Malaysian university libraries. This study analysed the effect of library service customers and their perceived user satisfaction with university library services. The staff at the library were found to be very friendly and willing to instil trust in library users. The academic staff also claimed that their teaching, studying, and work positively influenced the library. Overall, satisfaction with library facilities was highly rated. The research found that excellent customer service directly affects customer satisfaction, which in turn influences customer loyalty. However, the study was limited to staff only, and more could have been revealed if the study looked at a broader spectrum of library users.

Amin and Shoid (2017) analyse consumer satisfaction in the Malaysian Nuclear Agency Library. This study examines the conceptual structure of user satisfaction with library efficiency. Depending on the context, five critical, independent variables are used in this analysis: the library's environment, equipment, programmes, staff, and collections, and one dependent variable, user satisfaction. The research aimed to establish a critical relationship between user satisfaction and library efficiency in the Nuclear Agency Library of Malaysia. It was envisioned that the study would help the library develop and enhance its quality to provide its customers with outstanding and decent library content. Therefore, it will encourage users to visit the library regularly and demonstrate its success in delivering services to users.

Zakaria (2019) studies user satisfaction with library resources and services in Tema, Ghana. The study examined how the resources and services of the Narh-Bita College Library were used and how satisfied users were with them. A descriptive survey research design was used in the study, and a total of sixty (60) questionnaires were distributed to Narh-Bita College Library users. Frequency counts and simple percentages were used to analyse the data. The findings revealed that library users were generally satisfied with their library's resources and services. The study also recommends that some improvements be made to the library's general serenity and electronic collection. Enhancing the selection of electronic resources in selected university libraries in Zimbabwe may attract more undergraduate and graduate students in the libraries.

### **3.3.5 Usage Statistics in university libraries**

The information age has transformed library service delivery, making information resources more affordable and accessible with less effort. Users can use library resources, even if they are not physically present. They can also access other library resources, such as online catalogues and public databases, because the Internet has made library resources available to students and faculty worldwide (Kalpana and Komathy, 2012). Libraries have been compelled to rethink how to relay information and services to their clients or risk losing their clientele. As a result, most libraries' primary focus has shifted to understanding and anticipating user needs and expectations as well as user satisfaction with their resources and services (Kalpana and Komathy, 2012).

Although the use of statistics in university libraries is not a new occurrence, new advances and observations may emerge owing to current studies and specific sectors utilising them. Statistics are frequently used for logistics planning and resource demand evaluation in university libraries and are used to monitor and report plans for the development of library performance. Statistics-based performance evaluation criteria are necessary for library analysis and benchmarking procedures. Statistics are used to provide management with a complete and accurate image of the library and its current state. According to Laitinen and Saarti (2012), libraries require fresh data to sustain and support library resources, as they take on new roles in an ever-expanding universe of knowledge. As a result, statistics on usage and user knowledge of the university library are utilised as evaluation tools.

Velez and Pargan (2011) see the use of library statistics as varied in (loans, collection repairs, library visits, loaning and returning library materials, user demographic details, and usage of household resources). Nevertheless, it can be represented by simple basic statistics gathered from the usual course of the regular activities of the library. Bibliography statistics is also an essential and valuable analytical tool for librarians. According to the authors mentioned above, statistics attempts to present a reasonable and accurate image of the situation to aid library administration or other decision-makers. Statistics as mirrors of library statistics are an essential aspect of university operations, and library managers should gather and collate them regularly to track how their libraries are being used.

Koontz and Gubbin (2010) address the importance of statistics in library services in the IFLA Library Statistics Manifesto of 2010. To expose and evaluate the remarkable value of libraries, quantitative and qualitative statistics on library activities, library use, and library patrons are required. The policy document demonstrates the importance of library data in running libraries efficiently and promoting library services to various stakeholders. Policymakers and funding agencies, library administrators and directors, current and potential users, the media, and the public are among the stakeholders. Similarly, these figures are critical for service levels and long-term strategic planning. Statistics from university libraries reveal a richness of content and hidden success stories and ensure that all demographic groups have access to essential information (Pow *et al.*, 2019).



According to Bahtiar, Abd Manaf and Shuhidan (2017), library statistics are an essential resource for Evidence-Based Librarianship (EBL). They provide scientific evidence for use, user numbers, and library resources (physical and electronic applications). They researched academic librarians' experiences with evidence-based practice. This study aimed to help librarians and information professionals achieve the purposes of evidence-based library and information practice, which include continuously improving practice and making practical, value-adding decisions about library and information services for their clients and communities. This question was investigated using a constructivist grounded theory technique. Thirteen academic librarians from Australia participated in semi-structured interviews. They argued that statistics were critical to the expansion of libraries.

Using data mining, Puarungroj, Pongpatrakant, Boonsirisumpun, and Phromkhot (2018) investigated factors affecting university students' library visits. Because there were fewer visitors than the library's capacity and space could accommodate, the Loei Rajabhat university library had difficulty attracting users. Organising book fairs, arranging reading activities, providing library orientation courses, and other activities were used to draw students to the library. This study used data mining algorithms to discover hidden patterns in library user data, mainly the user attributes that determine library visits. The data mining results were intended to persuade undergraduate students to visit the library. Students' library gate entries were collected from the library database and student information was obtained from the university registrar's office. Data mining produced intriguing results. The library was found to be used less by senior students than by younger students. The current Grade Point Average (GPA) was found to be a significant factor in predicting library visits. The study found some beneficial student characteristics for predicting library visits. Data mining results can be used to organise activities that target these attributes to increase library use. For example, libraries and instructors could collaborate to create programmes for students with low GPAs. According to Leetaru (2015), data mining allows libraries to expedite and understand the valuable knowledge in their data.

Becker, Hartle and Mhlauli (2017) presented a case study of how the Cape Peninsula University of Technology (CPUT) actively uses library statistics to promote and advocate for better library

services for its users in a new digital environment in the Proceedings of the IATUL Conferences. The study aimed to promote library activities, calculate the return on investment, and demonstrate the added value to clients. The study's objectives could be determined by an increase in the quality of work completed and services utilised by market segments, such as CPUT management, library staff, faculty, and students. Statistics must be used differently for each type of client to be considered meaningful. It was discovered that most of today's students belong to Generation Y, also known as the Net Generation. They are digital natives who prefer to learn from their peers rather than from the authorities. It is widely accepted that they respond better to buzz marketing and want to be directly involved in the marketing process, that is, to be stimulated, engaged, and empowered. The paper looked at several ideas implemented in 2011 and planned for 2012, such as the advanced analysis for institutional programme reviews presented and graphically, the concept of an e-book fair based on usage statistics, "Library @ glance pamphlets," and so on. The most effective way to increase library usage was through targeted and user-oriented marketing. Statistics and marketing have thus been described as strategic goals in the library's strategic and operational plans, and professional staff has been assigned to develop these functions. Statistics were used to support specific service marketing.

The Quality Assurance team gathered and reported monthly statistics from the CPUT in 2009. In 2010, the Quality Assurance Librarian created a statistical database that allowed staff to enter monthly statistics online and record annual statistics, as required by library and university management. It also gives the "official" statistics of the library team to use when dealing with faculty or writing reports. Database creation ensured that staff could access various statistics in one place, including budget information, the number of students at a branch, the use of electronic materials, and circulation statistics. Staff can identify areas of excellence and those that need improvement by comparing statistics from different months or years. For example, library usage statistics may decline. According to Delgado-Gomez (2002), if today's young adults can find a faster and more comfortable way to find information, they will use it. The questions were as follows.

*Do they then need a physical library that naturally requires information literacy skills, which may not currently exist? Can the library provide them with access to information*

*with the speed needed by using the current method? The 'quickly and by phone' trend supports the possibility of a virtual library or access to library online resources via cell phones (Delgado-Gomez, 2002: 7).*

Owusu-Ansah and Gogo (2014) researched the use of library services and facilities by students at CPUT to gather feedback on service satisfaction, accessibility, and facility use. This research used a three-pronged approach, including surveys, informal interviews, and observational studies. Three hundred ninety-four students completed the survey. Although demand for some services, such as circulation and reference transactions, is declining, according to the findings, the number of visits to library facilities is increasing. While students prefer online resources, they still prefer face-to-face interactions with library staff over e-mails. Respondents rated information literacy training as 'least important,' despite librarians seeing it as critical. Students indicated a growing need for online tutorials and a growing use of library LibGuides, despite having little interest in following the library on social media. Furthermore, staff services are valued, and students tend to use the library primarily for individual studies, research, and group studies. Although there is room for improvement, the study found that changes to library spaces and services meet user demands.

The statistics collected at the CPUT, were declining in some sections of the library, according to Owusu-Ansah and Gogo (2014). In addition to statistical data, qualitative input from library users allows the development of a picture of the service. Internal library statistics collected from 2010 to 2014 and recorded by the Library Management System, Aleph, and the Library Statistical Database show that library users' priorities have shifted. The library has adjusted its services to meet new demands. According to data gathered, print collection usage has declined over the past four years, falling by 17% in 2013 and another 7% in 2014. The number of full-text downloads from databases has stabilised after an initial high increase; however, the use of e-books is still growing, with a 93 per cent increase in e-book page downloads since 2011. The library's response was to streamline its printed collection, allowing for more group and individual study areas. More computers have been secured and laptop users have been accommodated.

According to Atsango (2016), librarians require statistics to make the best investment decisions for their respective institutions. Librarians also use statistics to support funding applications, drive the development of collection decisions, and may make selection judgements such as withdrawal decisions (Atsango, 2016). Considering the advancements mentioned above, Zimbabwe university libraries can use statistics to supplement their management skills and provide user-friendly services.

### **3.4 Summary of the chapter**

This chapter reviews the literature on the research objectives, hypotheses, and variables related to the purpose of the study and the research questions. University education services and, by extension, libraries have adopted a business model, and there is global competition among university units, including libraries. Libraries are currently charged with better management options. The emergence of technology has brought about some improvements to library operations and services. The changes have been established in developed countries that their governments support; this is not the case with most African university libraries, which lag due to inadequate funding. In Zimbabwe, university libraries have quality control bodies, but lack tools, models, and instruments that gauge their performance. Performance evaluation, service quality, and user satisfaction are closely related. The relationship between the variables was hypothesised in the current research. International standards practiced by many libraries bring efficiency and improvement to the number of library users. The decline in usage statistics has been necessitated by inadequate service provision, underutilisation of resources, and the emergence of competitors providing other information. Some performance evaluation projects and tools for evaluating service quality have been explored, but they do not originate from our continent or are broadly used in African libraries, specifically in Zimbabwe. The current study develops a robust performance evaluation instrument for Zimbabwean libraries.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY**

#### **4.1 Introduction**

This discusses the research methods used in the research process. Research is a systematic and methodical process that investigates a phenomenon, addresses an issue, answers a particular question, and solves problems, all of which help increase existing and new knowledge (Sekaran, 1992:4; Redman and Mory, 1993:10 and Bassey, 1990:35). Therefore, research is a systematic production of knowledge that answers human inquiry. The research methodology is a tool used by researchers to conduct their research. It mirrors the direction in which researchers formulate their problems and objectives and present results from the data obtained during the study period (Sileyew, 2019). This chapter examines the research paradigm, research approach, research design, study population, sampling procedure, validity and reliability of instruments, data collection instruments, interview instruments, observation themes, survey questions, data analysis, ethical issues, and the summary. This study used a combined research approach using qualitative and quantitative methods to answer critical research questions. The study consulted primary and secondary sources. This chapter discusses the research methods used in the research process.

#### **4.2 Research paradigm**

Kuhn propounded the term paradigm in his seminal work, *The Structure of Scientific Revolution*, published in 1962 (Mouton, 1996:203). He defines a paradigm as “an integrated cluster of substantive concepts, variables, and problems attached with corresponding methodological approaches and tools.” He further says that a paradigm constitutes a conglomerate/set of professional commitments and agreed on understandings and assumptions regarding the questions and methods most appropriate for addressing the research questions. A paradigm is a shared worldview and a set of fundamental assumptions that represent the beliefs and values in the research discipline, which guides how problems are solved as well as mapping the behaviour of researchers (Jonker and Pennink 2010; Bryman, 2004:453 and Schwandt, 2001). Neuman (2006:81; 2011:94) refers to the paradigm as a general organising framework for theory and research that includes basic assumptions, key issues, models of quality research, and methods for seeking answers. Various authors have used the term paradigm and researchers in the social

sciences, for instance, Creswell (2021): Brown, Creswell, and Ryan (2015), Babbie (2010; 2011:34), De Vos and Strydom (2011:40) and Neuman (2011:94). The aforementioned authors corroborated that a paradigm is a complete system of thinking.

The four basic research philosophies are ontology, epistemology, axiology and methodology. They are linked to the origin, nature, and development of knowledge. Ontology is the way researchers see truth (Al-Ababneh, 2020). It is the nature of reality and how we define it (Biddle and Schafft, 2015). One can see reality stemming from external and independent social influencers, and it can be interpreted objectively, or from a realist perspective (Saunders, Lewis, and Thornhill, 2009; Neumann, 2011 and Al-Ababneh 2020).

On the one hand, subjective reality is believed to depend on social actors and that people contribute to its existence. Epistemology explains the relationship between knowers, what is known, and how we know what is. This is the belief in how knowledge is generated (the methods used in extracting data), understood, and applied. Axiology concerns ethics and how research is coined within a particular paradigm. Axiology helps form research questions by examining researchers' values (Johnson and Onwuegbuzie, 2004).

On the other hand, the methodology is concerned with the model for undertaking the research process. It is rational for tools we choose to interrogate these other concepts (Denzin and Lincoln, 2005; Mertens, 2007). Ontology, epistemology, axiology, and methodology formed the basis for the research paradigm in conducting the research process from start to end. These beliefs are by no means catalysts in paradigm development.

Research paradigms influence the research path, finding what should be studied, how research should be conducted, and how outcomes should be interpreted. Savi *et al.* (2017) assert that paradigms are a shared belief system that supports and influences the types of knowledge that researchers seek to obtain and how they understand any research evidence collected (Morgan, 2007). According to Kaushink and Walsh (2019), paradigms are practical research tools for solving specific research problems (Abort, 2004). For instance, in this study, the researcher seeks to determine the performance evaluation levels of service quality and user satisfaction in selected

universities. The research results will help library managers to plan and forecast future developments in university libraries. Creswell (2021) further simplified these paradigms by associating these beliefs with research approaches. For instance, a quantitative approach is linked to positivist paradigm beliefs, hence classified as scientific. In contrast, a qualitative approach is associated with a constructivist paradigm position, which is naturalistic. The third paradigm, which this research uses, is the pragmatic paradigm. The research questions of this study call for a combination of qualitative and quantitative approaches (*Table 1 details the combined methodology*).

#### **4.3 Positivism**

The origins of positivism can be traced back to Augustine Comte, who believed that human beings were to be studied scientifically (Babbie, 2011:35). Positivists view research as a series of logically related steps and claim knowledge based on objectivity, standardisation, deductive reasoning, and control within a research process (Creswell, 2021; Creswell and Clark, 2011; Lanham, 2006). Positivism, therefore, is a social research approach that applies the natural science research model used to investigate social reality (Denscombe, 2008:14; 2010:120). According to Pham (2018), understanding truth must be measured and supported by evidence (Hamersley, 2013:22-23). Furthermore, Majeed (2019) states that positivists apply the lens of natural science to social science. They ontologically believe that social reality is external and objective, and that reality exists outside personal experiences (Saunders, 2012). Researchers maintain a distance from their research by adopting an outsider approach. Detachment will allow researchers to collect value-free and quantifiable data (Druckman, 2005:5).

Positivists use a scientific approach to generate knowledge using and developing numbered data (statistical data). People's thoughts and attitudes cannot be accepted as valid evidence and knowledge; only hard facts that can be proven will most likely be added to the process. For them, theory expresses and reflects empirical research. They start by testing a theory as a hypothesis and then use statistical tests. According to De Vos *et al.* (2011:6), positivists believe science is deductive, and a hypothesis is derived to enable the researcher to submit it for rigorous empirical examination before rejecting, revising, or accepting it.

Creswell (2016) opines that positivists believe that different researchers researching the same problem will find similar results by carefully using statistical tests and applying the same research process to a large sample. They believe that research results can be used across contexts (naïve realism) (Majeed, 2019). Although they believe in generalising the research outcome, they admit that knowledge results from social conditions, which is interpretivism. With the methodologies and methods of collecting and analysing data based on evidence and statistics, the effects of the same phenomenon or event may be replicated for different groups or subgroups of the population in social contexts. Researchers can save time and money by using the findings of a specific study for future qualitative predictions (Jonson and Onwuegbuzie, 2014). Similarly, by using critical methodologies such as experimental or survey research and applying appropriate sampling methods, instrumentation, and statistical data treatment, the findings will help provide an intensive answer to any research questions (Cohen, Manion and Morrison, 2009).

Babbie (2010:41) opines that positivism has severe problems and some questionable assumptions. Denzin and Lincoln (2011) argue that early positivists assumed that social reality could be rationalised, as people always act rationally. Babbie (2010:14) disagrees with this notion and states that people do not always act reasonably. He argues that everyone acts, thinks, and interprets subjectively to a certain extent. This argument dismisses objectivity and positivists disagree with this view. Positivism cannot measure reality related to the attitudes, intentions, and thoughts of humans because the concepts may not be explicitly observed or measured with sense experience or without evidence (Hammersley, 2013:23-24). In this research, positivism cannot address the qualitative research questions. For instance, which aspects of performance evaluation standards contribute the most to quality services and user satisfaction? Such questions measure librarians' and postgraduate students' attitudes and human behaviour. Even when results are generalised, applicability to a local context can be problematic, as not all settings fit well with conclusions. In this study, positivism cannot be entirely ruled out. However, it can only complement other research paradigms, especially the suggested pragmatic approach chosen for this research.



The shortcomings of positivism demand a more viable and suitable approach. The composition of the research questions clearly indicates that a single system cannot be used. This study requires strategies that accommodate qualitative and quantitative methodologies.

#### **4.4 Interpretivism**

Pham (2018) views interpretivism as adapting explanations of reality, in which a single phenomenon may have multiple interpretations other than obtaining the truth from the measurement. Interpretivism, the phenomenological approach, is concerned with human understanding (Babbie and Mouton, 2010). The purpose of interpretivism is to comprehend and explain people's daily events, experiences, social structures, and values (Collins and Hussey, 2009:56-57). This research used observation and interviews to explain events and determine library users' behaviour in selected universities. Social reality is subjective, as the participants' beliefs, values, and objectives of the researcher shape it. According to Majeed (2019), interpretivism posits that existence is generated by social actors and people's perceptions of it. Human beings from different backgrounds, assumptions, and experiences contribute to the development of reality through social interaction. Social reality is subject to change due to the subjectivity of human perspectives (Hennink, Hutter, and Bailey, 2011). In this study, human experience and daily events are obtained through observation and interviews administered to library management teams at selected universities.

Interpretivism denies positivists' objective ideas offered by positivists (Majeed, 2019). They reject the idea that social sciences should apply research practices from the natural sciences, as they believe that meanings do not exist outside the mind (Fouche and Shurink, 2001:309). As such, interpretivism cannot be used in studies in which the research questions are mixed. Interpretivism lacks a complete evaluation, and its conclusions are not balanced. There is a need for interaction and dialogue with participants to gain knowledge. They prefer to work with qualitative data that provides detailed descriptions of social constructs. Understanding the social context has become more comfortable due to diverse data interpretation methods. They agree that meaning can only be discovered through a qualitative approach, not a quantitative analysis (Schwandt, 2007: 314-317). They take the position of insider perspective in their path by studying social reality from the research participants themselves. The participants' and

researchers' experiences and values influence the data collection. The three basic principles of interpretivism are as follows: social reality is developed and defined by people; the researcher is part of what is observed; and people's interests move the research (Wisker, 2008:69; Blumberg *et al.*, 2011:17).

Interpretivism has shortcomings. It tends to leave a gap in verifying the validity and usefulness of research outcomes using scientific procedures. Its ontological view tends to be more subjective than objective, resulting in the possible bias in the researcher's interpretation of the data (Pham, 2018). There is no generalisation of the results as in the positivism paradigm (Creswell, 2017). Therefore, this model alone cannot be applied. It is imperative to use a holistic and plural research paradigm to accommodate the shortcomings of the aforementioned research paradigms.

#### **4.5 Pragmatism**

Pragmatism originated in the late 19<sup>th</sup> century in the United States and began to reject traditional assumptions about the nature of reality, knowledge, and inquiry (Walsh, 2019; Maxcy, 2003). The founders of pragmatism are Charles Sanders Peirce, psychologist William James, philosopher and mathematician Chauncey Wright, jurist Oliver Wendell Holmes Jr., and philosopher and lawyer Nicholas St. Johns Green. Pragmatism was born from the works of great philosophers and educationists John Dewey, George Herbert Mead, and Arthur F. Bentley (Morgan 2014). Pragmatism is an independent research paradigm that accommodates positivism and interpretivism (Tashakkori and Teddlie, 1998). It has, all the same, refuted the "paradigm war" between positivism and interpretivism. Creswell and Plano-Clark (2011:38) define and relate pragmatism as a 'worldview' associated with mixed research methods. The research questions call for a pragmatic approach because they combine qualitative and quantitative paradigms.

According to the pragmatism research philosophy, the research question is the most critical determinant of research philosophy. The research questions were mapped according to different paradigms (*see Chapter 4 Table 1*). Pragmatists combine the gap between the qualitative and quantitative methodologies of older approaches, natural methods, and freewheeling methods of newer approaches (Creswell, 2013 and Clark, 2011). Social reality results from a mixture of

ontology, epistemology, and axiology to understand social reality. Pragmatics favours working with both qualitative and quantitative approaches. For instance, in this research, there is a need to use a pragmatic paradigm for research questions 1 and 2, as shown in Table 1. These questions are both qualitative and quantitative. Research questions 1, 3, and 5 are qualitative, and research questions 1, 2, 3, and 4 are quantitative. As such, qualitative and quantitative paradigms do not apply exclusively to this study, as they will yield monotheist results.

The pragmatic paradigm, for example, is used in several fields of social science research (Onwuegbuzie and Leech, 2005; Alise and Teddlie, 2010; Mertens, 2010; Hall, 2013; Creswell, 2014; Morgan, 2014; Parvaiz *et al.*, 2016; Edmonds and Kennedy, 2017; Leavy, 2017) because it "explicitly hails the foundations for the mixed method researcher" (Parvaiz *et al.*, 2016:76). These applications can be found in ethnography, anthropology, sociology, information science, and policy development, among other fields. In practice, pragmatism is reflected in the suitability of the method to the research question, without predetermined limitations. The research question of this study is suitable for this paradigm.

Borges and Revez (2019) published a research paper examining the pragmatic paradigm's logic and roots, and its implications in Information Science research. The main goal of the literature review (Web of Science and Scopus) was to determine the role of pragmatic paradigms in Information Science literature and assess whether mixed methods researchers and others refuted their philosophical basis. According to the findings, Information Science research does not use the pragmatic model as a conceptual foundation or a foundation for mixed methods research. Nonetheless, the study and observation of this model option continue to enrich knowledge acquisition in Information Science. Librarians should use the pragmatic model in their surveys because it produces mixed results using both qualitative and quantitative methods.

Pragmatism asserts that reality exists and supports the objective nature of science. Furthermore, this philosophy assumes that individuality influences how people perceive the world, and thus, research is subjective (Al-Ababneh, 2020). This study uses a combination of positivism and interpretivism paradigms to deduce the subjective and objective nature of reality by observing selected libraries' developments and interviewing library management leaders. Pragmatism

provides numerous explanations and interpretations for science. It employs objective and subjective standards (Saunders, Lewis, and Thornhill, 2003). As a result, the pragmatist philosophy is a compromise between positivist and interpretivist research philosophies, implying that there is no single suitable philosophy and that researchers should use more than one. Creswell (2021) classifies the positivistic paradigm as a quantitative paradigm and the phenomenological paradigm as a qualitative paradigm. As such, this research uses pragmatism, which combines research philosophies.

Pragmatism can combine qualitative and quantitative positions within the original research scope, according to the nature of the research question. It uses pluralistic methods to investigate their research findings (Maxcy, 2003). Maxcy further argues that pragmatism scholars reject the idea that social science inquiry can access reality using a single scientific method. According to Morgan (2014), external forces do not influence humans; they can shape their experiences through actions and intelligence. They believe that reality is not static, as it changes over time. Activities are vital for pragmatism (Goldkuhl, 2012). The pragmatism philosophy maintains that it is not possible to experience exactly the same situation twice; as a result, the warranted beliefs about the potential outcome are also provisional (Morgan, 2014). With pragmatism, dualism is refuted and empirical evidence is preferred over idealism (Morgan, 2014).

The research uses a pragmatic paradigm. Wahyuni (2012) argued that accessing the ‘truth’ about the natural world was impossible solely using a single scientific method. Combining qualitative and quantitative methods is ideal. As such, this research used the pragmatic worldview because it combines multiple approaches to address different research questions (Wahyuni, 2012). The researcher discovered that pragmatism philosophy's criteria, such as researcher freedom, the discovery of relationships and causality between variables, objective standards, deductive methods, quantitative and qualitative measurements, and generalisation, are appropriate for the research objectives. As a result, the pragmatism philosophy was chosen for this research to understand correlations among variables and causally explain dimensions relevant to those parameters (Al-Ababneh, 2020).

#### **4.6 Research approach**

Research approaches include plans and procedures for research. The selection of a research approach lies in the research problem, researcher's personal experience, and audience for whom the study will be written (Creswell, 2021). Creswell proposes three research approaches: qualitative, quantitative, and mixed methods. This study is based on a combined research approach of integrated quantitative and qualitative approaches.

Creswell (2021) states that qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore social or human problems. In this case, the researcher builds a complex, holistic picture, analyses words, reports detailed views of information, and conducts the study in a natural setting. Creswell (2016) further opines that a qualitative approach differs from quantitative research methods, as qualitative research uses various knowledge claims, inquiry strategies, and data collection and analysis methods. Qualitative research seeks in-depth insights into human behaviour and the causes that direct that behaviour. This concerns people's knowledge, attitudes, beliefs, fears, and expressions.

The qualitative approach has the advantage that the subjects of the research can provide better and more productive answers to questions given by the researcher. Furthermore, it provides practical insights that might have been ignored by any other method. Qualitative researchers examine the 'why' and 'how' questions, not just the 'what,' 'where,' and 'when' questions. For instance, this research examines why performance evaluation is critical to the selected university library. In addition, why are library usage statistics declining in selected university libraries? Qualitative researchers demand smaller, focused samples than large random ones (Murphy *et al.*, 1998).

The qualitative research approach has its own advantages. This definition clearly shows that qualitative research has the necessary ingredients to provoke problem-solving. Qualitative data instruments such as observation, open-ended questions, in-depth interviews (audio or video), and field notes are used to collect data from participants in their natural settings. Hence, the qualitative research approach provides much data about real-life people and situations (De Vaus, 2014:6; Leedy and Ormrod, 2014). The reliance on collected data, such as words and pictures,

makes qualitative research well-suited for providing factual and descriptive information (Johnson and Christensen, 2012:29-37). The close relationship between the researcher and participants in this approach makes it easy for the participants to contribute to shaping the research. However, this accounts for the significant understanding of experiences, as the participants understand themselves and experience as unified (Sherman and Webb, 1990:5; Lichtman, 2013:4).

However, the qualitative research approach has some shortcomings, as discussed in the following paragraph. Christensen and Johnson (2012:32-36) found that qualitative researchers view the social world as dynamic rather than static. Given this, they limit their findings to a particular group of people being studied instead of generalising (De Vos, 2014). Replicability is another problem associated with the qualitative approach. Critics of this approach argue that constructivists have abandoned the scientific methods and procedures of inquiry and investigation (Cohen, 2011:20-21). Plan users are said to write fiction because they cannot verify their factual statements. Since feelings and personal reports characterise the approach, it is believed that the procedure cannot provide reliable and consistent data compared to quantifiable figures (Atkins and Wallace, 2012:18-23). The subjective method employed by the qualitative approach users may be wrong, inaccurate, and/or misleading, as suggested by Cohen and Morrison (2011:21). Researchers impose their meaning and understanding of a situation at a given time and place on others. While the qualitative approach has its advantages, the nature of this research requires a combined research approach because of the type of research questions. This study cannot use a solely qualitative approach, as it cannot answer other quantitative research questions.

The quantitative approach is premised on objectivism and positivism, and is called scientific research (Creswell, 2014; Ma, 2012; Jonker and Pennick, 2010). The researcher is independent of the phenomenon under investigation: he/she is somewhat unaffected or does not affect the research process. The quantitative approach is deductive or confirmatory, primarily aiming to test theories and hypotheses by examining the relationship among variables (Antwi and Hamza, 2015; Bryman and Bell, 2007; Johnson and Christensen, 2012; Creswell, 2021). This study investigates the relationship between service quality and user satisfaction. The relationship between the quantitative and qualitative approaches used in this study is mutual and

complementary. The quantitative approach tests a theory, whereas the qualitative approach develops the same theory (Glogowska, 2011; Saunders, Lewis, and Thornhill, 2012). For instance, theories to be tested in this study include Assimilation theory (Festinger, 1957), Contrast theory (Hovland, 1997), Assimilation-Contrast Theory (Anderson, 1973), Negativity Theory (Carlsmith, 1968), Disconfirmation Theory (Oliver, 1981), Cognitive Dissonance Theory (1957), Adaptation Level Theory (1964) and Expectation Disconfirmation Theory (2014).

Quantitative information can be generated with speed and accuracy in data collection and analysis using statistical data (Bryman, 2001:20). The use of a statistical package for social science (SPSS) in this study saves a lot of energy and resources, and data (numbers, percentages, and measurable figures) can be calculated and analysed using a computer (Gorard, 2021; Connolly, 2007:2-34). Moreover, the qualitative approach allows for generalisation. Thus, it is possible to generalise the interaction with one party. Performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries within the library field may represent the broader Library and Information science discipline (Cohen and Morrison, 2011:243). Replicability, however, is another advantage of using this research method. Research analysis using this type of research method is conducted in the general public. Therefore, it can be replicated at any other time or place and still produce the same results (Shank and Brown, 2007:27).

The researcher is detached from the qualitative analysis, which could be viewed as an advantage and weakness (Denscombe, 1998:173-176). This is advantageous when the researcher is not directly linked to participants. For example, when data are collected via telephone, the Internet, or even pencil-paper questionnaires, the problem of researcher bias during data collection or analysis will be effectively eliminated. In other words, the objectivity of the researcher is not compromised. Second, this may guarantee respondents' anonymity (Creswell, 2021; Creswell, 2016; Brown, Creswell, and Ryan, 2015; Bryman, 2012).

In addition, to its advantages, the quantitative approach has weaknesses. The fact that the researcher is detached from the participants is a limitation. The researcher/participant relationship, with an in-depth analysis of the phenomenon in its natural settings, would be

exceedingly tricky. They do not understand or respect the community or individuals who work with them (Shank and Brown, 2007:63; Berg, 2007:4; Christensen and Johnson, 2012:35). In this research, the researcher should build relationships with postgraduate students to have their feelings, as well as their critical knowledge about library performance in particular. Thus, the experiences gathered may not be those of the participants' minds and opinions if the researcher is not linked to the participants (Berg and Howard, 2012:61). The shortcomings of the quantitative research approach require a complementary approach that answers all the research questions of this study. The qualitative approach alone cannot produce the desired results for this research project. Therefore, a more accommodating approach is required. The combined system is ideal for this research.

#### **4.7 Combined methods approach**

There has been a tremendous increase in the use of combined research approaches in various research fields. As of 2003, almost 1800 combined methods studies had been published in comparison to nearly 20 articles in the 1990s (Biddle and Schafft, 2015; Molina – Azorin, 2016). Combined research has been the third methodological movement over the past two decades. Some researchers refer to mixed research as a third paradigm or a combination of paradigms or a third approach, for example, Kronois (2019), Ghiara (2019), and Ma (2012). In this study, the term combined research approach is used. The combined research approach is spreading to many research disciplines, including business research, psychology, sociology (Molina-Azorin, 2016), international relations (Pratt, 2016), educational research (Johnson and Christensen, 2012), tourism (Pansiri, 2005), library and information science research (Ma, 2012), information system research (Goldkuhl, 2008, 2012); accounting studies (Brierley, 2017), and health service research (Glogowska, 2011; Sale *et al.*, 2002). However, Barnes (2019) believes that the combined research methods approach is not sufficiently represented in the social sciences until now, considering the valuable insights it provides. Biber (2010) asserts that the mixed methods research approach employs a research design that uses both quantitative and qualitative data to respond to the research question or objectives of the study. In this study quantitative and qualitative strands were used to address the research objectives and hypotheses. The latter involved a statistical significance level or confidence level of 0.05 or 0.01. The levels also included inferential and descriptive analysis, summarising and presenting the main



characteristics of data such as means, standard deviations and frequencies. For qualitative data, content and thematic analysis are used.

The author further states that this combination of methods “involve[s] the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study” (Brown, Creswell, and Ryan, 2015; Creswell, 2016; Creswell, Creswell, 2017; Creswell, 2021). Combined methods research is also referred to as multi-methods (Azorin and Cameron, 2010), multi-strategy (Bryman, 2004), mixed methods (Creswell, 2021; Tashakkori and Teddlie, 2003), or mixed methodology (Tashakkori and Teddlie, 1998) research.

Combined methods research involves mixing qualitative and quantitative data using pragmatic designs. Mixing can be performed concurrently or sequentially when conducting one part first or the second part (Antwi and Hamza, 2015). This study uses an explanatory sequential mixed method for data presentation and analysis. Using this method, the researcher conducts quantitative research, analyses the results, and then uses qualitative research to elaborate on the findings (Creswell, 2021). Since the qualitative phase follows the quantitative phase, it is considered sequential research. This type of design is popular in fields with strong quantitative orientation. The research questions (and their order) framed the presentation of the results in this study because quantitative research questions were predominant (See Chapter 1: Table 3). Consequently, the qualitative method was used as a complementary method.

The combined research approach assumes that it provides a complete understanding of the research problem rather than a single method (Creswell, 2014; Molina–Azorina, 2016). This study provides a comprehensive perspective of research. Creswell and Clark (2007) recognise that it may be preferable to adopt mixed methods to avoid losing the possible benefits of some data. However, combining qualitative and quantitative methods has disadvantages. For example, there are few guidelines about ‘how, when, and why different research methods might be combined’ (Bryman, 1988:155). Maxwell, 1990:507) further argues that:

*Uncovering the integration of qualitative and quantitative approaches in any particular study is a considerably more complex undertaking than simply classifying the study into a*

*particular category based on a few broad dimensions or characteristics. (Maxwell and Loomis, 2003:256)*

These are some shortcomings of combining research methods, but the disadvantages can easily be overcome. Mitchel (2018) used two case studies to determine the benefits of a combined research approach. The study found that an integrated research approach provides both qualitative and quantitative data, leading to the best explanation and understanding of the study research phenomenon. The combined method provides high-quality results by combining data from two different approaches. Johnson and Onwuegbuzie (2004) argue that the procedure is productive because “words, pictures, and narrative can be used to add meaning to numbers.” Qualitative data (words, pictures, and narrative) can be combined with quantitative and numerical data from a large-scale study on the same issue, allowing the research results to be generalised for future studies and examinations (Johnson and Onwuegbuzie, 2004:21). In this case, what is obtained from observation, interviews, and questionnaires will complement each other and produce mixed results on performance evaluation, service quality, and user satisfaction in selected libraries in Zimbabwe.

According to Biber (2010), the combined research methods have five advantages: triangulation, complementarity, development, initiation, and expansion. First, there is triangulation, which refers to using more than one way within the same research. The current study calls on questionnaires, interviews, and observation to collect data on the performance evaluation of service quality and user satisfaction in selected universities in Zimbabwe. The researcher combined the data collected using all methods to enhance the credibility of the research results, thereby enriching the conclusions. Triangulation aims to improve and strengthen research results using different data collection and analysis methods to study the same phenomena. Second, complementarity allows the researcher to comprehend the problem and ascertain its effects. It uses the strength of one research method to strengthen another. Complementarity and triangulation are used for cross-validation to produce comparable data (Yauch and Steudal, 2003). For instance, this study seeks to thoroughly comprehend the organisational culture and structure of university libraries. The use of interviews to gather and collect numeric data complements the research process. According to Brierly (2017), mixed research methods can use

quantitative data to confirm and test the results of qualitative and qualitative data to validate and add value to qualitative data. Combining qualitative and quantitative approaches can improve research quality by gaining integral strength and avoiding overlapping weaknesses (Johnson and Christen, 2016).

Third, the study develops synergetic results by providing results from one method to help inform the other approach (Green *et al.*, 1989:259). For instance, statistical data collected from quantitative methods can shape interview questions for the qualitative portion of one study. Because of these qualities and the ability to address all research objectives, a combined research approach was used in this study. *Table 4 maps the research questions to the requisite research approach of this study.*

**Table 4: Research Questions mapped onto Quantitative and Qualitative attributes**

S/N	Research Questions	Research approach
1.	Why is performance evaluation critical to the selected university library?	Quantitative and qualitative
2.	Which aspects of performance evaluation standards contribute the most to quality services and the user's satisfaction?	Quantitative
3.	How does technology affect service quality in university libraries?	Quantitative and qualitative
4.	Which service quality characteristics contribute to user satisfaction in libraries?	Quantitative
5.	Why are library usage statistics declining in the selected university library?	Qualitative

Fourth, an initiation that can kick-start a new study by raising questions or contributions will require proof. The latest research provides new insights into existing theories on the phenomena under examination (Biber, 2010). The results of the current study might uncover a different library science information topic and launch a new investigation. Last, but not least, is the expansion that gives room for research expansion. According to Creswell and Clark (2011), combined research methods provide a better understanding of the research, provide more detailed solutions to research questions, identify new research questions, and suggest changes to subsequent research designs. It extends the breadth and range of inquiry (Biber, 2010). Researchers use these results to continuously use different mixed methods to pursue new and modified research questions. Expanding research will give researchers grounds to explore the same problem under study and produce refined conclusions. For example, in the current study, researchers can expand on new research by looking at all libraries besides university libraries and using all students and staff, not postgraduate and Librarians (University librarians and their Deputies).

However, there are some limitations to the combined research approach. The combined research method requires more time, effort, and money, as it includes two phases of research (Molina-Azorin, 2016). Concurrent data collection methods will be used to reduce costs and time. Another limitation is that researchers need some skills and experience learning about new research methods and techniques to conduct qualitative and quantitative research (Fetters and Molina-Azorin, 2016). The advantage is that learning and exploring new designs will help researchers to avoid repeating the same methods repeatedly (Molina-Azorin, 2016).

This study employed a combined quantitative and qualitative approach. In recent years, with regard to research practice, combining quantitative and qualitative research has become unexceptional and unremarkable (Bryman, 2006). Studies in the field of library and information science have used an integrated research approach, including Smarkola (2011), Evangelista, McKinnon, and Sweeney (2013), Ngulube, Mokwato, and Ndwandwe (2009), Obiri-Yeboah, Fosu, and Kyere-Djan (2013), and Kamau (2014). This approach has been more productive because using a single method is insufficient to address the complexity of the research questions involved in this study. Its use provides more evidence for studying the research problem than

quantitative or qualitative research alone (Creswell and Clark, 2007). The research methodology has been chosen because of its hybrid nature in providing results that come from a combination of two methods. *Table 4 details the combined research questions mapped onto quantitative and qualitative attributes.*

#### **4.8 Research design**

Research design is the course of action, systematic approach, and blueprint used to investigate the research issue (Babbie and Mouton, 2010; Christensen *et al.*, 2011). The design maps the research and demonstrates how data will be collected and investigated. The research design combines experimental data from the research topic, research questions, and conclusions. Individuals interested in undertaking research were selected from a variety of research designs. The research objectives, research questions to be answered, and available resources influence how a research design is adopted (Ponto, 2015). The nature of the research questions was thoroughly examined in this study. Research design guides the flow of research from research questions to data collection, analysis, interpretation, and solutions to problems by making critical decisions regarding research processes (Yin, 1989; Sekaran, 2003; Kothari, 2004).

Various research designs include experimental designs, surveys, single-case and multi-case study designs, ethnography, and phenomenology. This study used a survey design. According to Ponto (2015), a survey design allows for several approaches for recruiting people, collecting data, and utilising multiple instruments. For instance, quantitative research strategies (e.g., using numerically rated items on questionnaires for postgraduate students) or qualitative research strategies (e.g., utilising open-ended questions for library managers) were used in survey research (i.e., mixed methods). Surveys are widely utilised in social and psychological research because they are commonly utilised to describe and explore human behaviour (Singleton and Straits, 2009).

The survey design is compatible with a pragmatic, pluralistic research philosophy that allows for the use of combined methods. The researcher collected quantitative, numbered data using questionnaires (mailed questionnaires) and qualitative data using interviews (one-on-one interviews).

Dillman *et al.* (2014) argued that combined techniques should be used in survey research because no single approach is suitable to satisfy the desired research goals, reduce measurement and non-response errors, and better match study methodologies to the intended population. For example, this study began by distributing a questionnaire to postgraduate students at selected universities, followed by interviews with library managers to clarify unclear survey responses (Singleton and Straits, 2009).

Brannen (2017) posits that the survey technique is a positivist methodology linked to the deductive approach. As a result, the survey strategy enables the researcher to obtain and analyse quantitative and qualitative data using descriptive and inferential statistics. Quantitative data were analysed qualitatively through content analysis and analytical surveys. The relationships between different variables were investigated. For instance, this study explored the relationship between quality services and user satisfaction. Qualitative data were analysed qualitatively through content analysis. On the other hand, a holistic approach to study design may use positivism as a research methodology, a deductive research approach, survey as a research strategy, mixed methods as a research tool, and a cross-sectional approach to collect data. Finally, systematic interviews in collaboration with questionnaires and content analysis to achieve triangulation can be analysed using both statistical and content analysis (Kansteiner and König, 2020).

The research survey saves time and money by collecting data from geographically dispersed institutions (Abbas, 2015). The advantage of this study is that the selected university libraries are located in different provinces, namely the Masvingo, Manicaland, Midland, Matabeleland, and Mashonaland regions of Zimbabwe.

#### **4.9 Population of the study**

The success of any research depends on the collection of the elements that the researcher wishes to infer. A research population is an entire group in which some information is needed (Banerjee and Chaudhury, 2010). The researcher then targets specific units or the entire group to extract the required information for the research. The target population in this study consisted of university librarians, their deputies, and library patrons who were postgraduate students at the selected universities in Zimbabwe. Library managers hold professional positions and are suitable for

interviewing in this study (Kieserman, 2014; Cain and Merril, 2001; Adeleke, 2017). The selection of university librarians and their deputies was based on their involvement in university managerial issues and their experience, mainly because the university librarian is the chief policy and administration officer and the deputy librarian is the chief operations officer.

In this research, a postgraduate student is one who completed an undergraduate degree programme at a college or university and is now continuing their education at a higher level. Students pursuing master's degrees, postgraduate diplomas, MPhil, and PhDs at selected universities are among the study population. The selection of postgraduate students was based on their experience. Postgraduate students have vast expertise in library use, as well as their critical knowledge about library performance in particular spanning more than two years, in different environments. The postgraduate research experience comprises students' empirical and perceived experiences with candidates and the extent to which such experiences influence or shape students' lifelong developmental progress after completing the programme (Muraraneza, Mtshali, and Bvumbwe, 2020). Choosing this category of university students was based on the premise that they are involved in the more rigorous use of libraries and that their judgement of service quality and satisfaction levels of the services provided will add texture to the study. Most previous studies cover more generalised categories of users, whereas there is an urgent need to focus on postgraduate learners. In other words, the postgraduate students were chosen because of their academic experience and as the library's primary users.

Zimbabwe has 18 officially recognised universities, 12 state-funded universities, and six private religiously affiliated universities (<https://www.4icu.org/zw/>). Four universities were included in the study. The National University of Science and Technology (NUST), Midlands State University (MSU), BUSE, and Women's University of Africa (WUA) were selected for this study. In this research, a postgraduate student completed an undergraduate degree programme at a college or university and is now continuing their education at a higher level. Students pursuing master's degrees, postgraduate diplomas, MPhil, and PhDs at selected universities are among the study population. Researchers have studied the idea of postgraduate research experience to gauge the calibre of postgraduate research programmes and supervision (Muraraneza, Mtshali, and Bvumbwe, 2020). Postgraduate research experience comprises students' empirical and perceived

experiences with candidates and the extent to which such experiences influence or shape students' lifelong developmental progress after completing the programme. The postgraduate population sizes for the selected universities are as follows: NUST, 2482; MSU, 3525; BUSE, 338; and WUA, 1200. The selected universities represent the Bulawayo, Midlands, Mashonaland West, and Harare provinces.

#### **4.10 Sampling procedure and sample size**

Kumar (2011) defines sampling as the selection of a few from a larger group. In other words, sampling is “choosing informants” (Cohen *et al.*, 2000:45). In this regard, sampling is the selection of specific data sources from which data are collected to address research objectives (McKibbin *et al.*, 2015). The researcher selected four universities using judgement sampling, because the four research sites met the selection criteria and the needs of the study. The four universities were selected based on their site performance, qualified subjects, and adequate resources (Harper, Zuckerman, and SHEP Cooperative Research Group, 2006). The sample was drawn from postgraduate students and library staff from four universities in Zimbabwe.

#### **4.11 Sample selection in quantitative research**

The Raosoft sample size calculator was used in this study. It includes a sample size calculator that considers the margin of error, confidence level, and response distribution. It also helps in comparing the margin of error for different sample sizes side-by-side. The sample size calculator software Raosoft (2004) was used for the quantitative research. Based on the software, an overall sample of postgraduate students is obtained. The sample from each institution is drawn based on the population ratio. The calculator has been used in health (Kingston *et al.*, 2014) and records management (Ngoepe and Ngulube, 2013). The formula is as follows:

$$x = Z (c / 100) \sqrt{r (100-r)}$$

$$n = N x^2 / ((N-1) E^2 + x^2)$$

$$E = \text{Sqrt} [(N - n) x^2 / n (N-1)]$$

Where n is the sample size, E is the margin of error, N is the population size, r is the fraction of responses of interest, and  $Z(c/100)$  is the critical value for the confidence level c. A margin of error of 5% will be considered, 95% confidence level for the total population (Aderemi *et al.*, 2008). This study used a web-based calculator to automate sample size. For example, the



population size of 2482 gave a total of 333 as the required sample size for one of the selected universities. *Table 5 details the sample size presented in this chapter.*

For each institution, the sample size was estimated using the Raosoft calculator. The total number of students from each institution was then added to form the total sample of the selected universities. Individual institutions' totals were deemed necessary because their total number of students varied. Accordingly, the sample size for the quantitative aspects was one thousand one hundred and fifty-three (1153) postgraduate students, and eight librarians were used for the qualitative aspects. Table 5 and 6 provides full details of the postgraduate students, library staff population, and sample sizes.

**Table 5: Institutional sample size (quantitative)**

INSTITUTION	POSTGRADUATE	SAMPLE SIZE
National University of Science and Technology	2482	333
Midlands State University	3525	347
Bindura State University	338	181
Women's University in Africa	1200	292
Total	7545	1153

**Source: Registrar's Office of selected institutions**

#### **4.12 Sample selection in qualitative research**

In qualitative research, there is broad uncertainty and questions among researchers about the research sample (Brannen and Nilsen, 2011). Some common questions students frequently ask how many interviews are sufficient. Merriam (2009:80) wrote, 'There is no answer.' Although quantitative research requires sufficiently large sample sizes to produce quantitative estimates that are statistically accurate, smaller samples are used in qualitative research. Few cases or subjects can benefit from a research project and show sufficient numbers.

Qualitative research sampling aims to collect knowledge to understand a phenomenon's nature, depth, variability, or context, rather than reflecting populations, as in the quantitative study.

Saturation is a commonly proposed criterion for determining when a sufficient sample size has been achieved in qualitative research (Charmaz, 2003; Merriam, 2009). Data overload typically refers to hitting an information saturation point, where additional data processing adds little or nothing new to the analysis (Morse, 2007).

For the library staff, the research employed a census method which means that data was collected from all the Librarians (University and Deputy Librarians) of the selected university libraries. University librarians and their deputies formed a part of the sample that was interviewed. Babbie and Mouton (2010) further argue that the sample is chosen “based on their knowledge of the population, its characteristics, and the essence of their research goals.” The population is “non-randomly selected based on a particular characteristic.” Participants were selected on the basis of their internal knowledge of their characteristics. For instance, the selection of Librarians and their Deputies was based on the premise that they are well versed in policies, staff performance, and in-depth knowledge of their institutions. Patton (2015) submitted that the logic and power of purposeful sampling lies in selecting specific research cases that are rich in experience. Information-rich cases are those from which one can learn a great deal about fundamental issues. For example, selecting participants or data sources to be used in a study is based on their anticipated wealth and relevance of knowledge regarding the study's research questions (Yin, 2011).

**Table 6: Sample (qualitative)**

Institution	Sample size
National University of Science and Technology	2 (Librarian and Deputy librarian)
Midlands State University	3 (Librarian and Deputy Librarians)
Bindura State University	2 (Librarian and Deputy Librarian)
Women University in Africa	1 (Librarian)
Total	8

#### **4.13 Validity and reliability of instruments**

Validity is the extent to which a concept is accurately measured in a quantitative study. The degree to which a research instrument consistently produces the same results when used in the same situation on multiple occasions is referred to as reliability. This refers to an instrument's precision (Heale and Twycross, 2015). When conducting or critiquing research, it is critical to consider the validity and reliability of data collection tools (instruments). Research instruments can be validated using material validity, internal validity, and external procedures. The degree to which a tool calculates what it is intended to measure is demonstrated by its efficacy (Kothari, 2004). Short and non-functioning questions can also be discarded. The validation of instruments helps correct items misunderstood by participants and enables the researcher to refine the data collection instruments (Chapman *et al.*, 2012; Connaway *et al.*, 2010).

There are three types of validity which include content, face, and construct validity. Content validity examines whether the instrument adequately covers all the content concerning the variable. In other words, does the tool cover the entire domain related to the variable or construct that it was designed to measure? In this research, an examination of content validity covers all the content on the topic, emphasising variables such as performance evaluation, service quality, and user satisfaction in the selected Zimbabwe university libraries.

Experts were asked whether the instrument measures the intended concept of face validity. There is a need to review the research instruments and data. In this study, the questionnaires were subjected to pilot testing to check whether the tool could be used to assess the critical thinking skills of postgraduate students. The vague and ambiguous queries can be updated, and complicated issues are reworded based on the reviewers' feedback. The researcher sent the instruments to ten (10) professionals for the pre-test. The ten members included eight seasoned librarians and two English language experts from Zimbabwe, Africa, and beyond. At one of the universities where the researcher works, 30 questionnaires were distributed to master's students. Five questionnaires were sent to PhD students studying with the researcher in Zimbabwe and South Africa. Eight competent librarians and two English language specialist examined the instrument.

The pre-test focused on the question items' complexity, comprehension, vocabulary, and cognitive overload. The ambiguity, repetition, similarity, and redundancy of the instruments were identified and corrected. The following corrections were made in this study: The Likert scale score was decreased from ten (10) to four (4). It was proposed that scales larger than four should be avoided because they are uncontrollable. In addition, the lengthy survey was condensed and numerous unnecessary questions were eliminated. The phrase "What comments about library services would you like to share?" and the other ambiguities were removed. University librarians and their deputies at the selected universities were coded for confidentiality. Predetermined alternatives in the observation guide were eliminated because it was difficult to monitor their behaviour.

Construct validity refers to whether one can draw inferences about test scores related to the studied concept. In this study, constructive validity was described as a measure of user satisfaction and quality services that demonstrated scientifically that satisfied and dissatisfied respondents behave differently (Peterson, Baker, and McGaw, 2010). Furthermore, the following null hypotheses were tested: there is no significant relationship between performance evaluation and service quality characteristics and user satisfaction. There is no meaningful relationship between user satisfaction, availability of technological tools, and library customer loyalty.

Heale and Twycross (2015) define reliability as the accuracy of a measurement. When completing an instrument to assess user satisfaction and quality of services, participants should have the same responses each time the test is performed. Although it is impossible to approximate reliability, various methods can be used to estimate reliability. Internal consistency (homogeneity) is measured using item-to-total correlation, split-half reliability, Kuder-Richardson coefficient, and Cronbach's alpha. This study uses Cronbach's alpha.

The reliability of the data and results is a critical criterion for any research method. It is concerned with the accuracy, reliability, and replicability of "data obtained from a test item" (Nunan, 1999:14). The reliability of the instrument scores leads to meaningful interpretation of the data. In this research, reliability was measured using Cronbach's alpha Formula technique in SPSS 20.0 for Windows. The study assessed reliability by administering the same test to the

same set of people at two different times. Correlation was calculated between the two groups of results, and the obtained results were subjected to Cronbach's alpha to determine the measure of internal consistency and reliability of the quantitative instrument (Abbas, 2015). The following results were obtained.

### **Cronbach's Alpha test**

Cronbach's coefficient alpha was used to evaluate the measurement scale adopted in this study. Cronbach's alpha was used to verify the internal consistency of the questionnaire comprising multiple Likert-type scales and items to evaluate the reliability of the measurements of each variable. Kipkebut (2010) states that Cronbach's alpha values range between 0 and 1. Hair *et al.* (2009) also indicated that values higher than 0.6 were reliable. All items were rated on a Likert scale of 1-4. 28 participants were used to test this instrument, and Cronbach's alpha test results are shown below.

**Table 7: Reliability statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.852	.852	43

Table 7 indicates a Cronbach's alpha test value of at least 0.7, and the questionnaire yielded 0.852, which suggests that the instrument had internal consistency; hence, it was embraced for data collection.

The Item Statistics below show the means and standard deviations of each item in the questionnaire, which is Likert-scale based. If all the items tap into the same concept, we expect the mean scores to be similar. Items with significantly higher (or lower) scores were removed from the questionnaire to ensure reliability.

**Table 8: Item statistics**

	Mean	Std. Deviation	N
B1	2.43	1.121	23
B2	2.87	.968	23
B3	2.78	.902	23
B4	3.00	.798	23
B5	2.87	.757	23
C1	2.96	.928	23
C2	3.22	.671	23
C3	3.22	.736	23
C4	3.17	.778	23
C5	3.13	.694	23
D1	2.43	1.080	23
D2	2.57	.843	23
D3	2.96	.825	23
D4	2.96	.976	23
D5	2.70	.926	23
D6	2.70	.974	23
D7	2.39	.839	23
D8	2.65	.982	23
D9	3.22	.795	23
D10	3.17	.937	23
E1	2.83	.937	23
E2	2.74	.810	23
E3	2.91	.996	23
E4	3.22	.902	23
E5	3.00	.905	23
E6	3.26	.864	23
E7	3.26	.864	23

E8	3.17	.887	23
E9	3.17	.937	23
E10	3.00	.953	23
E11	3.22	.902	23
E12	2.70	.926	23
E13	2.96	1.065	23
E14	3.39	.783	23
E15	3.30	.703	23
E16	3.30	.876	23
F1	3.09	.996	23
F2	2.96	.878	23
F3	2.43	.662	23
F4	2.57	.896	23
F5	2.52	.898	23
F6	2.91	.793	23
F7	2.78	1.126	23

To determine which item could be removed (among those with scores different from the rest), item-total statistics were checked. From the table below, removing items D7 and D8 improved Cronbach's alpha test to 0.863 and 0.860, respectively. The removal of these items was considered, and the items were removed.

**Table 9: Item-total statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B1	123.65	183.328	.663	.	.840
B2	123.22	185.542	.692	.	.840
B3	123.30	192.676	.448	.	.847
B4	123.09	192.174	.538	.	.845
B5	123.22	196.632	.354	.	.849
C1	123.13	189.846	.548	.	.844
C2	122.87	194.846	.503	.	.847
C3	122.87	196.482	.373	.	.849
C4	122.91	189.538	.681	.	.842
C5	122.96	194.589	.498	.	.847
D1	123.65	192.055	.384	.	.848
D2	123.52	195.079	.379	.	.848
D3	123.13	191.937	.530	.	.845
D4	123.13	188.664	.563	.	.844
D5	123.39	191.067	.500	.	.845
D6	123.39	193.976	.361	.	.848
D7	123.70	212.767	-.358	.	.863
D8	123.43	207.166	-.121	.	.860
D9	122.87	206.300	-.097	.	.857
D10	122.91	199.447	.166	.	.853
E1	123.26	191.838	.463	.	.846
E2	123.35	203.055	.044	.	.855
E3	123.17	199.514	.150	.	.854
E4	122.87	190.391	.543	.	.844
E5	123.09	191.174	.509	.	.845



E6	122.83	195.696	.342	.	.849
E7	122.83	191.968	.501	.	.846
E8	122.91	192.174	.478	.	.846
E9	122.91	190.628	.511	.	.845
E10	123.09	189.447	.547	.	.844
E11	122.87	187.028	.684	.	.841
E12	123.39	206.794	-.110	.	.859
E13	123.13	194.664	.300	.	.850
E14	122.70	194.949	.419	.	.848
E15	122.78	200.178	.203	.	.852
E16	122.78	195.087	.362	.	.848
F1	123.00	192.182	.418	.	.847
F2	123.13	199.482	.180	.	.852
F3	123.65	204.146	.007	.	.855
F4	123.52	213.534	-.367	.	.864
F5	123.57	204.439	-.020	.	.857
F6	123.17	205.241	-.051	.	.857
F7	123.30	200.040	.107	.	.855

A reliability analysis was conducted on an instrument comprising 43 items. The Cronbach's alpha showed that the questionnaire had an acceptable reliability of  $\alpha = 0.852$ . Most items appeared worthy of retention, resulting in a decrease in alpha if they were deleted. One exception was items D7 and D8, which increased the alpha to  $\alpha = 0.863$  and  $0.86$ , respectively. Therefore, the removal of these items should be considered.

Reliability and validity are essential quality criteria in qualitative paradigms. While some qualitative researchers claim that the term validity does not apply to qualitative research, they also recognise the need for a qualifying check or measure for their work. According to Creswell and Miller (2000), the validity of a study is influenced by the researcher's interpretation of the validity and the model assumption they choose. As a result, many researchers have formed ideas

about validity and have often coined or adopted more suitable words, such as consistency, rigour, and trustworthiness (Lincoln and Guba, 1985).

In the qualitative approach, credibility, neutrality or conformability, consistency or dependability, and applicability or transferability are essential quality criteria (Lincoln and Guba, 1985; Wahyuni, 2012; Chaputula, 2016). Lincoln and Guba (1985:300) use the term "dependability," which closely resembles the concept of "reliability" in quantitative research. An analysis of trustworthiness is critical in qualitative research to ensure reliability.

Triangulation was used to assess the validity of the qualitative instruments. Triangulation is a technique (test) used to increase the validity and reliability of a study or evaluation of results. The researcher used a variety of approaches, including observation, interviews, and recordings, to create more accurate, credible, and complex realities. Triangulation is a move taken by researchers to include multiple investigators or peer researchers' interpretation of data at various times or locations to enhance the analysis and understanding of the constructions of others. Similarly, a qualitative researcher may "consider the ideas and explanations created by additional researchers studying the research participants using investigator triangulation." Consequently, the researcher sought advice from other researchers to classify the data obtained at various intervals.

The researcher collected data from the questionnaires, interviews, and classroom observations to eliminate bias. These results were confirmed using triangulation. If the same results are obtained, one is ensured that the data are valid. The researcher used another technique called member checking to validate the research findings. Member checking is a commonly used technique in qualitative studies and has been described by Lincoln and Guba (1985) as "the most critical technique for establishing credibility." Member checking involves taking data, analyses, interpretations, and conclusions back to the participants to judge the accuracy of the account (Creswell, 2013). The researcher intended to take the interview recordings back to the participants for clarification and review by member tests to affirm the substance of what they said during the interview experience (Chaputula, 2016). The aim is to enable participants to check the accuracy of the findings and the language used. In implementing this technique, the researcher discussed with the university librarians the transcribed recordings drawn from the

interviews conducted with them so that they could verify their accuracy. Feedback is crucial before publication of the results.

The researcher made repeated observations in the libraries of selected universities, especially those nearer to the researcher, over a prolonged period. The selected university libraries were visited more than twice, during the beginning of the semester and during the test time, to determine the most popular times for library use. The study's data and results inevitably improved because of the visits. The researcher visited several libraries in Zimbabwe, including the public and National Free Library. The tours were planned to gather information on library development, mainly because it was assumed that library utilisation was declining.

Another way to test validity is to assess the utility of research findings. Lynch (1996:63) argues, “Utility refers to the degree of utility the evaluation findings have for administrators, managers, and other stakeholders.” This criterion aims to investigate whether the research works. Utility in this research will ask if the project can produce adequate knowledge for university management regarding the project’s efficacy and appropriateness. External validity concerns the applicability of the findings to different settings and topics. As Burns (1999:60) states, “How generalisable our work is to the other contexts or topics.” However, it relies on the fundamental similarities between our context and others. Nunan (1999) stresses the research design and says, Is the research design such that we can generalise to a broader population beyond the subjects under investigation? For instance, can the performance evaluation of service quality and user satisfaction be generalised to other areas of the research field?

#### **4.14 Data collection instruments**

Quantitative data was collected through a closed-ended questionnaire, while qualitative data was collected through semi-structured interviews and observation (Ndenje-Schwile, Ngulube, and Stilwell, 2011). Observations, survey questionnaires, and interviews with management staff were conducted simultaneously. Data collection for this study took place over three months, from May to July 2021

#### **4.15 Survey questionnaire**

Research processes rely heavily on questionnaires as a primary source of data. The most important aspect is the design stage. Certain prerequisites must be met before developing the survey instrument. Primarily, the focus of this study must be stated precisely. Second, research objectives must be translated into quantifiable factors that contribute to the focus (Glasow, 2005). Third, the researcher must ensure that they are knowledgeable about the subject. Finally, a survey must be conducted consistently. Starting with the topic and looking at the research purpose, the researcher created survey questions for this study (see the full details of the research objectives in Chapter 1, section 5). Experts in measuring science should construct the survey equipment. According to Glasow (2005), a statistician should be consulted on the processes that will be used to determine the quality of the data acquired by the instrument, as well as to guarantee that the instrument is amenable to simple data processing and manipulation for analysis (Nayak and Singh, 2021). The researcher requested a statistician's expert insight into the data analysis mapping.

The survey questionnaire was administered to postgraduate students. These were students pursuing master's degrees, postgraduate diplomas, MPhil, and PhDs at selected universities based on their experience. Postgraduate students have vast expertise in library use, as well as their critical knowledge about library performance in particular spanning more than two years, in different environments. The researcher employed closed-ended questions in the quantitative method. The ordered alternatives in the closed-ended questions required the respondent to analyse each possible response independently. A four-point Likert scale was used in this study. The four-point Likert scale and numerical ranges created a continuum of 1-4 responses. These are the most straightforward questions for respondents to answer and researchers to assess (Glasow, 2005; Nayak and Singh, 2021). Since the study used a Likert scale, using percentages and figures was easy to interpret the data. However, according to Pornel and Saldaña (2013), most of the dissertations considered had questionable interpretations of the mean response for the Likert scales. In some studies, using mean in interpreting Likert scales is discouraged. (*Appendix 5 details the survey instrument for postgraduate students.*)

#### **4.16 Interview instrument**

The essential qualitative tools used in this study are interviews and observation of the operations of university libraries. According to Mathers, Fox, and Hunn (1998), interviews are a common data collection approach that involves verbal communication between the researcher and the subject. Interviews are frequently used in survey designs and exploratory and descriptive research. There are several types of interviewing techniques, ranging from unstructured interviews, in which the subject is free to talk about whatever they choose to conduct highly structured interviews, in which the subject's responses are limited to answering direct questions. A semi-structured interview guide was used for structured interviews. The interviewer used predefined questions in a semi-structured interview and the respondents reacted in their own words. To guarantee that all respondents offered information on the same themes, the interviewer utilised a topic guide that also served as a checklist. In this regard, the interviewer can probe certain areas (Easwaramoorthy and Zarinpoush, 2006). Semi-structured interviews are beneficial when collecting in-depth information from many respondents or interviewees methodically, such as university librarians. (*Appendix 6 details the interview guide of this study*).

Semi-structured interviews provide extensive information about a person's thoughts and actions. They are frequently used to put other data (such as outcome data) into context, providing a fuller picture of what happened in the programme and why it happened (Boyce and Neale, 2006). For example, in this study, the researcher sought to understand why performance evaluation is critical to the selected university libraries and why library usage statistics are declining in the selected university library. For the library staff, the research employed a census method which means that data was collected from all the Librarians (University and Deputy Librarians) of the selected university libraries. Participants were selected on the basis of their internal knowledge of their Libraries. For instance, the selection of Librarians and their Deputies was based on the premise that they are well versed in policies, staff performance, and in-depth knowledge of their institutions. Interviewing librarians and concerned members of library departments is required to find answers. The interviewer tape-recorded using his cell phone and wrote down the responses in a notebook. Queirós, Faria, and Almeida (2017) state that semi-structured interviews significantly benefit from other data collection methods, such as surveys, in providing far more specific information. They may also provide a more casual environment in which to collect data;

people may feel more at ease talking to you about their programme than filling out a survey. The librarians in this study were interviewed in the privacy of their workplaces during their spare time.

Bias is expected from the interviews. Owing to their involvement in the initiative, responses from university library managers and students may be skewed. The researcher devised a data-gathering strategy to avoid bias, create tools, and conduct the interviews. Fox (2009) states that it is difficult to establish consistency across respondents because open-ended questions are used. Consequently, it is even more critical that the interviewer maintains a neutral demeanour and refrains from influencing the answer in any way. Because of the time it takes to conduct, transcribe, and analyse, interviews are time-consuming and analyse the results. The researcher made sure to include time for transcription and analysis of the detailed data when organising the data collection endeavour. To obtain the most complex and comprehensive data from an interviewee, the interviewer made them feel at ease and showed them care and concentration about what they were saying. Effective interview strategies were employed, such as avoiding yes/no and leading questions, displaying an acceptable body language, and refraining from expressing personal viewpoints. Interviews, on the other hand, provide essential information for university libraries, primarily when used in conjunction with different data collection approaches. *Appendix 6 details the interview guide for the selected librarians and their deputies.*

#### **4.17 Observation themes**

Observation is a pre-planned analysis technique that is intentionally conducted to address research questions and objectives (Donnerstein,1999). The researcher studies library experience and incidents as they occur. The researcher observed the behaviour and documented the properties of the participants. Observations were used to supplement and clarify the data derived from the interviews. Burns (1999) and Flick (2006:219) argue that observation “is an effort to analyse events as they occur spontaneously.” More specifically, observation helps the researcher to combine them with questionnaires and interviews to collect “relatively unbiased anecdotal knowledge” (Johnson and Turner, 2003:314). The advantage of using observation is that data represents a first-hand picture of the events, is carried out in a natural field setting, and enables the researcher to obtain contextual factors. However, analysing observational data is time-

consuming, and observing a large population is difficult; there is the possibility of observer bias, reactivity, and investigator effects on students and instructors.

In this research, the observer determined the setting. The observation checklist was designed to investigate the site's environment and focus on the selected locations (Flick, 2006:217). (*Appendix 7 details the observation checklist for the selected libraries in Zimbabwe*). The source of observational data in this research is the participant's behaviour, library environment, and arrangement of books, furniture, and other reading materials. In addition, staff behaviour towards users, their expressions, and other non-verbal cues. This research took a non-participant observation; the observer only watched and recorded library activities without involvement. Burns (1999:82) and Fraenkel and Wallen (2003:451) confirm, "Researchers do not participate in the activity being observed but rather sit on the sidelines and watch."

These observations have both strengths and weaknesses. Analysing observational data is time-consuming, observing a large population is complicated, and observer bias is possible (Zihombi, 2013). The problem with observation is participant reactivity. Usually, participants react differently to new staff members, which can influence findings. To overcome this problem, Johnson and Turner (2003:312) suggest that reactivity may "decrease significantly after the researcher has been observing for a while". "Accordingly, the researcher took notes to make students feel comfortable". These notes are referred to as memos in qualitative literature. The researcher visited the library to assess the availability of library resources such as monographs and computers. In addition to the physical nature of the facility, including its entrance and exit points and library reading space, he also examined the students in the library, the staff at their workstations, and facilities such as restrooms and reading carrels. Another problem in the observation process is the observer bias. That is, the viewpoints of researchers and their backgrounds may considerably affect what they observe. Observers are human beings with some peculiarities that tremendously affect how they observe phenomena. Therefore, the observers must remain non-judgemental and "control their biases" (Fraenkel and Wallen, 2003:453).

During the observation phase, comments were bound to be made because the participants were at a higher educational level. The researcher openly interacted with individuals, accepting and

valuing favourable or unfavourable opinions. The researcher remained open to criticism and avoided falling into a bias on purpose. Observing and listening without passing judgement was necessary, giving the library management staff time to clarify and comprehend the researcher's perspective (Gabarre, Gabarre, and Din, 2016).

The observer wrote down his observations during the library tour to record new details. The researcher “took extensive field notes during and after the observation sessions” (Johnson and Turner, 2003:313). As the emphasis of the observation had to be altered during the observation phases, the researcher collected field notes to deconstruct library occurrences in the background and others in the foreground. To avoid forgetting key details, he recorded field notes as soon as he left each location. Furthermore, physical location, social atmosphere, participant engagement, and library setting were all noted. Accordingly, the researcher designed a suitable datasheet, and transcribed and observed the information as soon as possible.

#### **4.18 Data analysis**

Quantitative and qualitative strands were used to address the research objectives and hypotheses. The latter involved a statistical significance level or confidence level of 0.05 or 0.01. The levels also included inferential and descriptive analysis, summarising and presenting the main characteristics of data such as means, standard deviations and frequencies.

First, quantitative data were analysed using Principal Component Analysis (PCA) and Exploratory Factor Analysis (EFA). Second, quantitative data were subjected to a Likert-type scale as an indicator for the measurement of all items. The scale was 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. According to Kabir (2016), Principal Component Analysis (*henceforth* PCA) is best known for its ability to reduce the number of variables while retaining information from the original data set, and it is a widely known and used dimension reduction technique. PCA is a procedure used for identifying a smaller number of uncorrelated variables, called ‘principal components,’ from a large dataset. The goal of principal components analysis is to explain the maximum amount of variance with the fewest number of principal components. This is a variable reduction procedure. For instance, in this study, all five objectives had more than five question stems, with only one having 16. It was helpful for several variables



(possibly many) and reduced the redundancy in the questions presented. In this case, some of the question stems/items correlated, perhaps because they measured the same construct. This study used PCA as one step in a series of analyses to produce the best results.

The quantitative data collected were reported using IBM/SPSS version 24, percentages assisted by repeated counts, standard deviation, regression and correlation analysis, and statistical analysis to check the hypotheses, tables, graphs, and charts. SPSS is preferred because it is a powerful tool that can handle complex statistical procedures (Pallant, 2005). Quantitative data were subjected to descriptive analysis to generate percentages, frequencies, bar charts, and cross-tabulation. Descriptive analyses are techniques for organising and summarising data to enhance understanding (Onwuegbuzie and Combs, 2010).

Qualitative data analysis includes analysing many types of interpretive data from various sources, such as interviews, surveys, evaluations, focus groups, images, and videos (Schwandt, 2007). Qualitative researchers use different methods to interpret the data. Qualitative data should be structured with trends being considered and coverage following the same pattern (Kvale 1996). Subject content analysis was chosen because it provides an open and scalable approach to qualitative data analysis. In addition, thematic analyses generate and present data more effectively and reflect data collection facts (Braun and Clarke, 2006; Creswell, 2017). The analysis of the qualitative data was done using content and thematic frameworks. Ngulube (2015) argues that qualitative data analysis transforms raw data by identifying, analysing, recognising, coding, mapping, exploring, and explaining natural data patterns, trends, themes, and categories, interpreting them, and providing their underlying meanings.

**Table 10: Research Questions mapped onto the method of data analysis and source of data**

S/N	Research Questions	Method of data analysis	Source of data
1.	Why is performance evaluation critical to the selected university library?	Statistical analysis - descriptive statistics and inferential statistics (Quantitative). Content analysis, narrative analysis, and	Qualitative interviews, survey questionnaires, and observation tools

		discourse analysis (qualitative).	
2.	Which aspects of performance evaluation standards contribute the most to quality services and the user's satisfaction?	Statistical analysis - descriptive statistics and inferential statistics (Quantitative).	Survey questionnaire
3.	How does technology affect service quality in university libraries?	Statistical analysis - descriptive statistics and inferential statistics (Quantitative). Content analysis, narrative analysis, and discourse analysis (qualitative).	Qualitative interviews, survey questionnaires, and observation tools
4.	Which service quality characteristics contribute to user satisfaction in libraries?	Statistical analysis - descriptive statistics and inferential statistics (Quantitative).	Survey questionnaire
5.	Why are library usage statistics declining in the selected university library?	Content analysis, narrative analysis, and discourse analysis (qualitative).	Observation tools and interview questionnaire

#### 4.19 Ethical issues

The integrity of the research depends on the study design. The study relies heavily on ethical conduct, professional regulations, and codes of conduct that guide the researcher in their dealings with the participants (Norman and Lincoln, 2005). Researchers must do “no harm” (Berg and

Howard, 2012:61) as they collect data from someone and report findings to someone. Research involving humans can lead to physical and psychological harm. In this regard, the treatment of research participants is the most essential and fundamental issue that researchers face (Johnson and Christensen, 2012:103). Different authors have identified ethical issues and principles in many ways (Hopkins, 1999:221; Robson, 2002:65; Cohen, 2011:75; Maxwell, 2013:93). In the research design, it is necessary to work out the details of the value of research regarding the costs/benefits ratio (Cohen, 2011:75) and obtain informed consent before the commencement of the study (Creswell, 2009:86; Bryman, 2011:138). Berg (2007:68) argued that researchers should safeguard data by removing identifiers to ensure confidentiality. As this study involves human beings, there is a need to follow these research principles. This study considered the following ethical issues: protection from harm. For example, during the COVID-19 pandemic, the researcher ensured that he had access to sanitisers and masks. The questionnaire was quarantined and all respondents were in their respective classes following temperature checks at the entry point, either at the library or in their classes. On informed consent, before conducting the interview, the researcher provided participants with all the information about the research by introducing the research topic and its objectives and explaining it. The researcher used password-protected files, encryption when sending information over the Internet, and lockable drawers to protect the privacy and confidentiality of the data. The names of the participants and the research sites were coded.

The researcher honestly reported the data, results, methods, and procedures as well as the status of publications. He tried to avoid data fabrication, falsification, or misrepresentation by communicating his best understanding of the research in writing and orally. The researcher improved data accuracy by identifying appropriate internal and external sources to provide high-quality data. He established data quality goals, avoided overloading, reviewed data, automated error reports, implemented accurate reports, and maintained a positive working environment (Babbie and Mouton, 2010; Cohen, Manion, and Morrison, 2000). All the UKZN legal guidelines were followed. The researcher was granted clearance letters before commencing the study. (*Appendix 11 details the ethical clearance letter from the selected Universities*).

#### **4.20 Summary of the chapter**

This chapter describes the research methods used during the research process. This study adopted a pragmatic approach combining quantitative and qualitative methods. The study used a survey design. The target population in this study consisted of eight librarians and seven thousand five hundred and forty-five (7545) library patrons who are postgraduate students in the selected universities in Zimbabwe. Four universities were selected using judgement sampling. The qualitative sample was obtained by using descriptive phenomenology. The sample size calculator software developed by Raosoft was adopted for quantitative research. Accordingly, the sample size for the quantitative aspects was one thousand one hundred and fifty-three (1153) postgraduate students, and eight librarians were used for the qualitative aspects. Quantitative data were collected through a closed-ended survey questionnaire, whereas qualitative data were collected through semi-structured interviews and observation. Cronbach's alpha was used to measure the internal consistency and reliability of the instrument. The quantitative data collected were reported using descriptive and summary statistics. The study used pilot testing, test-retest reliability, and member checking techniques to determine trustworthiness. The collected qualitative data were subjected to thematic analysis. The study considered high standards of ethics based on Babbie and Mouton (2010) and Cohen, Manion, and Morrison (2000), and protocols at UKZN and those of the research sites.

## CHAPTER FIVE

### DATA ANALYSIS AND PRESENTATION OF FINDINGS

#### 5.1 Introduction

This study investigated the performance of service quality and user satisfaction in selected Zimbabwe university libraries. The previous chapter discussed the research methods that were used during the research process. The chapter looked at the research paradigm, approach, research design, study population, sampling procedure, validity and reliability of instruments, data collection instruments e.g., interview instruments, observation checklist, survey questions, and data analysis, ethical issues, and the summary. This study adopted a pragmatic approach combining quantitative and qualitative methods. Chapter five analyses the data collected on the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The purpose of the survey was to gather information from selected postgraduate students and Librarians (University librarians and their Deputies) working in selected university libraries in Zimbabwe.

The survey was conducted during the coronavirus pandemic period. The dates when data was collected for each instrument (observations, survey questionnaires, and management staff interviews) were over three months, from May to July 2021. The researcher employed specific approaches to enhance the respondents' participation in addressing the anticipated low response rate. The response rate was considerably high due to the support of the selected university librarians (deputy librarians, sub librarians, and selected library research assistants), registrars, and postgraduate administrators, who were responsible for the questionnaire's approval, distribution, and collection. Standard techniques were used, such as informing respondents about the study's purpose, providing approval letters, using the official letterhead of the related organisation, providing pre-notification, sending reminder e-mails, and engaging university authorities before engaging librarians and postgraduate students (Childlow *et al.*, 2015). The library management of the university libraries availed senior staff members who assisted the researcher in observing and following up with departmental representatives to complete and collect survey questionnaires. The researcher contacted research assistants who helped persuade the students to end and return copies of the questionnaire. A copy of the approval letter

accompanying the research instruments to conduct the study was issued by the university registrar of each participating university. The approval letter enabled the researcher to access all university departments. Coronavirus-induced lockdown and subsequent closure of universities in Zimbabwe. As a result, the initial survey period had to be extended to enable more postgraduate students to participate, complete, and return the questionnaire. An online questionnaire was designed to access library users who could not receive hard copies of the questionnaire. The researcher personally followed up with postgraduate administrators through email and phone calls. The overall duration of the data collection was extended to several weeks.

The researcher interviewed librarians and their deputies from the selected sites. The four selected sites were coded W, X, Y, and Z. The librarians were assigned 01, 02, 03, 04, 05, 06, 07, and 08. The researcher made appointments with personnel assistants to university librarians. Interviews were scheduled on the days the researcher visited. The scheduled time for the interview worked hand-in-hand with observation and questionnaire distribution. The Librarian at NUST assigned her library executive team to help with the interview, since she was occupied with the university business. The deputy Librarian was on sick leave, and the sub-librarian was also busy with university business, so the interview was carried out with the sub-librarian and systems librarian, whose experiences fared well. The Librarian at Midlands State University permitted her two Deputy Librarians to assist with participant recruitment for the interview. The Librarian was able to participate in the interview via phone. All the assigned librarians were knowledgeable in their fields.

The researcher further collected observation data by interacting with the selected sites. On-site observation took place over three months, from May to July 2021. The four selected sites were coded W, X, Y, and Z. The researcher first visited the locations for familiarisation and introduced them to the library staff and physical sites. The second visit was to carry out observations. Some research sites were visited more than once, especially those near the researcher, to clarify issues in the observation checklist. The researcher was introduced to the library environment, assisted by selected research assistants from libraries and university librarians. The observation report responded to all questions.

## **5.2 The presentation framework/ procedure**

This study uses an explanatory sequential mixed method for data presentation and analysis. Using this method, the researcher conducts quantitative research, analyses the results, and then uses qualitative research to elaborate on the findings (Creswell, 2014). Since the qualitative phase follows the quantitative phase, it is considered sequential research. This type of design is popular in fields with strong quantitative orientation. The research questions (and their order) framed the presentation of the results in this study because quantitative research questions were predominant (See Chapter 1: Table 3). Consequently, the qualitative method was used as a complementary method.

Data analysis was carried out in several stages following the collection of quantitative data, as follows: a) code preparation, b) file structure, c) data recording/capture, d) review and correction of erroneous data (data cleaning), e) assumption testing, and d) data analysis, which included variable descriptions and group comparisons based on the selected variables. Qualitative data were collected from the selected university libraries using an observation checklist. The quantitative results of the survey were presented using SPSS version 23. Quantitative data were presented using descriptive analysis to generate percentages, frequencies, bar charts, and cross-tabulation. Qualitative data were analysed using thematic expressions. The qualitative data were organised into themes and analysed on a theme-by-theme basis.

## **5.3 Response rate**

The percentage of eligible participants who completed the surveys is known as the response rate. According to Agustini (2018), response rates are a consequence of two components of the connection with participants: reaching the participants and winning their cooperation, which requires different tactics. Contacting wrong people and failing to elicit assistance from proper people can result in a low response rate (Agustini, 2018). The target group in this study was postgraduate students who were assessed to have experience and maturity to answer adequately.

In this study, 1153 postgraduate students from four universities were sent questionnaires. Most of the questionnaires were administered physically at selected universities. Due to Covid-19 pandemic postgraduate students from some universities were attending online lectures. The researcher asked for some emails of students studying online from the university postgraduate

Administrator. The researcher used his official email to send the survey monkey link to the students whose replies were retrieved and processed. Eight hundred and seventy-five (875) people responded, and these included 114 online survey questionnaires. The researcher recruited research assistants from the selected universities who helped distribute the questionnaires. At times, the researcher would go to postgraduate lecturers and librarians to assist in distributing questionnaires after obtaining permission from faculty administrators. For the online survey, the researcher asked for e-mails from postgraduate students studying online. The researcher used his official email to send the survey monkey link to students whose replies were retrieved and processed. However, 23 (2.6 per cent) were judged unusable owing to inconsistencies or incompleteness. A total of 852 questionnaires were processed and analysed, yielding a 74% response rate. The interview schedule (qualitative) was administered to eight librarians and their deputies, generating a 100% response rate. The researcher visited four chosen sites and observed them. The response rates in this study are presented in Tables 11 and 12. According to Fincham (2008), researchers should aim for response rates of approximately 60% in most studies. A rate of 60% is good and a 70% or higher rate is excellent (Mugenda and Mugenda, 2003). Based on this observation, the response rate of 74% was good. The response rate was statistically acceptable. The high response rate is due to the use of the earlier highlighted response rate maximisation procedures and the extended period for data collection given the COVID-19 restrictions.

**Table 11: Quantitative data response rate**

Sample participants (postgraduates)	Number of questionnaires administered	The number of questionnaires returned	Response rate %
Total	1153	875	74

**Source: Field data**

**Table 12: Qualitative data response rate**

Sample Institution	Number of Staff	Interviews conducted
National University of	2 (librarian and deputy librarian)	2



Science and Technology		
Midlands State University	3 (librarian and deputy librarians)	3
Bindura State University	2 (librarian and deputy librarian)	2
Women's University in Africa	1 Librarian	1
Total	8	8

**Source: University Librarians**

Tables 11 and 12 provide full details of the response rates.

## **5.4 Demographic data analysis**

This section examined demographic data such as age, gender, educational background, and place of residence. Data were gathered through survey questions.

### **5.4.1 Descriptive statistics**

According to Kneale and Santy (1999), any study should begin by explaining the demographic or descriptive characteristics of the sampled group and presenting them intelligibly. Descriptive statistics aim to look for patterns, compiling and provide data describing the sample's features to make comparisons (Moser and Korstjens, 2018). Simple summaries of the illustrations and data dimensions were used in descriptive statistics. Data presentation approaches include pie charts or tables that display the core data of the study's primary components, such as demographic or biographical data. The mean, median, mode, and standard deviation were used as indices of the central tendency.

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### **5.4.2 Demographic statistics**

Demographic data were used in this study to better profile respondents as library users at the selected institutions. Other data were also gathered, including the number of males and females and age ranges. In addition, students' residence status (campus-based or non-resident) and level of study (postgraduate diploma, master's degree, or PhD) were considered while compiling demographic information.

### 5.4.3 Distribution of postgraduate by gender

**Table13: Gender of respondent \* Level of education Cross tabulation**

		Level of education			Total
		Postgraduate diploma	Masters	PhD	
Gender of respondent	F	Count 235	209	13	457
	% of Total	21.3%	31.3%	1.9%	54.6%
M	Count	89	268	38	395
	% of Total	14.5%	26.4%	4.2%	45.4%
Total	Count	324	477	51	852
	% of Total	35.8%	57.7%	6.1%	100.0%

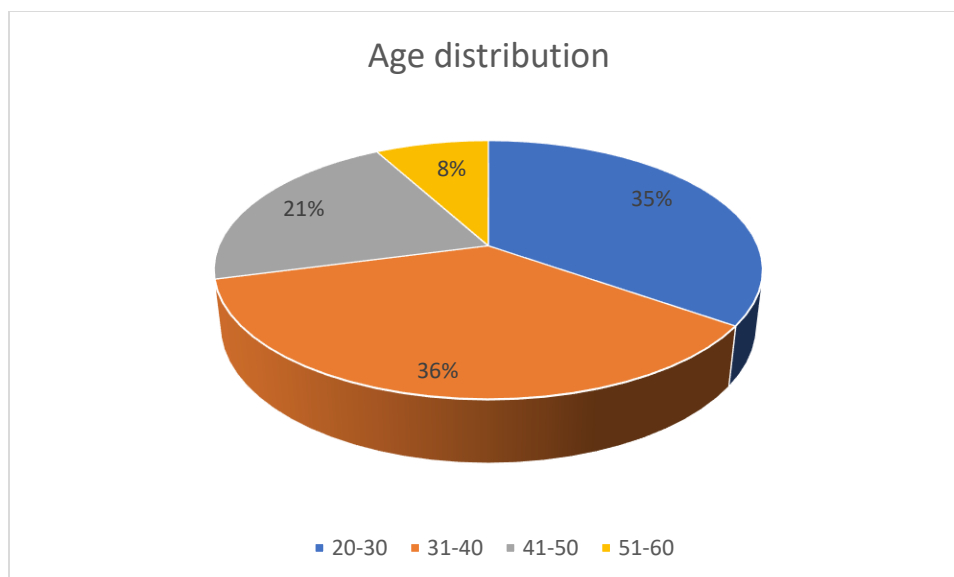
Table 13 illustrates the gender distribution between males and females who participated in the survey. The total number of respondents was 852, of which 457 were male and 395 were female. Female postgraduate diploma participants totalled 235, female master's students totalled 209, and female PhD participants totalled 13. Male respondents had 89 postgraduate diplomas, 268 master's degrees, and 23 PhDs. The sample size is statistically significant ( $250 > 30$ ) to represent all major aspects of the sample unit and to warrant meaningful, concrete, and coherent conclusions drawn from the findings. The response rate was relatively high, as more than 70% gave their input to the survey. Copies of questionnaires with missing values were discarded from the analysed lot. Female respondents were the most significant individual group, accounting for 54.6 % of the total sample. Male participants, who accounted for 45.4 % of the full sample, followed this group. Only two females out of the eight librarians participated in the interviews, while six males completed the sample. Discussions took place at each staff member's office.

#### 5.4.4 Distribution of postgraduate by age

**Table 14: Age of respondent Cross tabulation n=852**

		Age of respondent				Total
		20-30	31-40	41-50	51-60	
Gender of F respondent	Count	203	166	76	12	457
	% of Total	25.0%	17.8%	10.6%	1.2%	54.5%
M	Count	93	142	104	56	395
	% of Total	14.4%	17.0%	10.4%	3.5%	45.5%
Total	Count	296	308	180	68	852
	% of Total	39.4%	34.8%	21.0%	4.7%	100.0%

Table 14 presents the distribution of postgraduate students by age, Table 14 and Figure 1 presents the age distribution of the study participants. Most participants were between 20 and 30, accounting for 41% of the whole sample. The 31 to 40 age group, representing 39%, was the second largest. The third-largest group was the 41 to 50 age group, denoting 17% of the sample. The last and most minor groups concerning age distribution were those in the 51-60 age band at 3%. The age distribution of the participants is shown in Figure 1.



**Figure 1: Age distribution**

#### **5.4.5 Distribution of postgraduates by residence**

Table 15 illustrates the residence types of participants in this study.

**Table 15: Cross tabulation of level of postgraduate education and place of residence n=852**

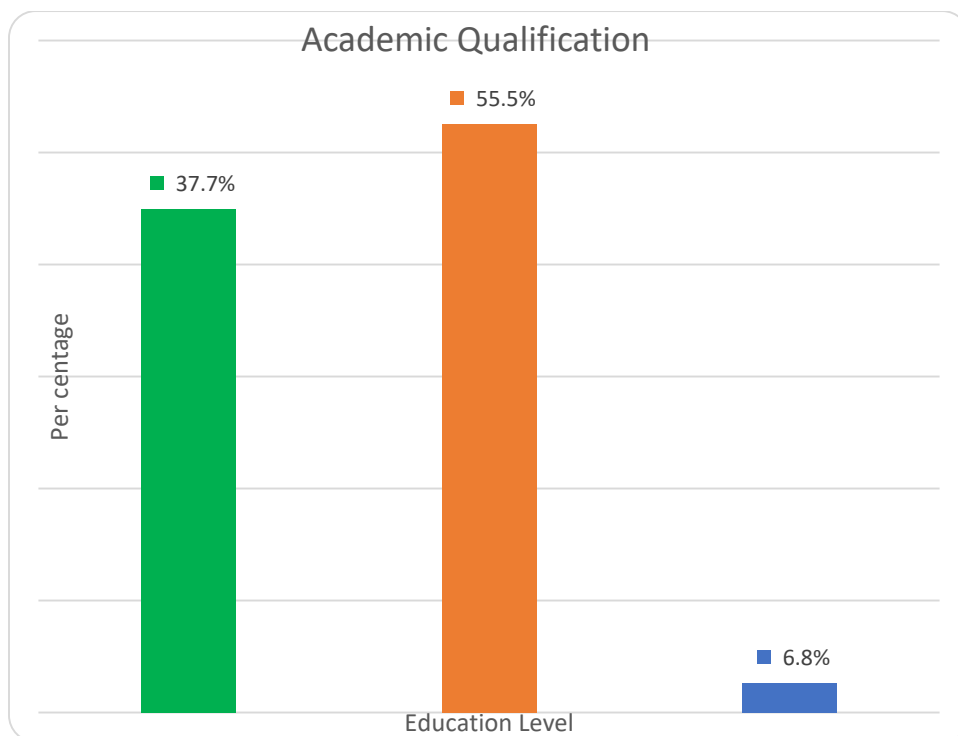
		Residents of respondent		Total
		Campus	Non-Residents	
Level of Postgraduate education	Diploma	Count 22 2.3%	302 35.4%	324 37.7%
	Masters	Count 26 2.9%	451 52.2%	477 55.5%
	PhD	Count 3 .5%	48 6.0%	51 6.8%
Total		Count 51	801	852

% of Total	5.7%	93.8%	100.0%
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Table 15 illustrates the level of education and place of residence for the participants in this study. The largest group in this category resided off-campus, representing 93.3% of student respondents. The remaining 6.7% stayed on campus.

#### 5.4.6 Distribution of postgraduate by academic qualifications

Fig 2 presents the educational qualifications of all the study participants. Most participants were studying for Master's degrees, accounting for 55.5%. Postgraduate Diploma students, representing 37.7% were second. The last group consisted of those studying towards a PhD, constituting 2.8%.



**Figure 2: Academic qualification.**

#### 5.4.7 Principal Component Analysis (PCA)

Principal components were used in the regression model to answer the research question. From the correlation matrix obtained, it is crucial to note that there is no multicollinearity between the variables because the magnitude of the correlation is less than 0.4. Therefore, it seems that the correlation matrix was acceptable, and the determinant 0.141 is larger than 0.00001, confirming

that the correlations are acceptable, and that Factor Analysis can be used. This is the first evidence that the researcher can run PCA. The second construct is the Kaiser-Meyer-Olkin (KMO) for measuring sampling adequacy, with a statistic of 0.627, which is more significant than 0.5, meaning that there is enough variance in the data; they can be partitioned using Factor Analysis (FA). In other words, the data are scalable or can be submitted to FA. Bartlett's Test of Sphericity also tells us a similar story, which means that the items correlate well, and the variance can be partitioned. The p-value of 0.000 is less than 0.05, implying that our data can be submitted to FA.

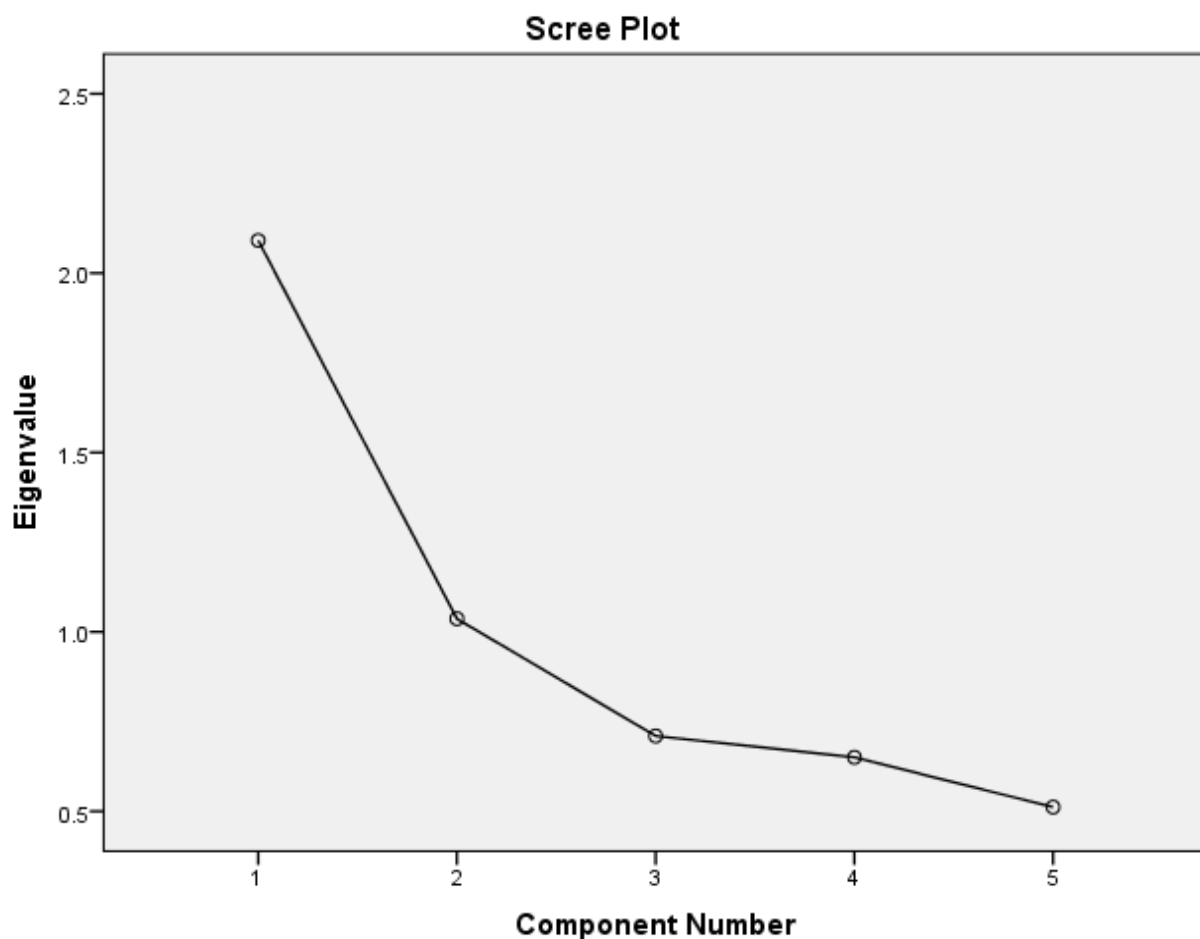
**Table 16: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.627
Bartlett's Test of Approx. Chi-Square	3800.315
Sphericity Df	1081
Sig.	.000

First, PCA grouped the initial variables into fewer factors. To test for sampling adequacy, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were used to measure the suitability of the data for analysis. A sampling adequacy test from the KMO is used to predict whether the data would serve well. A KMO value greater than 0.6 is considered acceptable. The data captured from the questionnaires and analysed were adequate for all five categories. The next issue is adopting the Kaiser eigenvalue criterion and the scree test by the researcher to determine which factors should be retained. All factors with eigenvalues greater than one were contained. The other sister method to the eigenvalue technique uses a scree plot, in which the eigenvalue magnitudes are plotted on the vertical axis against the number of components on the horizontal axis. This graphical representation and its interpretation show the number of factors to be retained. A similar procedure was followed for the items of the other variables. Two elements of research question number one (Research Question 1): The criticality of library performance evaluation is retained based on its more significant variance. The subsequent component analysis of elements of research question number two (Research Question 2), Evaluation standards

contributing to service quality, gave birth to one factor. The third component analysis, Research Question 3, related to library technology services, resulted in two extracted factors. The fourth component analysis, Research Question 4, on library services characteristics, had four principal components. Finally, Research Question 5, Library usage statistics, established two factors. Varimax rotation tests were performed to rotate the retained factors for each analysis application.

One advantage of rotating the retained factors is that it increases their interpretability and proportion of variance. The factor loadings are shown in Tables 1 to 5. The emerging/extracted variable description was primarily based on those variables whose factor loadings were more significant than 0.5 and higher. Cronbach's coefficient alpha was used to test the reliability of the internal consistency of the items. In exploratory factor analysis (EFA), constructs with values higher than 0.5 are retained as acceptable.



**Table 17: Factor analysis – RQ1**

<b>Component 1 –Library performance measurement</b>	<b>Loadings</b>
(Variance: 33.058%; Cronbach's alpha: 0.618).	
Performance evaluation is key to improving library services.	0.679
The university library is highly rated by users.	0.533
University libraries are competing in the provision of their services.	0.522
Performance evaluation/user feedback/user suggestions of library services are critical.	0.681
<b>Component 2: RQ1.2 Library Policies</b>	
(Variance: 29.501%; Cronbach's alpha: 0.632).	
The library has clear policies and procedures.	0.712

- Loadings (Varimax rotation)

The first PCA analysis in this research has established two new factors. These are denoted by RQ1, RQ11, and RQ12, as listed in Table 1. Component 1, which explains 33.058 of the variation, describes students' perceptions towards the evaluation of library performance, demonstrating its criticality. Component 2 indicates that the library has clear policies and procedures. Nevertheless, the variance of the two principal components explains 62.559% of the variation-value = 0.000 (Bartlett's test), KMO = 0.688, and a Cronbach's alpha above 0.6.

Respondents who responded to and returned the questionnaires have a strong feeling that performance evaluation, user feedback, and user suggestions of library services are more critical to library performance. To influence the effective use of libraries, they should have clear policies and laid down procedures, and universities should start implementing appropriate measures to increase their value and provide adequate services. To remain relevant in this ever-changing technological environment, universities should adopt performance evaluation, since it has been established as one of the critical elements in improving library services.



**Table 18: Factor analysis – RQ2**

<b>Component 1 –Performance evaluation standards</b>	<b>Loadings</b>
(Variance: 48.288%; Cronbach's alpha: 0.685; <i>p</i> -value: 0.000; Bartlett's test: 0.000; KMO: 0.779)	
The library has clear policies and procedures.	0.468
The rules and regulations are defined and displayed.	0.346
Rules are placed in strategic places.	0.626
Library quality service charter is accessible.	0.393
The library has an efficient library management system.	0.582

The second PCA resulted in one-factor analysis. All components were linked to a single theme, identifying the performance factors that contribute to the highest level of service quality. Rules placed in strategic places, with 0.626, had the highest factor loading of 0.582, followed by the library with an efficient library management system with 0.582. The library has clear policies ranked third (0.468), followed by the library quality charter (0.393), and the rules and regulations are defined and displayed (0.346). The respondents demonstrated that library rules are strategically placed and have an efficient library management system. The responses revealed that library performance evaluation standards were critical.

**Table 19: Factor analysis – RQ3**

<b>Component 1 –Library technology services</b>	<b>Loadings</b>
(Variance: 35.159%; Cronbach's alpha: 0.690; <i>p</i> -value: 0.000; Bartlett's test: 0.000; KMO: 0.718)	
The library has enough computers and printers for users.	0.340
I use library computers in my research.	0.607
The Internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services).	0.530
I do not visit the library because of the new technology and applications (remote services).	0.634

Our library uses SMS to provide us with new acquisitions and news.	0.647
Students bring their gadgets (PDAs, Laptops, iPads) to the library for use.	
The library is no longer useful in this age.	0.200
The library uses social media to disseminate information (Facebook, Twitter, Instagram, and WhatsApp).	0.623
<b>Component 2: Mobile technologies</b>	
(Variance: 17.551%; Cronbach's alpha: 0.632).	
I get my information on my mobile technologies at home.	0.636

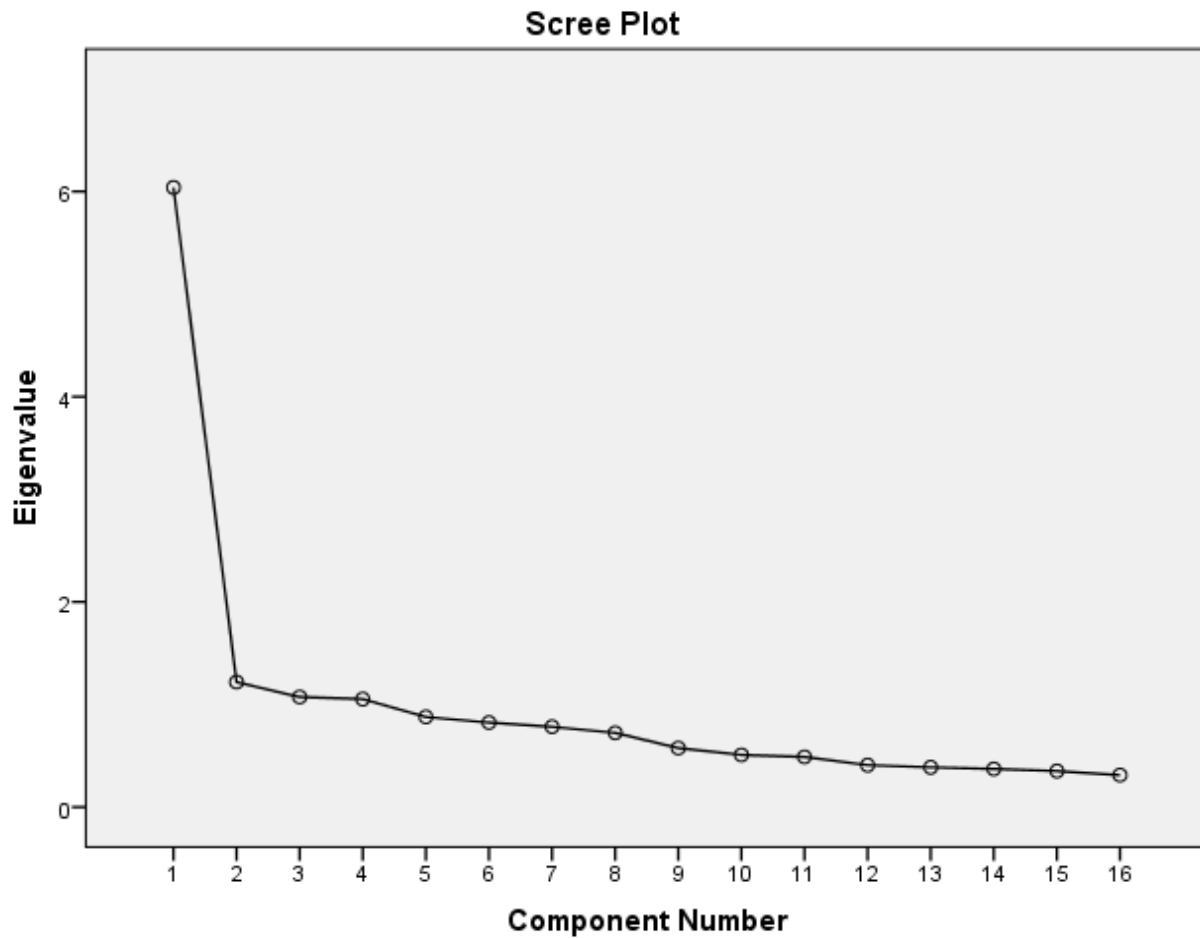
The third PCA had two factors from the ten questionnaires. The first component has a variance of 35.159%, whereas the second has a negative element of 17.551. The highest factor from the analysis is that 'Our library uses SMS to provide us with new acquisitions and news' with 0.647 loadings, followed by students getting their information from their mobile technologies with 0.636. 'I do not visit the library because the new technology and applications (remote services) scored 0.634. 'I use a computer in my research' has 0.607 loadings, while the 'Internet has heavily affected the use of the physical library' (physical library visits versus virtual/remote services) has 0.530. The lowest factors are 'the library has enough computers and printers for users' with 0.340, and the library is no longer helpful in this age with 0.200 loadings. The respondents showed that using computers has increased library performance, while physical libraries are no longer places to visit because of the proliferation of technologies.

**Table 20: Factor analysis – RQ4**

<b>Component 1 –Library services characteristics</b>	<b>Loadings</b>
(Variance: 37.746%; Cronbach's alpha: 0.847; <i>p</i> -value: 0.000; Bartlett's test: 0.000; KMO: 0.916)	
The range of materials held by the library meets my course needs.	0.665
I use library postgraduate study rooms, library computer resources, and open space.	0.665
Library physical facilities are appealing.	0.638
<b>Component 2: Library services</b>	
(Variance: 7.616%; Cronbach's alpha: 0.545)	
The library staff provide quality services to its library users.	0.391
I am satisfied with the customer service experience of the library staff.	0.673

Library staff provide training on accessing library resources like book arrangement and OPAC.	0.290
Library staff are knowledgeable in their tasks.	0.677

The fourth PCA returned two factors from the 16 questionnaires. Library service characteristics had a Variance of 37.746%, Cronbach's alpha: 0.847, *p*-value: 0.000, Bartlett's test: 0.000, KMO: 0.916, while library services have a Variance of 7.616% and a Cronbach's alpha of 0.545. The highest factor was 'library staff are knowledgeable in their tasks' with 0.677, followed by 'I am satisfied with the customer service experience of the library staff' with 0.673. 'The range of materials held by the library meets my course needs, and I use library postgraduate study rooms, library computer resources, and open space' had the same loadings of 0.665. Library facilities had a value of 0.638. The lowest was 'the library staff providing quality services to its library users' with 0.391, and last but not least was the 'library staff providing training on accessing library resources like book arrangement and OPAC' with 0.290. The respondents indicated that the library has resources and facilities that meet their needs. They were satisfied with the library services. The library staff were highly commendable. The library was providing quality services.



**Table 21: Factor analysis – RQ5**

Component 1 –Library service satisfaction	Loadings
(Variance: 36.587%; Cronbach's alpha: 0.674; $p$ -value: 0.000; Bartlett's test: 0.000; KMO: 0.720) Library materials are not relevant (they may not be appropriate, outdated, or unsuitable for new university programmes).	0.537

I seldom use the library because the services are not satisfactory.	0.681
University libraries are no longer useful.	0.611
I prefer using virtual online databases to the physical library.	0.453
The library is a distance away from my place of residence.	0.336
<b>Component 2: Library use</b>	
(Variance: 17.876%; Cronbach's alpha: 0.589).	
I use the library for research.	0.690
Library reading space, resources, and computers are not adequate.	0.503

The fifth PCA returned two components. The first group, grouped five variables related to library service satisfaction, while the second group grouped two variables related to library use. Component 1: Library services satisfaction had a variance of 36.587%, Cronbach's alpha was 0.674, *p*-value was 0.000, Bartlett's test was 0.000, and KMO was 0.720). The highest loading in library services was the 'seldom use of the library because the services were not satisfactory' with 0.681. The seldom use of the library showed that maybe students were not receiving better services or that the library was not marketing its services. The second highest loading was 'university libraries are no longer useful', with 0.611, followed by 'Library materials are not relevant' with 0.537 loadings. The second last variable, 'I prefer using virtual online databases to the physical library,' had 0.453.

In contrast, the final but not the least variable, 'the library is a distance away from my place of residence,' had 0.336 loadings. The second component had a Variance of 17.876% and Cronbach's alpha of 0.589. 'I use the library for research had the highest loading, and the Library reading space, resources, and computers are not adequate' having 0.503 loadings. The respondents indicated that the library services were not satisfactory. University libraries are no longer helpful in the technological era. The results also showed that the library materials were irrelevant, and the students preferred using the virtual library over the physical library. While students used the library for research, it is clear that they were not satisfied with the library's services.

Logistic regression was evaluated after extracting nine principal components/factors driven by PCA. The logistic regression model was obtained from SPSS23 by adopting the Pearson and deviance goodness-of-fit tests. The model is statistically significant with  $p = .007$ . For each principal component, the factor scores were averaged to obtain a grand score. Thus, this technique is acceptable for exploratory research. The data were then subjected to a Likert-type scale as an indicator for the measurement of all items. Qualitative data, that is, data obtained from interviews and observation, were simultaneously analysed according to each research question.

### 5.5 Performance evaluation in selected university library

The first research question sought to determine why performance evaluation is critical to the selected university library. Table 22 presents the results of the study.

**Table 22: Criticality of performance evaluation**

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	Std. Dev.
The performance evaluation in selected university library						
Performance evaluation is key to improving library services	68 (8.7%)	60 (7.8%)	360 (43.0%)	341 (40.5%)	3.17	0.812
The university library is highly rated by users	60 (7.8%)	196 (23.7%)	417 (49.5%)	156 (19.0%)	2.84	0.770
University libraries are competing in the provision of their services	78 (9.9%)	161 (19.7%)	407 (48.3%)	181 (20.1%)	2.88	0.826
Performance evaluation/user feedback/user suggestions of library services are critical	70 (8.3%)	74 (8.7%)	376 (44.1%)	332 (38.9%)	3.24	0.796
I am satisfied with the performance of our library	133 (15.7%)	184 (21.7%)	386 (45.1%)	148 (17.5%)	2.71	<b>1.184</b>
<b>Average weighted mean</b>					<b>2.968</b>	

Postgraduate students were asked why their performance evaluation in their libraries was crucial.

The average weighted mean of the results in Table 22 is 2.968. The findings showed that most

respondents believed that performance evaluation was critical in libraries for improving library services and that they were satisfied with their libraries' overall performance. Eighty-three point five per cent (701) of respondents agreed that performance evaluation is key to improving library services, while 16.5% (128) disagreed. When asked whether universities were highly rated, 68.5% (573) agreed and 31.5% (256) disagreed. Postgraduate students were asked if university libraries were competing to provide their services; 68.4% (588) agreed, while 29.6 (139) disagreed. When asked if performance evaluation/user feedback/ user suggestions of library services are critical, 83% (708) agreed, while 17% (144) disagreed. The postgraduate students were further asked if they were satisfied with the performance of their libraries; 62.6% (534) agreed, and 37.4 % disagreed. Overall, these statistics seem to confirm that the performance evaluation of university libraries is a critical component of library development. The results and findings showed that most postgraduate users were satisfied with their library's performance. The overall weighted mean of 2.986 was unaffected by the standard deviation of 1.184. Respondents who responded to and returned the questionnaires have a strong feeling that performance evaluation, user feedback, and user suggestions of library services are more critical to library performance.

The qualitative aspect of data analysis to complement quantitative data analysis addressed Research Question 1. In addition to the quantitative analysis presented earlier, the qualitative analysis concerning research question one (see 1:6) was on the criticality of performance evaluation in the selected university library. The research questions included four stem questions for university librarians. A question was asked about what library services are offered to clients that help the library become more visible. All selected university librarians stated that their libraries assisted university faculties and the community in teaching and learning. Their libraries provide traditional library, virtual, and electronic resource services. The conventional library services referred to were spaces for reading, reference services, collaborative activities (reading commons), discussion rooms for users, and support services. They also stated that they provide lending, reference, and information services, where students can come to dedicated librarians with specific questions to help with their research. All librarians said they provided information literacy skills services, in which librarians teach undergraduate and postgraduate students how to retrieve information, and some even offer it as an examinable course at the undergraduate level.

Master's and doctoral students can acquire digital literacy skills. Faculty librarians contacted students and taught them how to use electronic resources. Photocopying is an outsourced service with pay-per-use conditions, according to librarians from W, Y, and Z. Virtual services included social media platforms such as the library's WhatsApp, Facebook page, Twitter, YouTube, and Flickr. Students in and out of residences were virtually supported. Regarding other services provided by the selected libraries, respondent 01 said:

*“We offer extension services to affiliate or associate colleges of the University, assist users, and train them in physical and online training.”*

Respondent 02 went on further to say:

*“The library is located in town, and it’s central to the students; it’s purpose-built with offices for staff and well stocked with reading space, a section for computers, and a section for senior students and academic staff. There are four campuses, and the distance from campus is four kilometres”.*

Respondent 04 said:

*“We introduced virtual chat in 2020 during the COVID-19 pandemic pick period where users chat with librarians in real-time to get instant assistance in all library functions”. We intensified electronic resources services during the COVID-19 pandemic, and our University is providing top-notch electronic books and video tutorials, as services were disrupted negatively by the closure of libraries.”*

Respondent 05 said:

*“We offer marketing services using remote services, LibGuides, and WhatsApp chats 24/7 services where senior librarians respond to faculty questions.”*

When asked, *do you do performance Evaluation? Why is performance evaluation critical?* All the selected university librarians said they conduct performance evaluations. They said that evaluations are crucial, as they help in the management and essential planning of library operations.



Respondent 01 said:

*“The library does summative evaluations by evaluating staff members to see progress in projects, team member checking, or those in need of support, result-based management, setting out targets within a year and evaluate against that”.*

Respondent 02 supported and said:

*“We evaluate our services by looking at the usage of resources in consultation with academic staff and students to find out where they lag, self-introspection, benchmarking against others. We compare the performance of our library's operations, services, and other library operations to those of other libraries, businesses in the information industry, or other libraries. It aids in our ability to recognise and comprehend areas that need improvement. There are University-wide evaluation programmes offered by the University quality assurance department. The auditors give library staff feedback, which is critical for management purposes.”*

Respondent 03 said:

*“We carry out evaluations three times a year. We used a strategic plan for the University and extracted library strategic goals between 2021 and 2025. Individual units have annual plans that we assess performance every ¼ of the year. The University has an evaluation and monitoring committee that evaluates the strategic plans.”*

Respondent 04 said:

*“Evaluations were critical for us to achieve set targets (annual targets). Every year, staff fill in performance contracts between the University and themselves. The forms are reviewed at the end of the year. It is measured using scales, for example, Likert scales.”*

Respondent 07 said:

*“We use the strategic plan to measure staff performance on a ¼ basis, looking at set targets in the strategic plan. There is a monitoring and evaluation board that we review quarterly and annual reports and appraisal forms being filled for individual performance.”*

Questions were asked to explain how librarians evaluated library services and whether they have a quality assurance team or had used library audits. All of the librarians interviewed said that they have a quality assurance unit in their libraries and explained how it works.

Respondent 01 said:

*“Each department in the library is represented in the quality committee of the University. The department has a quality assurance committee composed of members from different sections modelled along the university quality assurance team, feeding into the other committees. The deputy librarian chairs the QAC. The library also has audits, but these is usually carried out by the University. QA team carries our yearly audits.”*

Respondent 03 said:

*“The Director and one staff head the quality assurance unit of the university; the library has representatives as well as other units. Meetings and reports are discussed.”*

The interviewed Respondent 04 said:

*“The quality assurance department is within the University, and the library has a section Head who presides over quality issues. While some library evaluation tools have been developed in libraries, the world over, our Library came out with its own. The tool is used to measure user satisfaction, and the library team, in collaboration with the university quality assurance team, developed it. It measures opening and closing hours, staff responses to user queries, and the quality of subject coverage by library materials from each faculty.”*

Respondent 05 said:

*“We developed a library evaluation tool kit. We used Google Forms posted on the library and the main university websites, asking users to respond. We also have a Library charter and instruments like policies and SWOPs, which look at adherence. We have instruments we use to get feedback from users’ communities like suggestion boxes and WhatsApp chats box, which helps the library find the feelings of our clients.”*

Respondent 08 said:

*“The library also has audits, but the university usually carries them out. The quality assurance team carries out our yearly audits. The university library uses a strategic plan to measure staff performance on a 1/4 basis, looking at set targets in the strategic plan. There is a monitoring and evaluation board that we review 1/4 annually, with quarterly and annual reports and forms being filled. Appraisal forms for individual performance. The evaluations are critical as they help plan services for work plans on junior staff.”*

When asked, *which performance evaluation tools and programmes are you familiar with? For example, do you use SERVEQUAL or LibQUAL?* All the selected university librarians agreed that they use many performance evaluation tools and programmes. University W used the SERVEQUAL and LibQUAL surveys a few years ago. The universities were contemplating developing tools that would help raise service quality.

Respondent 01 said:

*“The library management submitted the LibQUAL tool to the University Quality Assurance Department for approval.”*

He also said:

*“The university used LibQUAL and extracted a few questions to test satisfaction in terms of services offered; they added their variables and fused them with ready aspects, e.g., opening hours, customer services, sitting space, computers available, the performance of staff members, and collection development.”*

The deputy Librarian went on further to say:

*“The library developed its instrument derived from the procedure manual SOPs to evaluate the performance of its library. They use it as a yardstick for service delivery, gauging if they meet users' expectations, and checking cataloguing tools – AAR2 and RDA. All the library members are provided with procedure manuals”.*

Respondent 03 said:

*“The library does not have specific tools or developed any tools. They use RBM used by the university and MaCoTra transformational tool.”*

In a different case to all the libraries, Respondent 05 said:

*“The library does not use developed tools but an evaluation performance matrix. They use performance contracting used by the whole institution. Every member of the University signs a contract from the VC and principal officers. The contract cascades down to the Deputy librarian responsible for collection development and management, another respondent responsible for digital processes supervising sections like client service librarian, special collections, Technical services, Acquisitions, and faculty librarians.”*

Respondent 07 said:

*“We use performance benchmarking to measure and analyse our library’s performance of products, services, operations, and other university libraries operations. Benchmarking helps our library identify and understand areas for improvement. The library uses Millennium modules, the benchmark in evaluating library staff, especially in cataloguing and classification. The library does not have its tool to evaluate performance and is willing to learn and develop one.”*

The overall response was that universities evaluated the performance of their services. Performance evaluation is a critical management tool. The respondents alluded to the in-house tools that they used for evaluating their services and staff.

The qualitative data analysis also addressed the first research question to complement the quantitative aspects of the data analysis. The observation analysis involved observing the physical setting of the library facility at each selected university. The observation analysis showed that all libraries were conducive to reading at all selected university libraries. The notes indicated that the library buildings were purposely built, and the ventilation, bathrooms, reading tables, and furniture were well organised. It was observed that the libraries had enough space, users had gadgets, and the library building had power points around the library walls at convenient places. The researcher observed photocopiers for printing services. All libraries had newspaper racks, a special collections section, a reserve collection, and a circulation section. The rules and regulations were displayed. Librarians were seen performing their duties at their

prescribed points, and there was orderliness in all the libraries, from the circulation desk to shelves and computer labs. One crucial aspect that was observed was that the libraries had fewer library patrons due to the COVID-19 pandemic, where some universities were closed and some libraries only allowed access to small numbers. The library had many users when the researcher visited university library Z during the examinations. The notes show that the selected libraries had computer labs, but there were very few computers compared to the numbers accommodated by each library. Some libraries had less than ten computers. The observations revealed that performance evaluation was crucial for library management.

### 5.6 Aspects of performance evaluation standards

The second research question sought to determine which aspects of performance evaluation standards contribute the most to service quality and user satisfaction. The results are presented in Table 23.

**Table 23: Aspects of performance evaluation standards**

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	Std. Dev.
The library has clear policies and procedures	85 (10.0%)	143 (16.8%)	435 (51.0%)	189 (22.2%)	2.91	0.816
The rules and regulations are defined and displayed	79 (9.4%)	141 (16.6%)	436 (50.9%)	196 (23.1%)	2.98	1.343
Rules are placed in strategic places	87 (10.3%)	186 (21.9%)	395 (46.1%)	184 (21.7%)	2.84	0.845
Library quality service charter is accessible	104 (12.2%)	243 (28.6%)	356 (41.5%)	150 (17.6%)	2.71	1.422
The library has an efficient library	106	181	370	193	2.81	0.902

management system	(12.5%)	(21.3%)	(43.5 %)	(22.7%)		
<b>Average weighted mean</b>					<b>2.85</b>	

Table 23 establishes the aspects of the performance evaluation standards that contribute the most to service quality and user satisfaction. The components of the standards that contributed the most were clear policies, such as authorised borrowing, overdue fines, damage and loss policies, patron privacy, collection development procedures, intellectual freedom, selection guidelines, and copyright and interlibrary loan policies. These aspects included rules and regulations, accessible rules and regulations, library charters, and efficient management.

The goal of Table 23 above was to discover the aspects of performance evaluation standards that most impact service quality. The average weighted mean of the results in Table 23 is 2.85. The majority of postgraduate students agreed that library policy and procedures, rules and regulations, library-quality service charters, and efficient library management systems are some of the aspects that contribute to service quality and user satisfaction as evaluation standards. When asked if the library has clear policies and procedures, 73.8 % (624) of postgraduate students agreed, while 26.8 % (228) disagreed. On whether rules and regulations are defined and displayed, 74% (632) agreed, while 26 (220) disagreed. A question was asked if library rules were placed at strategic points, and 67.8% (579) agreed, while 32.2 % (273) respondents disagreed. The postgraduate library users were asked if the library service charter was accessible; 59 % (506) agreed, while 40% (347) disagreed. Pertaining to whether library rules were placed at strategic points, 67.8% (579) agreed, whereas 32.9 (273) disagreed. They were asked whether the library has an efficient library management system; 66.2% (563) agreed, while 33.8% (287) disagreed. The standard deviations of 1.343 and 1.422 were also non-significant, because they were less than the average weighted mean of 2.85. Table 23 indicates that the library has clear policies and procedures, rules and regulations are stated and shown, library rules are positioned strategically with the most significant impact on service quality and satisfaction, and library rules are located at essential locations. Respondents demonstrated that the library's library management system is effective.

Addressing Research Objective 2 involved qualitative interview analysis. The second research objective focuses on the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. The following question was asked: *what national and international library associations and standards is your library subscribed to? How do these help in the performance standards of libraries?* From the interviews, it was noted that all the universities subscribe to a host of local associations such as ZimLA, ZULC, SAZ, and ZIMCHE. Some libraries, such as W, Y, and Z, subscribe to international associations and organisations, such as AFLIA, IFLA, SCECSAL, and ALA through university support. University Z is subscribed to EIFL.

Respondent 01 said:

*“The university library subscribes to the Social work society, the computer society of Zimbabwe, the chartered institute of Zimbabwe (ICAZ), and the Accredited Nursing Council of Zimbabwe. All these professional bodies satisfy programmes due to library resources adequacy and make follow-up on materials available; they determine curriculum, course outcomes, and reading materials. The international and national standard bodies help ensure that libraries maintain quality standards as they act like regulators by designing models and standards for libraries. For instance, ZULC has standards for university libraries in Zimbabwe.”*

Respondent 03 said:

*“The associations set standards for library operations and set benchmarks, and ACBF sponsored their subscription.”*

University Librarians from Y and Z agreed that associations and organisations help to improve library services through training and interaction.

On, what library methods and standards do you use for service quality assurance? The librarians reported using suggestion boxes and reports from library management systems such as Koha, Millennium, and M3. The design shows usage statistics and returns and helps in management.

Librarians were asked to *describe the service charter of their libraries*. Libraries W and Y have library charters.

Respondent 01 said:

*“The charter describes what the library offers and promises to students. It encourages them to visit the library and return as it promises it will provide. The charter is displayed at the entrance and through banners. It provides what customers should expect from the library and what they should do whenever they feel an abrupt change. It promises to satisfy user needs in a short time.”*

Respondent 05 said:

*“The charter was developed in 2018 and is due for review in 2022. It promises our clients seamless, timely, and just-in-time information, not just-in-case information. The library has tools for feedback, such as e-mails, WhatsApp, Facebook, Twitter, and online library reference forms; it is about the promise to our users to provide prompt and cautious service. The library has well-trained and qualified librarians who respect users’ privacy.”*

**Asked** *how often do you conduct performance evaluations with your library staff.* All libraries agreed that performance evaluation was performed annually.

Respondent 02 said:

*“We do it quarterly (¼) according to Results-Based Management (RBM) and at the end of the year, which is a final appraisal.”*

Respondent06 said:

*“We do a major performance evaluation annually to monitor staff performance every week. We also compile weekly updates on every section of the library for the librarian, who then picks areas that need improvement and at the end of the year, thus when progress is assessed.”*

For performance improvement, the responses revealed that their university library belongs to international and national standards bodies and organisations. It also offered charters to its customers, which guaranteed excellent services. They also conduct periodic performance evaluations of their employees to keep track of their progress and improve service delivery.



### 5.7 The effects of technology on service quality in university libraries

The third research question sought to determine how technology affects the service quality in university libraries. Table 24 presents the results of the study.

**Table 24: the effects of technology on service quality in university libraries**

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	Std. Dev.
The library has enough computers and printers for users	238 (27.9%)	309 (36.2%)	195 (22.9%)	110 (12.9%)	2.22	1.819
I use library computers in my research	193(22.7%)	258(30.3%)	260(30.4%)	141(16.6%)	2.41	1.089
The Internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services)	97 (11.4%)	102 (12.0%)	330 (38.7%)	323 (37.9%)	3.12	0.925
I do not visit the library because of the new technology and applications (remote services)	134 (15.8%)	215 (25.3%)	291 (34.2%)	210 (24.7%)	2.71	0.994
I get my information on my mobile technologies at home	81 (9.6%)	128 (15.1%)	371 (43.4%)	272 (32.0%)	3.06	0.859
Our library uses SMS to provide us with new acquisitions and news	251 (29.5%)	286 (33.6%)	201 (23.7%)	112 (13.2%)	2.15	0.980
Libraries are no longer necessary in this age	200 (23.5%)	201 (23.6%)	262 (30.8%)	188 (22.1%)	2.54	1.010
Books on shelves are no longer	212	223	218	196	2.37	1.034

used	(25.0%)	(26.2%)	(25.7 )	(23.1%)		
Students bring their gadgets (PDAs, Laptops, iPads) to the library for use	101 (11.8%)	112 (13.1%)	325 (38.1 )	315 (36.9%)	3.21	0.847
The library uses social media to disseminate information (Facebook, Twitter, Instagram and WhatsApp)	174 (20.4%)	204 (23.9%)	298 (34.9 )	177 (20.7%)	2.57	1.020
<b>Average weighted mean</b>					<b>2.636</b>	

The goal of Table 24 was to determine how technology affects the quality of service in university libraries. The average weighted mean of the results in Table 24 is 2.636. Overall, postgraduate students agreed that technology impacted service quality in university libraries, according to the findings. It was agreed that the library had sufficient computers and printers and that the Internet influenced physical library usage. Because of the new technology, students agreed that they do not visit the library, but instead rely on their mobile phones for information. According to the respondents, students bring their gadgets and libraries use social media to disseminate information. On the other hand, students were divided on whether they used library computers for research and whether the library uses SMS to notify them of new acquisitions. They also disagreed about whether books on shelves were still in use.

Students were asked whether the library had enough computers and printers for users; 64.1% (547) agreed, while 35.9 % (305) disagreed. Regarding whether they used the library in their research, 47% (401) agreed and 53% (451) disagreed. Regarding whether the Internet has heavily affected the use of the physical libraries (physical visits versus virtual/ remote services), 76.6 % (653) agreed, while 23.4% (199) disagreed. When asked if they visited the library, 58.9 (510) agreed that they do not visit the library because of the new technology and applications (remote services), while 41.1% (349) disagreed. When asked if the students received information on their mobile technologies at home, 75.4% (643) agreed, while 24.7% (209) disagreed. Regarding whether the library uses SMS to provide them with new library acquisitions and news,

63.1% (313) agreed, while 36.9 % disagreed. A question was asked about whether the library was necessary for this age; 52.9 (450) respondents agreed, while 47.1% disagreed. Regarding whether books on the shelves were no longer used, 41.4 % (488) agreed, while 51.2 % (435) disagreed. When asked if they bring their gadgets, 75% (640) agreed and 24.9% (213) disagreed. Regarding whether the library uses social media to disseminate information (Facebook, Twitter, and WhatsApp), 55.6% (476) agreed, whereas 44.3% (378) disagreed. Standard deviations of 1.819, 1.089, 1.010, 1.034, and 1.020 were noted, but were not as significant as the average weighted mean of 2.636. Technology has impacted library operations because the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). Students no longer went to the library because of the new technology and applications. Although the library was still essential, students used their mobile devices at home and some services were replaced by technology. According to the respondents, the use of computers has improved library performance, while the physical library is no longer a place to visit due to the proliferation of technologies.

The following qualitative presentation complements the previous quantitative exhibition. Research objective 3 was on the effects of technology on service quality in university libraries and was equally addressed by qualitative interviews. The following question was asked: *How many computers do you have in your library? Are they adequate?* The librarians from all selected universities said that their computer-student ratio was insufficient, with some having as few as ten computers for thousands of library users. Some students preferred to use desktop computers, which are in high demand. Every university has a Bring Your Device (BYD) philosophy. All the library employees have access to computers at their workstations.

Respondent 01 said:

*“We have ten computers, and eight are working. The computers are insufficient for the around +- 6000 student population.”*

Respondent 03 said:

*“The university library has eight computers, insufficient to support less privileged students. More students and the disadvantaged also need computers as they cannot afford them.”*

University Y Library had more computers than the others. Their main Library had 70 computers in their main library.

Respondent 04 said:

*“The computers were not adequate, but they had a policy with the university that encourages users to bring their devices. Reading desks have plug tops, and each desk has space for six computers and provides Wi-Fi access.”*

Respondent 08 said:

*“We have had eight computers working, and these were inadequate compared to the number of students needing the computers.”*

When asked *what library services are computerised?* All librarians interviewed agreed that services that have been automated at their libraries were library management systems, cataloguing, classification, circulation services (i.e., loaning and returning of books, tracking of books, and reports on the collection, websites online, social media, digitised collection, and scholarly publications on Institutional Repositories). Universities W and Y used Koha Library management systems. University X was using Mandarin but was migrating to Koha LMS.

Respondent 01 said:

*“We have scanned and digitised past exam papers from 2013 to date, theses, and postgraduate dissertations from inception to date and have been uploaded online. They also have automated their security systems, books detection machine, CCTV.”*

Respondent 2 added that:

*“All modules have been computerised. Circulation, OPAC, are using Koha migrated from Mandarin.”*

Respondent 03 said:

*“The library has automated acquisitions, content management services, processing are computerised, circulation services, circulation process, special collection services, the automation had added to the quality of services.”*

Respondent 08 said:

*“Most of our services are computerised, and initial book processes are only done manually. (Receive, select, and accessioning), circulation, cataloguing, serial modules, booking system LIBI KIOSK management system an open source, abstracts of dissertations, past exam papers, IR not working now?”*

Asked *how emerging technologies affect other services in your library*. All librarians experienced some critical developments in library technologies.

Respondents 01 and 02 agreed that certain services have been discontinued and taken up in an electronic format.

Respondent 02 added that:

*“Faster copy cataloguing has displaced manual cataloguing. Automating circulation services enables users to receive remote services, extending loan terms. Library management systems like Koha provide on-demand warnings for overdue books. The library has automated, effective management systems that produce reports with simple statistics, Google Analytics to access usage performance tracking performance, and journal article tracking utilising Counter Five platform statistics.”*

Respondent 04 said:

*“Emerging technologies are affecting other services from the point of electronic resources vs. hard copies. There is less borrowing of hard copies because students can now download books from the Internet and save them on their personal computers or create a library for themselves”.*

Respondent 08 said:

*“Technology is complementing, not affecting as such.”*

Overall, the respondents indicated that their libraries lacked sufficient computers for pupils. However, most of the services provided by libraries are computerised. According to the interviewees, technology has dramatically impacted academic libraries. The enhancements and advances mentioned above demonstrate the expansion of service delivery choices. Electronic resources have enhanced research quality by supplementing hard copies.

They were further asked, in *what ways have libraries' services improved in light of technological advancement? Can you please share some examples or experiences within your library?*

The librarians interviewed agreed that library services have improved because of technological innovations. Academic libraries have moved away from manual systems, such as Brown's and toward computer-based Library Management Systems (LMS). Brown's system is considered inefficient and chaotic. Millennium, Koha, and Mandarin were used to manage selected academic libraries. They also agreed that the pace at which services were delivered had significantly increased.

Furthermore, they stated that university libraries pooled their resources through Consortia (ZULC) subscriptions to electronic journals, aiding in the supplementation of printed copies. ZULC has improved the quality of its services by training librarians on how to access and manage electronic resources. According to University W Librarian, the transfer to Mandarin and the subsequent transition to Koha LMS improved library circulation systems and the technical services department's book procedures. Adopting library technologies improves the quality of library services and increases customer satisfaction.

Participants were asked how *they train their library staff to cope with library standards*. In the interview, Respondent 02 said,

*“We provide staff with procedure manual, use of webinars for training, doing performance appraisal, and identify areas to be worked on, feedback from quality assurance committee, feedback from clients, through reading and identifying where we need to improve, training can be local and international, an individual Assistant librarian coordination training, by compiling areas of need and identifying times within or outside.”*

Respondent 03 said:

*“Our staff upgrade themselves by going for self-upgrading studies at local universities that offer LIS or other programmes for continuous learning, in-house training, performance-based system, and doing webinars or physical training from associations, IFLA, AFLIA, ZimLA, ZULC, and EIFL.”*

Respondent 04 said:

*“There is a unit on research support and training services, responsible for in-house training of library staff, users (students), and academic staff training on systems of the library, send them for external training organised by ZULC, ZimLA, on the or other international organisations, we can also invite trainers to train our staff, we have set aside Fridays, and our training days, we do virtual training, for our staff form multi-campus libraries.”*

The third research question was addressed through the qualitative aspects of qualitative data analysis through observation. Observations showed that all selected libraries used the latest technology services. The notes indicate a variety of gadgets, including photocopiers, printers, scanners, and library security systems. All universities had computers for students, although the student-computer ratio did not match university enrolment or library users. Students were seen bringing their gadgets as all universities had the philosophy “Bring Your Own Gadget” (BYOG). “The observer noted dedicated space, wall plugs, and a computer section for staff and postgraduate students at one of the universities”. University Y has a unique library with the latest equipment for people with disabilities. These include audio-visual gadgets, scanners, photocopiers, and others. The same library had a suggestion box and book-depositing bin at the entrance. The presence of electronic gadgets in the library substantially impacted service quality and satisfaction.

## **5.8 Service quality characteristics contributing to user satisfaction in university libraries**

The fourth research question sought to determine which service quality characteristics contribute to library user satisfaction. The results are presented in Table 25.

**Table 25: Service quality characteristics contributing to user satisfaction in university libraries.**

<b>Statement</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Mean</b>	<b>Std. Dev.</b>
The range of materials held by the library meets my course needs	116 (13.6%)	199 (23.0%)	394 (46.2%)	143 (16.8%)	2.69	0.873
I use library postgraduate study rooms, library computer resources and open space	145 (16.9%)	266 (31.2%)	318 (37.3%)	124 (14.5%)	2.49	0.906
The materials I want are in their proper places on the shelves	96 (11.3%)	208 (24.4%)	393 (46.2%)	154 (18.1%)	2.75	0.843
Library physical facilities are appealing	106 (12.3%)	246 (28.8%)	360 (42.1%)	143 (16.7%)	2.65	0.861
I am satisfied with all aspects of library services	118 (13.3%)	299 (35.0%)	300 (35.2%)	137 (16.0%)	2.54	0.882
The library staff provide quality services to its library users	80 (9.3%)	263 (30.8%)	356 (41.7%)	154 (18.0%)	2.76	1.390
I am satisfied with the customer service experience of the library staff	82 (9.5%)	174 (20.3%)	418 (49.0%)	181 (21.2%)	2.87	0.815
Library staff provide training on accessing library resources like book arrangement and OPAC	96 (11.2%)	189 (22.1%)	370 (43.3%)	200 (23.4%)	2.84	0.882
Library staff can be contacted at any time	101 (11.8%)	283 (33.2%)	308 (50.5%)	159 (22.5%)	2.64	0.883
Library staff are knowledgeable in their tasks	69 (8.0%)	162 (19.0%)	431 (34.9%)	192 (20.7%)	2.94	0.778
The library needs to improve its services to its users	61 (7.2%)	96 (11.3%)	338 (36.7%)	357 (41.9%)	3.27	0.796
The library provides interlibrary	368	241	141	104	1.89	0.999



loan services	(43.1%)	(28.2%)	(16.5%)	(12.2%)		
The library online access catalogue (OPAC) is always accessible each time I come to the library	130 (15.3%)	237 (27.8%)	337 (39.6%)	147 (17.3%)	2.66	1.790
The library has accurate and helpful written instructions in all designated places	110 (12.9%)	228 (26.7%)	363 (42.6%)	151 (17.8%)	2.74	1.769
The library provides a variety of services	96 (11.2%)	223 (26.1%)	388 (45.5%)	146 (17.1%)	2.72	0.832
Library management systems are functioning	91 (10.7%)	155 (18.2%)	423 (49.6%)	184 (21.6%)	2.88	0.829
<b>Average weighted mean</b>					<b>2.708</b>	

This section aims to identify the service quality characteristics that contribute to library user satisfaction. The average weighted mean of the results in Table 25 is 2.708. Most respondents agreed that service quality characteristics contributed to library user satisfaction. The results and findings show that students agreed on most of the questions asked, such as that the library materials meet their course needs and that, while the staff was helpful to student inquiries, it could improve their services. According to the table, the students strongly disagreed that the library provided interlibrary loans, which are essential services for all libraries.

Students were asked if the range of materials in the library met their course needs; and 59% (537) agreed, while 36.6 (315) disagreed. On whether they use postgraduate study rooms, library computer resources, and open spaces, 51.8% (441) agreed, while 48.1% (442) disagreed. When asked if the materials they wanted were in the proper places on the shelves, 64.3 (547) respondents agreed, while 35.7% (304) disagreed. When asked whether library facilities were appealing, 58.8% (503) respondents agreed, while 41.1 % (352) disagreed. Students were asked if they were satisfied with all aspects of the library services, and 51.2% agreed, while 48.3% (417) disagreed. When asked if the library provides quality services to its library users, 59.7% (510) respondents agreed, while 40.1% disagreed. The interview questions were further asked about library staff's support in service provision. One question was asked if postgraduate

students were satisfied with the library staff's customer experience; 70.2% (599) agreed, while 29.8% (256) disagreed. When asked if the library staff provided training on accessing library resources like book arrangement and Online Public Access Catalogue (OPAC), 66.7 % (570) agreed, while 33.3% (285) disagreed. Seventy-three percent (467) of postgraduate respondents agreed that library staff could be contacted anytime, while 45% (384) disagreed. Fifty-five point six per cent (623) agreed that library staff knew their tasks, whereas 27 % (231) disagreed. Seventy-eight point six percent (695) respondents agreed that the library needs to improve its services to its users, while 18.5% (157) disagreed. Students were asked if the library provides interlibrary loan services; 28.7% (254) agreed, and 71.3% (609) disagreed. When asked whether the library OPAC was always accessible each time they visited, 56.9% (484) agreed, while 43.1% (367) disagreed. The students were asked if the library had accurate and helpful instructions in all designated places: 60.4% (514) agreed, while 39.6% (338) disagreed. Sixty-two point six per cent (534) respondents stated that the library provides various services, while 37.3% (246) disagreed. Seventy-one point two per cent (607) respondents agreed that the LMS were functioning, while 28.9% (246) disagreed. Standard deviations of 1.790 and 1.69 were noted, but they were insignificant because they were less than the weighted average of 2.708. Based on the analysis, the respondents indicated that the library has resources and facilities that meet their needs. They were satisfied with the library services. The library staff were highly commendable. The library providing quality services.

The responses showed that service quality characteristics included tangibles (library facilities, library collections, and library support services), reliability (library service procedures and accuracy of information), responsiveness (librarians' readiness, sensitiveness, and hospitality), assurance (librarians' knowledge, skills, courtesy, and insights), and empathy (librarians' concern and sincerity). The responses demonstrated that the library has resources and facilities that suit their needs based on the analysis. The libraries offered a pleasant reading atmosphere, sufficient reading space, functional library systems, hardworking customer service staff, and directional signage. Library staff also provide user-training. These qualities make a good product. Respondents rated library services as satisfactory. The number of library personnel was outstanding. The library provides excellent services. In contrast, the library needed to improve its service delivery, as evidenced by 78.6 percent of the respondents. The respondents may not have

answered correctly or did not know the availability of interlibrary loans because the service had long been discontinued at all universities.

The qualitative aspect of data analysis to complement the quantitative data analysis addressed Research Question 4 (see 1:6). Stem questions are presented below. The University Librarians were asked to briefly explain some of the quality issues regarding library services.

When asked *how do you provide quality services in your library?*

Respondent 01 said:

*“The library technical services department confine to the standards used e.g., RDA, LC and other defined guidelines and procedures manual offered by international and local boards.”*

University B Librarian said:

*“We use manuals and policies on daily operations. There is an acquisition policy guide, stock taking procedure manual, collection development policy, using policies on circulation and following rules and regulations in all areas of library departments and user section.”*

Respondent 05 said:

*“We have a quality assurance and marketing officer in the library at the level of a senior assistant librarian. The office critically looks at library functions, intending to improve lagging areas. We also conduct training of our staff, thru reskilling and retooling, training them on new trends in information science, new ways of service delivery, on the side of technology. We have suggestion boxes in each library and work on the feedback provided constructively. Every morning, a Research librarian checks on our e-resources database to see if they are working.”*

The selected librarians were asked *what efforts are to ensure The university library provides quality services.*

Respondent 02 said:

*“We strive to be the 21<sup>st</sup> library. We have the infrastructure, purpose-built library, and computer laboratory, and all these are reviewed to ensure they meet world standards; we interact with our clients to solicit their views and make recommendations on their satisfaction. We compare our services to global standards and look at staff skills compared with other university libraries.”*

Respondent 04 said:

*“We have total support from the university management and receive financial support from University partners; we adhere to the quality services charter and review all programmes that the University offers to provide adequate and current information sources”.*

Respondent 05 said:

*“The librarian delegates staff to duties and monitors progress on set targets weekly. Some departments deal with quality issues and the marketing of library services. The marketing and quality services department reviews library developments based on WhatsApp feedback and conducts surveys twice yearly to improve service. The library has internal control systems and uses Standard Operations Procedures (SWOPs). Library policies are also used to monitor adherence.”*

When asked whether *user satisfaction and quality services are positively related*. Librarians concurred that user satisfaction and service quality were exclusively related. Clients measure quality services, and they have their expectations; if satisfied, they become customers of the library. Quality services have a bearing on service satisfaction.

Respondent 04 agreed and said:

*“If users are satisfied, they will indicate whether they are satisfied with the services, and sometimes even go to the extent of writing complaints and making phone calls to say they cannot access such and such subscribed journals. Every morning, a librarian checks on e-resources databases functionality troubleshooting to see if they are working and reports to the systems Librarian.”*

The quality of library services improved, according to the librarians interviewed. They claimed that their libraries had implemented Standard Operating Procedures (SOPs) and ZULC operational guidelines. Their libraries were designed with a clean reading environment in mind, as well as standard shelves, shelf layouts, adequate resources, fully equipped computer labs, and various electronic resource databases. University libraries with charters have shown a desire to improve service quality by following through their pledges. The librarians' responses revealed that service quality was up to par, thus contributing to library user satisfaction.

The qualitative aspect of the data analysis addressed the fourth research question. The observation analysis showed that all the selected libraries had sufficient reading space and clean floors. The notes showed some windows for ventilation, clean walls, and some repainted. The rooms were conveniently set up within the library and were easily accessible. Staff and postgraduate students read at all universities; some had postgraduate libraries, and some had a section for staff members. The libraries had sufficient space for their users, with some having different areas. The space was adequately utilised, with some reading tables in every available space. The libraries had clean walls, toilets, and shelving cabinets, and the furniture for reading was good. The staff members were interactive, and the students interacted with librarians for consultations. The notes showed that they were adequately sanitised, ventilated, displayed pictorial records, and librarians interacted with users. Overall, the findings revealed that university libraries provide welcoming surroundings for users, resulting in high-quality services.

### 5.9 Library usage statistics

The fifth question sought to determine why library usage statistics declined in the selected university libraries. Table 26 presents the results of the study.

**Table 26: Library usage statistics**

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	Std. Dev.
I use the library for research	102 (11.9%)	196 (22.9%)	373 (43.8%)	182 (21.3%)	2.79	0.880
Library reading space, resources and computers are not adequate	83 (9.7%)	197 (23.1%)	358 (42.0%)	216 (25.3%)	2.89	0.866
Library materials are not relevant (they may not be appropriate, outdated, or unsuitable for new university programmes)	130 (51.2%)	259 (30.3%)	319 (37.4%)	147 (17.2%)	2.58	0.912

I seldom use the library because the services are not satisfactory	125 (14.6%)	285 (33.4%)	305 (35.7%)	139 (16.3%)	2.54	0.895
University libraries are no longer useful	200 (23.4%)	313 (36.6%)	213 (24.9%)	129 (15.1%)	2.28	0.966
I prefer using virtual online databases to the physical library	92 (10.7%)	174 (20.4%)	364 (42.7%)	224 (26.2%)	2.90	0.886
The library is a distance away from my place of residence	89 (10.5%)	128 (15.1%)	330 (38.8%)	303 (35.6%)	3.08	0.907
<b>Average weighted mean</b>					<b>2.722</b>	

The aim was to determine the cause of the decline in university library usage. The average weighted mean of the results in Table 26 is 2.722. The results and findings showed that most respondents agreed that library usage was declining for various reasons. The standard deviations were all lower than the mean, indicating that they were not statistically significant. When asked if students were using the library, 65.5% (555) agreed and 34.8% (298) disagreed. Sixty-seven point three per cent (574) respondents agreed that the library reading space, resources, and computers were inadequate, while 32.8% (280) disagreed. Fifty-four point six per cent (466) respondents stated that library materials were not relevant (they may not be appropriate, outdated, or unsuitable for new university programmes), while 81.5% (389) disagreed. Students were asked if they seldom use the library because the services are satisfactory; 52% (444) agreed, while 48% (408) respondents disagreed. Forty per cent (342) of respondents agreed that the university library was useless, while 59.8% (513) disagreed. Regarding using virtual online databases for physical libraries, 68.9% (588) agreed and 31.1% (266) disagreed. When asked if the library was a distance from their residence, 74.4 % (633) agreed, while 25.6 % (217) disagreed.

The respondents rated library services as unsatisfactory. In the technological era, university libraries were considered no longer helpful. The findings also revealed that the library's materials were irrelevant and that students preferred the virtual library to the physical library. While students used the library for research, it was evident that they were dissatisfied with the library's services. The qualitative aspect of the data analysis addressed research question five (See 1:6). The librarians were asked *what kinds of statistics they collect are available in their library*. With the advent of technology and more library competitors in information dissemination and retrieval, it is believed that libraries are no longer helpful and attracting large numbers of clients. Librarians from selected universities in Zimbabwe were interviewed to clarify whether physical library visits were decreasing.

Respondent 01 said:

*“We carry out statistics on every activity of the library. At the entrance: Statistics are taken on daily or hourly and these are clients visit, reference queries, directional, students being cleared, and paid fines. At the circulation desk: issues, returns, library defaulters, training sessions for both library staff and users, cataloguing section: how many books have been catalogued, electronic resources usage statistics, downloads, turn ways, access denials, webpage usages, visits and time spent, Google analytics, Deputy librarian and sub- librarian collect all these statistics for further analysis. Monthly statistics: sub-librarian collects statistics from different faculty librarians, training sessions conducted, orientation sessions, new staff members, on one assistant, articles uploaded on IR, past exam papers uploaded in a digital library, reader services: senior library assistants, how many students cleared, (finished studies) several reference choirs, fine, and defaulters.”*

Respondent 03 said:

*“We no longer keep manual statistics as events have overtaken this. We use the Internet, and computer systems now generate statics.”*

Respondent 04 said:

*“We collect usage statistics on borrowing and returning library materials, generate reports-KOHA on the user who visited the library, reports on lost books, overdue books, and help to track and recover books.”*

Respondents 07 and 08 agreed that local library personnel compile and present daily statistics.

. Respondent 08 further added that:

*“We take statistics on the usage of electronic journals, downloads, and how many users have accessed the university's digital resources. Most postgraduate students are the ones using the library from the statics available, and readers services are responsible for the statistics and library use, how many books have been catalogued, cataloguers have set targets, the systems used at NUST library monitors on time, name and quality of work.”*

A question was asked about *what changes they were experiencing in their usage statistics in this technological era*. All librarians interviewed noted that there was a significant change in the way libraries were operating. The library is no longer the four walls. It is now physical and virtual. The COVID-19 pandemic has caused the use of electronic resources by library clients. Online presents have increased, in live chat facilities, WhatsApp, Twitter accounts, notices to users through these platforms, training guides and sessions online, PowerPoint presentations, voice-overs, short videos on library activities, and YouTube; these short videos do not consume data for less than five minutes.

When asked, *do you think this is true? Why do you think fewer numbers of users are using the library?*

Respondent 02 said:

*There is some debate regarding this question, and varying answers are obtained. Users are dissenting the physical library, but they use the same resources virtually. What libraries should do is make sure the facilities are attractive in terms of ambience and clean environment; faculty librarians assist users, face-to-face interactions, provide fast Internet, provide computers, allow the student to bring their gadgets, and open during anti-social hours 24/7.*

Respondent 03 said:

*Libraries used to own resources, but now they have shifted to access points, information is now digital, and librarians are now digital natives and provide information remotely, so the library has transformed into a virtual library attracting the same users but in a different setting.”*

Respondent 05 said:



*“The question is debatable. Most students are not using the physical library but are using it at home, as they are connected remotely. You may find fewer students during the semester but more during the exam period as they seek a quiet reading environment. In some periods, they come in large numbers. “I have read and heard about it myself, but the library is an academic entity.” Librarians no longer concentrate on the traditional aspect of services but now go to our users, staff faculties, and students and teach them tools regarding ORCID, Author ID, referencing, Scopus, bibliometric, citations, Reworks, Zotero and Mendeley, management software and academic integrity training on plagiarism as well as publishing.”*

Respondent 07 said:

*“NO. The library still commands big numbers in the Zimbabwean education system. Some people think in such a manner because of the Internet; some think users will not come to the library, but I beg to differ. It’s not true because our library is almost full every time, and during COVID-19, we are limited users and turning away those who would have come late. During exam time, the library is always full.”*

Inclusion has become a contentious issue in library service provision and in higher education in general. The provision of library services to people with disabilities encourages the use of resources and provides these users with such satisfaction. The librarians were asked how they assist people with disabilities.

Respondent 01 said:

*“As a library, we call out for a list of people with special needs from the student affairs to ask how the library can assist. The call is confidential and needs to be handled with care. The library has reserved one desk for such persons and creates space when they come”. A standing rule says, “Any disabled person who comes to the library should be served first, and materials should be brought to the ground floor for convenience. For the physical challenge, we have dedicated personnel to help.”*

Respondent 03 said:

*“The library is not purposely made for that. We are working on a modern library facility accommodating all our users. We have visually impaired students and asked other institutions to help us with materials and access to their resources. There is no ramp and two floors in our library.”*

Respondent 05 said:

*“We have a library dedicated to persons with disabilities. It’s called the Disability Resource Centre (DRC). The library has brail material, access to some software that helps to magnify texts or enlarge texts, and speech software; we also have pathways for people with disabilities and ramps for wheelchairs in all libraries. The library is run by a coordinator from time to time appraise the library on special developments and needs. This facility has actual value to our users having their library and can accommodate ten or fewer users at a given time.”*

They said the facility has:

- Machines dedicated to searching for past exam papers with a voice note.
- Book reader for the challenge connected to Internet journal articles, search on the Internet, and read books.
- Braille material.
- There are 60 students for the University, and plans are for a more extensive library.
- Caters for sign language.

Respondent 08 said:

*“The library has a ramp for the wheelchair but not a special entrance for the blind. We have no brail or other software prescribed for persons with disability.”*

Respondent 07 said:

*“We have the challenge of space. PhD students or postgraduate students and staff use the IT section of the Library.”*

According to the responses from the interviews, librarians regularly collected library usage information for all activities. Those who did not collect statistics relied on online library management tools to keep track of their usage. Physical library usage was low due to several competing factors. These libraries provide remote access to their resources to their patrons. Another observation was that librarians blamed the low turnout of the COVID-19 pandemic outbreak. Some libraries were shut down. However, the libraries were still in high demand, as shown by the responses. People with impairments were also provided for in the libraries. On the other hand, some were yet to construct facilities that can accommodate users with special needs.

Observation was part of the qualitative aspect of the data analysis that addressed Research Question 5 (see 1:6). Observation notes showed a few library posters. It was also noted that the libraries had limited space compared to all students at all universities. The computers did not match the number of students. Most libraries do not have a dedicated place for postgraduate students. All the students were housed in one library and shared the few available computers. The notes indicated a lack of space for some libraries, as noted by some students waiting outside the libraries, particularly during the exam period. Only one library had a Disability Resource Centre (DRC) that catered to users with disabilities. Two libraries were located at a distance from the users. For instance, one library was 15 kilometres away from the main campus, and the other was 5 kilometres from the campus. The students travelled to the library for research. The DRC has a capacity of 60 users. The notes show that there is a book reader machine, braille materials, and WIFI connectivity. Some software was installed for users, such as JAWS software and magnifiers, and had computers with a purpose-built infrastructure. Overall, the libraries observed had inadequate resources, which could explain why the number of physical visits declined. A lack of resources for disabled people could also result in students with such difficulties shunning the library.

### **5.10 Hypotheses testing**

This section presents the results of the hypothesis to establish how the independent variables in this study predict the performance evaluation of service quality and user satisfaction in selected Zimbabwe universities. The study used the following hypotheses:

1. There is no significant relationship between performance evaluation, service quality characteristics, and user satisfaction.

2. There is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty.

**5.10.1 Research Hypothesis 1. There is no significant relationship between performance evaluation and service quality characteristics, and user satisfaction.**

User satisfaction depends upon service quality and performance evaluation characteristics.

**Table 27: Model summary**

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.634a	.402	.398	.692	.402	89.380	5	664	.000

a. Predictors: (Constant), Performance evaluation, Library policy, quality services.

Table 27 exhibits that the built model is significant in predicting the dependent variable (User satisfaction) with an explanatory power of 40.2%, which is generally acceptable. Hence, it can be used to forecast. Since postgraduate students are the primary users of library resources, their opinions are represented in the responses. The students should evaluate the library's functioning and staff's expertise. In this aspect, staff expertise, training, and hiring qualified staff could favour patron satisfaction.

**Table 28: Regression analysis**

ANOVAa

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	214.006	5	42.801	89.380	.000b
Residual	317.966	664	.479		
Total	531.972	669			

a. Dependent Variable: I am satisfied with all aspects of library services

b. Predictors: (Constant), Performance evaluation, Library policy, quality services and are the factors that determine library user satisfaction.

Table 28 highlights the multi-regression analysis used to test the hypothesis. It shows that there was a significant relationship between independent variables (performance evaluation, library policies and quality services), and the dependent variable (I am satisfied with all the aspects of the library).

**Table 29: Relative contribution of independent variables to user satisfaction**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.155	.156		-.988	<b>.323</b>
RQ1.1	.024	.036	.021	.671	<b>.503</b>
RQ1.2	.082	.024	.109	3.442	<b>.001</b>
RQ2	.169	.035	.158	4.799	<b>.000</b>
RQ4.1	.354	.035	.347	10.166	<b>.000</b>
RQ4.2	.327	.037	.281	8.717	<b>.000</b>

In this analysis, we consider  $p = 0.05$  as the level of significance.

Table 29 reveals the relative contribution of independent variables (Performance evaluation) ( $B = 0.082$ ,  $p = 0.001$ ); Library policies ( $B = 0.169$ ,  $p = 0.000$ ); Quality services ( $B = 0.354$ ,  $p = 0.000$ ); Technology ( $B = 0.327$ ,  $p = 0.001$ ) to a dependent variable I am satisfied with all aspects of library services. The constant ( $p\text{-value} = 0.323 > 0.05$ ) and Library performance ( $p\text{-value} = 0.503 > 0.05$ ) are not significant in the built model. The results revealed that performance

evaluation, Library policies, quality services, and technology (with p-values < 0.05) are significant in the model and must be embraced as the four factors contributing to user satisfaction with library services. All four variables positively contribute to user satisfaction with library services. This suggests that when library users' input is integrated into the operation of the library, their evaluation of the performance of the staff members will be taken into consideration and will affect the users' degree of satisfaction. For example, a unit increase in RQ 1.2 performance evaluation, RQ 2.1 library policy, RQ4.1 quality services, and RQ4.2 technology services will trigger a corresponding rise of 0.082, 0.169, 0.354, and 0.327 units in user satisfaction respectively ceteris paribus. It is worth noting that the variables 'Library quality services' and 'Library technology services' make a relatively substantial contribution to the satisfaction level, as reflected by the magnitude of their coefficients. The results show a significant relationship between performance evaluation, service quality characteristics, and user satisfaction.

**5.10.2 Hypothesis 2. There is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty.**

**5.10.3 User satisfaction depends upon the availability of technologies and library customer loyalty.**

**Table 30: Model Summary**

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.563a	.317	.311	.729

- a. Predictors: (Constant), Technology and library policy are the two main factors that determine how satisfied students are with their usage of the academic libraries' services.

Table 30 exhibits that the built model is significant in predicting the dependent variable (User satisfaction) with an explanatory power of 31.7%, which is generally acceptable. Hence it can be used to forecast.

#### ANOVA

**Table 31: Regression analysis**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	170.975	6	28.496	53.601	.000b
	Residual	368.948	694	.532		
	Total	539.923	700			

a. Dependent Variable: I am satisfied with all aspects of library services

b. Predictors: (Constant), technology, library policy, Library services.

**Table 31: Multi-regression analysis**

Table 31 highlighted the multi-regression analysis used to test the hypothesis. The Internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services) ( $B = 0.064$ ,  $p = 0.000$ ), The library has enough computers and printers for users ( $B = 0.231$ ,  $p = 0.000$ ), The library has accurate and helpful written instructions in all designated places ( $B = 0.051$ ,  $p = 0.002$ ), I use library computers in my research ( $B = 0.200$ ,  $p = 0.000$ ), Library provides a variety of services ( $B = 0.135$ ,  $p = 0.001$ ) to dependent variable I am satisfied with all aspects of the library services ( $p = 0.000$ ).

**Table 32: Coefficients**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.( <i>p</i> )
	B	Std. Error	Beta		
1 (Constant)	.686	.137		4.991	.000
RQ3:1	.064	.016	.134	3.989	.000
RQ3:2	.231	.029	.280	8.111	.000
RQ3:3	.025	.031	.026	.797	.426
RQ4:14	.051	.017	.104	3.063	.002
RQ4:15	.200	.041	.189	4.880	.000
RQ4:16	.135	.041	.125	3.305	.001

a. Dependent Variable: I am satisfied with all aspects of library services

Table 32 reveals the relative contribution of independent variables: Technology. Library policies, and the library services. The Internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services); the library has enough computers and printers for users. The library has accurate and helpful written instructions in all designated places, I use library computers in my research, and the library provides various services. The results reveal that Research Question 3.3 (with a  $p\text{-value} = 0.797 > 0.05$ ) is insignificant in its contribution to satisfaction with library services. However, the constant Research Question 3.1 Library has enough computers and printers for users, Research Question 3.2 uses library computers in my research, RQ4.14 the library has accurate and helpful written instructions in all designated places, Research Question 4.15 Library provides various services. Research Question 4.16 Library management systems functioning (with  $p\text{-values} < 0.005$ ) are all significant and positively contribute to users' satisfaction in library services as the factors significantly contributed to user satisfaction with library services. The results show a substantial relationship between user satisfaction, availability of technological tools, and library customer loyalty.



**Table 33:Summary of overall Hypothesis testing results**

<b>Hypotheses</b>	<b>Path Finding</b>	<b>Conclusion</b>
1. There is no significant relationship between performance evaluation and service quality characteristics and user satisfaction.	(i) ( $F_{89.380} = 5,664$ , $p < 0.05$ ) (ii) Joint significant relationship between independent variables (IV) and dependent variables (DV) (iii) ( $r = 0.634$ ) (iv) (IV) were positively related and the relationship was high (v) ( $r^2 = 0.634$ )	Rejected
2. There is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty.	(i) ( $F_{53.601} = 6.694$ , $p < 0.05$ ) (ii) joint significant relationship between (IV) and (DV) (iii) (IV) were positively related though relationship was moderate (iv) ( $r = 0.563$ )	Rejected

### 5.11 Summary of the findings

The findings showed that the respondents were librarians, deputy librarians and postgraduate diploma and PhD students from selected universities. The sample size was statistically large ( $250 > 30$ ) to represent all major aspects of the sample unit and to warrant meaningful, concrete, and coherent conclusions to be drawn from the findings. Quantitative data were analysed using SPSS version 23. Thematic expressions were used to analyse and present the qualitative data. A total of 852 questionnaires were processed and analysed. PCA was used to reduce the number of variables and avoid redundancy, while Likert scales complemented and analysed all research objectives and their stem questions.

The first research question sought to determine why performance evaluation is critical to the selected university library. The findings established that respondents strongly felt that

performance evaluation, user feedback, and user suggestions for library services were critical to library performance and improving library services. It was also established that users were satisfied with the overall performance of their libraries. The notes showed that librarians performed their duties at their prescribed points, and there was orderliness in all libraries, from the circulation desk, shelves, and computer labs.

The second research question sought to establish aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. The study's findings demonstrate that the library's management system is effective. The results revealed that library performance evaluation practices were contributing to its development. The selected university libraries have clear policies and procedures. Library rules and regulations were positioned at strategic points. Library evaluation procedures may significantly affect service quality and user satisfaction. The fact that the selected university libraries subscribed to international and national standards bodies and organisations contributed to their service quality and user satisfaction. Some university libraries also offered charters to their customers, which guaranteed excellent services. The selected university library in Zimbabwe also conducted periodic performance evaluations of their employees and library services, thereby keeping track of their progress and improving service delivery.

The third research question aimed to determine the effects of technology on service quality in university libraries. The findings of this study show that the use of computers improves service quality. It was found that students preferred technology in physical libraries. It was established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). Although the library was still essential, students used their mobile devices at home, and library manual services (Brown's system) were replaced with technology (OPAC). The interviews revealed that libraries lacked sufficient computers for users. The lack of such resources has an impact on service delivery. However, most of the services provided by libraries have been computerised. According to the interviewees, technology has dramatically impacted academic libraries. Electronic resources have enhanced research quality by supplementing hard copies. The adoption of library technologies highlights the improved quality of library services, resulting in increased customer satisfaction. The observation checklist

revealed the presence of electronic gadgets in the selected libraries, which could substantially affect service quality and satisfaction.

The fourth research question sought to establish the service quality characteristics that contribute to user satisfaction. The findings indicated that the selected libraries had resources and facilities that meet users' needs. The respondents commended the library staff. However, the students strongly disagreed that the library offered interlibrary loans, which is one of the most essential services for all libraries. Interlibrary loaning is critical for resource sharing and improving library collections and services. The observation notes indicated that the selected university libraries had clean reading environments, standard shelves, shelf layouts, adequate resources, computer labs, and various electronic power points. The libraries offer a pleasant reading atmosphere, reading space, functional library systems, customer service staff, and directional signage. Library staff also provided user-training programmes. The training programmes and library environment are some of the service quality signposts identified that make a good product.

The fifth research question sought to establish the cause of the decline in usage statistics of the selected university library. The findings of this research revealed that some university library services were unsatisfactory. The selected libraries lacked computers, postgraduate reading spaces, and clear-cut budgets for their collection development. University libraries have experienced fewer users owing to the proliferation of technology. The results also show that the library materials were dated. As a result, students preferred using the virtual library in the physical library.

The study hypotheses were that there is no significant relationship between performance evaluation and service quality characteristics and user satisfaction, and that there is no important relationship between user satisfaction, availability of technological tools, and library customer loyalty. The findings from hypothesis 1 revealed that there was a significant relationship between independent variables (I am satisfied with the performance of our library, performance evaluation/user feedback/user suggestions of library services are critical, rules are placed at strategic places, the range of materials held by the library meets my course needs), and the dependent variable (I am satisfied with all the aspects of the library). However, this relationship

was weak. The findings of hypothesis 2 revealed that there was a significant relationship between the independent variables (The Internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services), The library has enough computers and printers for users, The library has accurate and helpful written instructions in all designated places, I use library computers in my research, Library provides a variety of services and the dependent variable I am satisfied with all aspects of the library services. However, these variables were found to have weak relationships.

## **CHAPTER SIX**

### **DISCUSSION OF FINDINGS**

#### **6.1 Introduction**

Chapter five presented the analysed data collected on the performance evaluation of service quality

and user satisfaction in the selected Zimbabwe university libraries. The data analysis, presentation of findings (Chapter 5), and discussion of the results (Chapter 6) are related. According to Oso and Onen (2008), their goal is to evaluate, interpret, and qualify findings and draw conclusions from them. The survey aimed to collect data from selected Librarians (University librarians and their Deputies) and library patrons, who were postgraduate students in selected university libraries in Zimbabwe. Chapter 6 presents a discussion of the findings. The previous chapter's results are discussed in light of the research questions that led the study. The findings are explored through the literature review. The discussion aims to inform the appropriate audience about the results of the research process results (Zohrabi 2013:265). According to Creswell (2017:20121), the most critical aspect in discussing the results is how the outcome compares and contrasts with comparable studies and hypotheses. According to Leedy and Ormrod (2005), the discussion and interpretation of results cut beyond the goal of the study, research problem, and research questions. The discussion is framed in the order of the research questions and hypotheses of the study.

#### **6.2 Summary of findings on performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries**

The summary is organised according to the order of the research questions (See Section 1.6) in Chapter one for details of the research questions. The respondents were librarians, their deputy librarians, and Postgraduate diploma and PhD students from the selected universities. They were interviewed to evaluate the service quality and user satisfaction in selected universities in Zimbabwe.

The critical question of the study sought to discover why performance evaluation is crucial to the selected university library. Performance evaluation includes summative evaluations by evaluating staff members to see project progress, team member checking, and setting targets within a year. The results showed that librarians in the selected universities used performance

benchmarking against other global and regional universities. Auditing is one of the performance evaluation criteria used as a strategic plan to evaluate performance. Individual units in the selected universities have annual plans that assess performance every quarter of the year. They also use evaluation and monitoring committees to determine strategic goals. For instance, in one of the selected university libraries, staff members fill in performance contracts between the university and themselves every year. The performance agreements are reviewed at the end of each year. University librarians measured performance using surveys and scales such as the Likert scale. Additionally, they employed data visualisation, which transforms raw data into graphs, charts, and visuals, such as infographics and dashboards. Data visualisation is used to track how the catalogue is used, how many people visit the library, how many books are checked out each month or at any given moment, and how many journal articles and e-resources are utilised by library patrons from various locations.

The findings established that respondents strongly felt that performance evaluation, user feedback, and user suggestions for library services are more critical to library performance and improving library services. 83.5% (701) of the respondents agreed that performance evaluation was critical to improving library services. Postgraduate students were satisfied with their libraries' overall performance. The results reveal that library performance measurement, performance evaluation standards, library service standards, and library services (with  $p$ -values  $> 0.05$ ) are significant in the model and must be embraced as the four factors contributing to user satisfaction with library services. All four variables positively contribute to user satisfaction with library services. For example, a unit increase in RQ 1.2 library performance measurement, RQ 2 performance evaluation standards, RQ4.1 library service standards, and RQ4.2 library services will trigger a corresponding rise of 0.082, 0.169, 0.354, and 0.327 units in user satisfaction, respectively *ceteris paribus*. It is worth noting that the variables; 'library services characteristics and library services make a relatively substantial contribution to the satisfaction level as reflected by the magnitude of their coefficients'. The results showed a significant relationship between performance evaluation, service quality characteristics, and user satisfaction. The results further showed that variables such as performance evaluation, service quality, user satisfaction, and performance evaluation standards contributed the most to quality services and user satisfaction in selected libraries in Zimbabwe.

The second research question sought to establish aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. The results revealed performance evolution standards aspects such as library policy and procedures, rules and regulations, library-quality service charters, and efficient library management systems; for example, Koha, Millennium, and M3 contribute the most to service quality and user satisfaction. Respondents demonstrated that university libraries' service quality and user satisfaction are derived from the good use of available resources and services (See Table 24 section 5.8.2 on Aspects of performance evaluation standards). The results revealed that university libraries subscribe to local associations such as ZimLA, ZULC, and SAZ, as well as ZIMCHE, and international associations and organisations such as AFLIA, IFLA, SCESSICAL, EIFLE, and ALA through university support. They developed charters in their libraries that guided them in improving their services and guaranteeing excellent customer service. The selected university library in Zimbabwe also conducted periodic performance evaluations of their employees to keep track of their progress and improve service delivery. The results further revealed that the performance evaluation was conducted annually to monitor staff performance on a weekly basis, and weekly updates on every section of the library were compiled.

The third research question determines the effects of technologies on service quality in university libraries. It has been established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). This was supported by 76.6 % (653) of the respondents who concurred. Although the library was still essential, students used their mobile devices at home and some services were replaced by technology. Most university libraries have shifted to well-liked online platforms such as Microsoft Teams, Facebook, WhatsApp chat, Zoom, and Skype, in addition to using their sophisticated library management systems (LMS). The results revealed that libraries lacked sufficient computers for users, thus impacting the service quality. However, most of the services such as LMS, cataloguing, classification, and circulation services (i.e., loaning and returning of books, tracking of books, reports on the collection, websites online, social media, digitised collection, and academic publications on Institutional Repositories provided by the libraries) have been computerised. In short, technology has had a positive impact on academic libraries. Electronic resources have

enhanced the quality of research by supplementing hard copies. Adopting library technologies improves the quality of library services and increases customer satisfaction. In addition, the core findings revealed that electronic gadgets, such as book detection machines, CCTV, desktop computers, printers, scanners, and photocopying devices in the library, substantially impacted service quality and satisfaction.

The present study's findings in the fourth research objective show that service quality characteristics contribute to user satisfaction. Service quality characteristics included tangibles (library facilities, library collections, and library support services), reliability (library service procedures and accuracy of information), responsiveness (librarian's readiness, sensitiveness, and hospitality), assurance (librarian's knowledge, skills, courtesy, and insights), and empathy (librarian's concern and sincerity). The findings indicate that libraries have resources and facilities that meet users' needs. The library staff were highly commendable in their work activities, for example, training users on library services. These qualities make a good product. The university libraries had resources for course needs, study rooms for postgraduate students, the ambience of physical facilities, library staff in their places, such as circulation and reference desks, and the availability of OPAC in all libraries. The results showed that selected libraries need to improve their services by providing interlibrary loan services, as evidenced by 71.3% (609) of students who disagreed that the library offers interlibrary loan services.

The study findings in research objective five determined the reasons for the decline in the usage statistics of the selected university library. This research found that the usage statistics were declining, as supported by 65.5% (555) of students who agreed. The decline in physical visits and use of university libraries may be due to individual behaviour, library staff, library services, and library technology, which continually took over the library business. Some of the reasons for this decline may be the proliferation of technological gadgets, electronic resources, and surrogates to library services provision websites and resources. Some materials in some selected university libraries were irrelevant, and students preferred using the virtual library to the physical library. Another reason was that students did not use the library because the services were unsatisfactory. Another reason for the reduced library use was the prevalence of the COVID-19 pandemic. The research notes that libraries successfully offered digital content throughout the



COVID-19 pandemic. At the same time, physical usage has decreased, which is unsurprising given the closures, stay-at-home orders, and other COVID-19 restrictions. Libraries are only fully utilised when they are found in college campuses. While attending college, students use libraries as study spaces, computer labs, and printing facilities. Library proximity significantly affected the decline in usage statistics. 74.4% (633) of the postgraduates agreed that the library was far from their residence.

Expectation Confirmation Theory (ETC) informed the study as the theoretical lens for the research hypotheses. This theory has been applied in several scientific fields, including psychology, marketing, consumer behaviour, and information systems, to explain post-adoption satisfaction (Chalomba, 2016). This theory was used in this study to answer "why" questions. Significantly, the theory helped explore why performance evaluation is critical and why library usage statistics are declining in the selected universities. The findings improved the aspects of the theory, as well as our understanding of it.

### **6.3 Discussion of findings**

This study evaluated the performance of service quality and user satisfaction in selected Zimbabwe university libraries. The survey's critical questions were as follows: Why is performance evaluation critical to the selected university library? Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction? How does technology affect the service quality in university libraries? Which service quality characteristics contribute to library user satisfaction in libraries? and Why are library usage statistics declining in the selected university library? The study used the following hypotheses: There is no significant relationship between performance evaluation, service quality characteristics, and user satisfaction. There is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty. The findings are discussed in the order of the research questions and hypotheses (See section 1.5 on research questions).

#### **6.3.1 Performance evaluation in university libraries**

The first research question aimed to discover why performance evaluation is critical to the selected university library. Performance evaluation includes summative evaluations by evaluating staff members to ascertain project progress, team member checking, and setting

targets within a year. The results showed that librarians in the selected universities used benchmarking against other global and regional universities. Auditing was one of the performance evaluation tools, and the selected universities used strategic plans to evaluate their performance. Individual units in selected universities have annual programmes that assess performance every quarter of the year. They also use evaluation and monitoring committees for assessing their strategic plans. For instance, staff members fill in performance contracts between the university and themselves annually. The performance contracts are reviewed at the end of each year. University librarians measured performance using surveys and scales such as the Likert scale. The findings established that respondents strongly felt that performance evaluation, user feedback, and user suggestions for library services are more critical to library performance and improving library services. The current study's findings are confirmed by Tommaro (2015), who reported that performance evaluation combines the overall results of university library development and essential management techniques. According to the author mentioned above, a systematic and objective internal and/or external assessment of an academic library's design, aims, implementation, and results of current or completed activities, project programmes, or policy is performed. This is done to assess the library's relevance, efficiency, effectiveness, impact, sustainability, and reaction to customer demands. The results call for library management to use systematic strategies and produce better results with performance evaluation. For example, formal and performance assessments involve periodic examination of an employee's job performance and overall contribution to a firm by analysing employees' abilities, achievements, progress, or lack thereof. Formal performance assessments can be performed using annual reviews, results-based management evaluations, or employee appraisals, and context-specific evaluation methods will yield solid performance results. The university library has a quality assurance committee composed of members from different sections modelled along the university quality assurance team, feeding into the other committees. The library also has audits, but these are usually conducted by the university. The QA team performs the annual audits. University libraries have developed tools to measure user satisfaction. It measures opening and closing hours, staff responses to user queries, and the quality of subject coverage by library materials from each faculty using Google forms posted on the library and leading university websites, asking users to respond. The results also showed that the libraries have charters and instruments like policies and SWOPS. They look at adherence, and we have instruments we use

to get feedback from users' communities like suggestion boxes and WhatsApp chat boxes, which help the library find the feelings of our clients. The library uses audits conducted by the university at large. The quality assurance team conducts the annual audit.

The results showed that eighty-three point five per cent (701) of respondents agreed that performance evaluation was critical to improving library services. It was also established that respondents were pleased with the overall performance of their libraries. The results demonstrated the importance of performance evaluation in library administration. For instance, the success of PE was built on the distribution of performance, devising valid and reliable methods for performance implementation, obtaining judgements, and the utility of performance feedback to staff. The findings suggest regular adjustments to systems that manage a wide range of systems for evaluating the performance of the selected libraries, ranging from formal, informal, real-time appraisals, and performance management systems to more traditional annual performance evaluation systems.

The fundamental findings showed that university librarians performed performance evaluations of their libraries and staff. They used various methods such as formative and summative assessments using surveys and reports, performance benchmarking, performance audits, performance appraisals, and performance contracts using factors such as the quality of work, execution, and communication. As a result, future model performance evaluation models may be based and implemented on improved Key Performance Indicators (KPIs) that the user can compute after an evaluation is run. Mavodza (2022) supports this claim and believes that using KPIs to assess the effectiveness of a library's activities is more effective. University libraries should, therefore, use KPIs to evaluate performance to make improvements. University librarians should use benchmarking in some libraries to identify actions that must be made to achieve Critical Success Factors (CSFs). They can use these performance assessment tools to their advantage by enhancing the areas where the library performance needs to be improved. Gao *et al.* (2015) also called for the abandonment of regularly used performance evaluation tools and methods for substantive and statistical reasons. Similarly, the practice of conducting punitive performance reviews, frequently for staff promotion and career advancement, has not helped the

creation of high standards for service users, in this case university library customers (Dabholkar, 2015).

The results of the current study suggest a need to expand the evaluation of the performance of professionals, services, and user satisfaction in university libraries in Zimbabwe. Further analysis by Mavodza (2022) indicated that the performance of university libraries in contemporary settings had been assessed using various methods, from employing statistics to influencing evaluation. However, the disadvantage of emphasising the process occurring in libraries is that these evaluation attempts have been primarily focused on quantifying the provision of services, lacking clear-cut measures on how libraries could solve difficulties in their environment. The expansion of performance evaluation should rationalise management and provide reliable services to the university community. The performance evaluation model should cover critical components, such as library services, professional experience, technology projects, and quality service competence. The criticality of the performance evaluation is supported, but the execution methods and frameworks are not well crafted.

Current studies have called for systematic evaluation criteria and frameworks to measure library performance, service quality, and efficiency. This is supported by a survey by Urquhart (2018), who examines the principles that underpin library assessment, methods used for impact and performance evaluation, and how academic libraries should adhere to the frameworks. LibQUAL and customer service excellence (CSE) are two quality frameworks that could be used in university libraries. Atkinson and Walton (2017) call for university libraries to prove to themselves and their institutions that they are providing quality services and that there are drivers for showing continued improvement, impact, and return on investment. The LibQUAL approach emphasises customer service and uses gap analysis to measure the mismatch between customer expectations and perceptions of service quality (whether perceptions exceed, match, or fall short of expectations). CSE is a UK award applicable to many organisations. It focuses on customer service but is more interested in the user experience and the areas that are priorities for customers (generally taken to be delivery, timeliness, information, professionalism, and staff attitude).

It is impossible to overestimate the importance of performance evaluation and processes. Several academics have endorsed the importance of performance evaluation in university libraries. For example, Galeeva (2016) conducted a study on higher education in Russia and found that the necessity for performance evaluation arose due to the higher education sector's overgrowth, which has elevated it to the level of a full-fledged service business globally. Galeeva (2016) states that, because higher education institutions are increasingly seen as part of the service industry, performance evaluation of their services is necessary. Similarly, Yildiz and Kara (2015) suggest that strong and frequent performance evaluation models are essential for monitoring and enhancing service quality and customer satisfaction in university libraries.

However, Urquhart's (2018) study contrasts the various approaches to impact evaluation and assessment in academic libraries and examines more in-depth value frameworks. A value framework might help data analysis approaches by combining qualitative and quantitative data. Strategic planning and ongoing library assessments increasingly require more attention to data analytics. Such development probably requires collaboration among library services to develop reliable datasets and compelling data visualisations for managers. Frameworks such as the balanced scorecard may continue to be used to organise ongoing impact and performance evaluation, helping to clarify what data should be collected and analysed. Unfortunately, measuring e-service quality in information services centres, including libraries, is not well established, and user expectations are ever-changing and are poorly formulated (Mushunje, 2020).

The study's findings support Karim's (2018) argument that measuring library performance and user satisfaction is an important management activity. It is widely acknowledged as a critical issue, particularly for libraries and information centres. A unique perspective on performance and management is required for organisations that provide public services, such as public and university libraries. In Vrabková and Friedrich's (2017) study, performance gaps (benchmarking of Czech and Slovak city libraries) appear to support the premise that performance evaluation is vital because public libraries must respond to their users' increasing demands for quality and modernity of library services. According to the author, the primary goal of analysing service quality is to analyse service efficiency, identify service faults, manage service delivery, and provide the best possible service to all clients. Consequently, performance evaluation entails a

user-centric and service-oriented procedure. However, there is a need to use data analytics in library assessment, which requires collaboration among library services to develop reliable datasets. Scorecards help with ongoing impact and performance evaluation. Queries that arise may need a framework or logic model to formulate suitable questions and assemble evidence (qualitative and quantitative) to answer new questions about the value of library services (Kumari, Tanwar, Tyagi, and Kumar, 2019).

The findings of this study are supported by a survey by Mathews (2018) assessing organisational effectiveness: the role of performance measures, which agrees that performance evaluation is essential in libraries for improving library services. The author argues that performance evaluation is an element of the library's feedback loop on how well it is doing. This assessment is more effective if it is carried out regularly to identify methods to improve existing services or to determine whether existing facilities should be closed down. The results confirm the observation by Sudiardhita *et al.* (2018) that performance measurement and evaluation must be performed regularly. They say that periodic surveys could help the library track the changing needs and expectations of its users. This is also supported by Iroaganachi and Nkiko (2016), who concluded that academic libraries should inculcate a culture of performance assessment that involves a continuous and periodic evaluation process and manage functional processes either reactively or proactively through deliberately designed parameters. As a result, the selected university library can make proper plans to improve its library facilities and services. This is critical to ensuring that academic libraries can provide better library resources and services to meet the needs and expectations of their users. Based on the survey results, improvements to library facilities and services can be made from time to time. The results showed that the selected university libraries conducted their evaluations periodically. Some evaluation mechanisms were implemented, such as evaluation forms, performance evaluation contract forms, and surveys on user views on the services provided.

Accordingly, 83.5 % (701) of respondents in this study felt that performance reviews were critical for improving library services. These findings agree to a greater extent with Kiilu and Otike's (2016) survey on the non-use of academic library services in Kenyan libraries. He claims that measuring performance service quality has considerable potential for obtaining data for

better decision-making, reviewing the complete service for variety, or planning for the future. In summary, performance evaluation is critical to the success of any organisation, including libraries. The method of assessing library performance can focus on the entire library system or individual components, as the assessment required can be at any level of a library or information system.

However, Urquhart (2018) encourages libraries to gather evidence about subtle changes in how students learn and how their dispositions for learning affect their behaviour. A holistic approach is required to implement an assessment culture. There is a need for all library staff, including managers, to appreciate the importance of the qualitative and quantitative evidence they handle, and how such data may be processed and analysed to help demonstrate the value of library services. Practitioners may need to develop value propositions and identify where and how value co-creation might occur, such as with new audiences for e-resources or open data. Such developments will add value to library performance. As such, university libraries should adopt a business-oriented strategy and establish procedures to support costs. The system helps with performance and resource evaluation, monitoring, and measurement. It is necessary to confirm the efficacy and efficiency of Return on Investment (ROI) methods used to ensure that the money spent on resource acquisition, personnel management, and development has been wisely invested and yields the desired ROI. Today's VUCA (volatility, uncertainty, complexity, and ambiguity) (VUCA) climate requires university librarians to outline the necessary abilities and competencies necessary (Mavodza, 2022).

Yuanrui and Jingli (2020) suggest that some models evaluate the operational performance of academic libraries. For example, Data Envelopment Analysis (DEA) has been applied in the field of evaluation using scientific methods. Furthermore, Frandsen, Sørensen, and Anne (2021) proposed using systematic theoretical and behavioural model frameworks to be used in performance evaluation models and strategies in university libraries with scientific approaches such as data mining. With rising operating costs in university libraries, it is essential to evaluate performance efficiency scientifically. Unfortunately, there are few studies on the quantitative analysis of multiple inputs and outputs in existing literature. The appropriate allocation of resources influences the operating performance of the library. Therefore, it is necessary to

comprehensively evaluate the performance status and improve it effectively. To ensure the efficacy and efficiency of all library activities, all library leadership and managers must engage in performance evaluation (input and output). As a result, a performance evaluation of service quality will justify investments and, perhaps, improve the services provided by academic libraries and inform library user experiences. Library investments significantly impact student retention, institutional ranking, and accreditation. Consequently, academic libraries should cultivate a performance assessment culture that includes a continuous and periodic review and management of functional processes, either reactively or proactively, through consciously set parameters.

According to the results, all the selected universities undertake performance evaluations of their services. The findings of this study agree with those of Vrabková and Friedrich (2017), who claim that performance is measured using a variety of procedures and methods. This measurement verifies (records, monitors, and analyses) the state, level, and changes in organisational performance and system objectives. As a result, performance evaluation is one of the most extensively utilised tools in business to provide vital information for better decision-making at all levels, including strategic, organisational, and individual levels. Performance indicators can be employed to collect essential data to increase the library performance. As a result, quality services and user satisfaction are obtained. Assessment is the only instrument for determining a system's performance and capabilities and ensuring that it is used to its full potential. The primary purpose of library performance evaluation is to obtain the best possible result, which is to satisfy the client continuously while also improving the efficiency and effectiveness of the library's operations. As a result, performance evaluation in university libraries should be mandatory in Zimbabwe to improve the quality and type of library operations.

Kumar and Mahajan (2019) assert that Library Service Quality Assessment aids in determining the total quality of resources and services, allowing them to maximise the use of their products and services. Furthermore, a customer-based assessment can act as a planning tool by offering useful input and determining the strengths and shortcomings of libraries and information centres. Quality measurement also empowers librarians and patrons, resulting in improved connections. Mokhtar, Shaifuddin, Satirah, Saman, and Baba (2018) state that work on performance



measurement and evaluation must be conducted regularly. Every academic library's measurement and evaluation team must suggest proper planning for conducting the survey. Surveys performed periodically could help the library track its users' changing needs and expectations (McCaffrey, 2019). Related academic libraries could make proper plans to improve their facilities and services. Performance measurement and evaluation must ensure that academic libraries can deliver improved resources and services to satisfy users' requirements and expectations. Based on the survey results, improvements to library facilities and services may be made from time to time. In Zimbabwe, the performance evaluation of library services is performed annually, guided by university library management planning schedules.

### **6.3.2 The aspects of performance evaluation standards that contribute the most to service quality and user satisfaction**

The second research question establishes the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. The components of the standards that contributed the most were clear policies, such as authorised borrowing, overdue fines, damage and loss policies, patron privacy, collection development procedures, intellectual freedom, selection guidelines, and copyright and interlibrary loan policies. The Standard Operating Procedures (SOPs) created by university libraries are specific to their operations and describe the processes necessary to carry out tasks following existing operational guidelines. Documents containing instructions on how to carry out client services, information services, technical services, library systems, and the marketing and promotion sections of the library are classified as procedures. The results showed that laid down rules and regulations, accessible library charters, and efficient management systems contribute the most to service quality and user satisfaction. Respondents demonstrated that university libraries' service quality and user satisfaction are derived from the good use of available resources and services. Standards ensure success in any field by using knowledge and technology. In library and information science, best practices are used to improve quality services, solve problems, create new opportunities, and positively impact entire institution. Various systems of the industry use different standards. For example, to improve service quality and user satisfaction in automotive systems, methods have been developed for testing some data transfer characteristics and two Data Distribution Services (DDS) implementations and one Advanced Message Queuing (AMQP) in inter-process

communication (Andrei, Marlen, Sergey, and Krinkin, 2020). The analysis of opportunities that every standard provides in university libraries should be conducted to enhance service provision and ultimately prompt user satisfaction. While this study examined a different industry, the developments can be used in university libraries to strengthen performance evaluation programmes.

The results are similar to Novo's (2018) study on scalability access management on the Internet of Things (IoT) using blockchain for performance evaluation. The results show that university libraries' performance evaluation standards, which contribute the most to service quality and user satisfaction, can be compared to the performance of existing IoT access management solutions. Such innovations bring about new technical challenges, such as the management of many IoT devices. Several secure IoT management frameworks are based on centralised models, which limits their applicability in scenarios involving many IoT devices. However, library limitations can be overcome by developing a distributed IoT management system based on blockchain by establishing a trusted, unfiltered, and decentralised repository of data and information accessible globally. Such configurations and solutions could increase the scalability of university libraries. Therefore, it can be inferred that a deep insight into IoT Web application performance by implementing test applications can increase the components of the standards that contribute the most to service quality and user satisfaction in university libraries (Babovic, Protic, and Milutinovic, 2016). It is necessary to determine whether the solution and existing management systems can be expanded. While the selected university library used performance benchmarking, there is a need to improve the benchmark approach to check standard processes and design frameworks to improve standards in university libraries in Zimbabwe. University libraries can use best practices by copying their competitors and adding value to their services.

Elliott's (2020) argument supports the findings of this study that particular standards must be followed to manage library operations and provide excellent services. University libraries should develop standards such as ISO 11620 to aid in the design of library operations and criteria for evaluating all types of libraries. University libraries should be recognised for improving the quality of their work, visibility, and rankings by being acknowledged for growing their KPIs. Zimbabwe's libraries are members of international associations and organisations such as IFLA,

AFLIA, SCESICAL, and ALA, as well as local associations and consortia such as ZimLA, ZULC, ZIMCHE, and the Zimbabwe Standard Association (SAZ). University libraries in Zimbabwe conforming to standard practice might mean that they were following international standards, which could lead to better services and user satisfaction. International library standards also include recommendations for how performance metrics should be used in libraries that do not already have them (ISO 11620, 2006).

Meanwhile, leading professional bodies in the information science domain, such as the International Federation of Library Associations and Institutions (IFLA), the ACRL, and the Public Library Associations (PLA), have called for new initiatives to support the assessment and evaluation of work carried out by libraries (Matthews, 2017). Contrary to the earlier call, Mavodza (202) argues that even when using guidelines from reputable organisations such as ALA, the Australian Library and Information Association (ALIA), and the Chartered Institute of Library and Information Professionals (CILIP), the appropriateness of the scenario is never guaranteed when standards are used. However, given the global character of academics, some KPIs should aim for compliance with some discipline for professional standards. University libraries, which are the focus of this study, require standard procedure manuals to guide daily operations.

The results showed that university libraries were selected to comply with the best practices. The selected libraries had clear policies and procedures, rules and regulations were defined and displayed, rules were placed at strategic points, the library service charter was accessible, and the library had an efficient library management system. All of these are ingredients of best practices. Askew (2015) states that best practices in university libraries can be derived from various sources. Best practices are viewed from the perspective of consumer requirements and satisfaction using mixed methodologies (including quantitative and qualitative). Cunningham (2016) suggests that university libraries should evaluate their services against established benchmarks, such as investment in people and CSE. Such evaluations could provide a basis for growth, quality improvement, and independent assessment of achievement. University libraries may also use methodologies and best practices from a range of industries, such as banks and the hotel industry, offering customer service (Paterson, 2011). The evaluations indicated earlier

assistance in locating critical information for establishing a best practice model appropriate for a specific library. Library managers in university libraries can use benchmarking to gather ideas from other well-established libraries and to develop solid library policies.

The results of this study reveal that SOPs contribute to quality services and user satisfaction. Similarly, Laskar and Dey (2020) studied library best practices in selected institutions affiliated with Assam University, Silchar, India. This study aimed to evaluate how the prepared libraries were used for best practice library innovations. According to the findings, the selected universities met the National Assessment and Accreditation Council (NAAC) minimum standards for best practices and library service quality. selected university libraries in Zimbabwe must be innovative and apply best practice standards with global affiliation characteristics. In support of the best practice philosophy, on October 26, 2005, NAAC organised a workshop for academic libraries to identify best practices in library and information services and created best practices that might improve the educational information environment and usability of academic libraries. The guidelines included gathering statistics on library usage, posting newspaper clippings on the notice board regularly, and retaining sufficient information about the library in the college prospectus. In addition, information literacy training and internet services are provided to various user groups. Using the suggestion box and responding promptly. Displaying new library resources and providing academic departments with a list of them. In addition, the organisation of book fairs on various occasions schedules regular user surveys and book discussions. University libraries' operations could radically transform if they adopt these NAAC best practices.

Pinfield, Cox, and Rutter's (2017) findings on mapping the future of academic libraries: College, National, and University Libraries Society's (SCONUL) report on developing best practice instruments. Establishing best practice standards and creating models for all collections, resulting in uniform norms to improve the quality of library services, have been widely requested. University libraries should use surveys focused on library services, including questions about demographics, library operations, satisfaction ratings, the value of programmes and facilities, and overall satisfaction with the library's services (SCONUL 2017). Customer satisfaction is the subject of the short survey, library use is covered in the medium review, and demographics are

included in the comprehensive survey. The selected university libraries should allow online access to the library surveys. In support of best practices, Humane (2020) advocates best practices that pave the way for enhancing an existing function and help in the practical implementation or use of the process. It has a significant impact on any educational activity in an institution. University libraries could, therefore, develop their infrastructure with available resources and computerise their libraries with standard digital software that provides efficient library management systems. They could also improve their standards by compiling library usage statistics, providing internet facilities to different user groups, offering information literacy programmes, and using suggestion boxes to gather user satisfaction feedback and timely responses. University libraries can display new arrivals and circulate a list to the academic department. Conducting user surveys periodically, forming an academic library committee, and collecting annual reports are standards used to ignite service provision.

To improve the quality of services, university library managers may borrow insights from the University Grants Commission (UGC), whose mandate is to make quality assurance an intrinsic component of higher education institutions' operations. Sinha and Subramanian (2017), Mehta, and Vyas, (2021), and Sengupta (2021) note that the National Assessment and Accreditation Council of India indicates and directs library best practices as a method or technique practiced in modern libraries for providing better quality services. There is a need to understand best practices in libraries based on scholarly opinions and suggestions, especially (NAAC) guidelines, and to check how university libraries implement these parameters to meet quality services for overall academic achievement.

The results are further supported by Palmer's (2022) study of the Squamish Public Library in Canada. The study identified trends and standards for public libraries that university libraries in Zimbabwe could adopt. This study reaffirms expectations for future libraries, which will experience a significant change in their dual roles as community centres and knowledge facilitators. Accordingly, libraries will have fewer books and more space. They will transition from content warehouses to content creation enablers catering to new visitor types such as digital natives, knowledge creators, and entrepreneurial learners. These trends will affect four resources: technology, collaboration, physical space, and people libraries use to achieve their objectives.

University libraries can gain from some of the developments examined, despite the study's focus on public libraries. This is similar to Mavodza (2022), Renirie (2020), and Elliott's (2020) assertions that university libraries could adopt the American-centric approach, and the Association of Colleges (ACRL) could perform biennial top trends and environmental scans to establish a standard instrument for the library sector. This standard should be applied to libraries in higher education institutions that support academic programmes, including libraries. Standards should be created to assist libraries in setting individual goals within their institutional aims. The criteria should offer quality and quantity measurements and advice on analysing each component of library management and service supply.

The findings reveal that university librarians have created their own assessment frameworks as standard tools in their libraries. These results agree with Reid's (2020) study, which ran from 2012 to 2017 on behalf of the Scottish Library and Information Council. The study examined Scotland's prior quality performance standards evaluation and led to the development of a new framework. As a result of these findings, a new approach to analysing and evaluating the quality of service and the value and impact of Scottish public libraries was developed. This research advises university library administrators to appreciate the range and depth of performance standards evaluation to expand their library's user base. In addition, Afful-Arthur (2016) established numerous instruments were designed to assess and investigate customer satisfaction with university library services at the University of Cape Coast in Ghana. These methods are used to identify similar marketing, retail, healthcare, and educational phenomena. For example, in higher education settings, authors such as (Perusaman *et al.*, 1985, 1988; Zithmal *et al.*, 1990), (Carrillat, Jaramillo and Mulki, 2007), (Abdullah, 2005; Awan *et al.*, 2011) and (Firduas, 2005; 2006) and Srirahayu, Anugrah, and Layyindah, 2021) have developed and created several instruments for measuring user satisfaction. The tools and instruments used were SERVQUAUL, SERVMPER, HEDPERF, LibQUAL, and the Net Promoter Scorecard. One of the indicators used to evaluate customer service operations is the Net Promoter Score. The tools created were part of the guidelines for improving the library services. In Zimbabwe, librarians from a few universities created and employed instruments to improve service performance. For example, one university library created its instrument, while others relied on publicly available tools, such as LibQUAL and transformational MaCoTra. Tools such as SERVQUAL are considered

inadequate for measuring service quality and user satisfaction; therefore, new tools should be developed (Shoeb and Ahmed, 2020). University library management should develop instruments according to their environment. This study developed an instrument that can be used by different organisations in the information sector.

The findings of this study indicate that university libraries employ charters and related tools to boost efficiency and to maintain customer promises. User charters have been implemented by many libraries worldwide to provide high-quality services. Kadodo, Rugara and Ndinde (2016) support the results by saying that the Zimbabwe university libraries use library service charters to determine the best course of action and provide quality services and user satisfaction. Consequently, university libraries ought to create client service charters that clearly outline the nature and expectations of service provision, the interaction between library staff and users, and the inclusiveness of service provision. Goals, services, current policies (such as the Internet Policy), and any rules or regulations should all be listed in the Customer Service Charter. To ensure their patrons with disabilities are catered for, libraries should utilise their websites and provide a diverse and inclusive environment (Kadodo, Rugara, and Ndinde, 2016).

Furthermore, Waweru, Odero, and Buigutt (2020) reveal that librarians and information professionals have a keen interest in realising service charter matrices. However, they occasionally lack the abilities and competencies to effectively implement various service charter themes in the most appropriate setting. This is supported by Pacios, Gutiérrez, Garca, and Morales (2021), who pointed out that many libraries either neglect to publish or promptly update their charters. Similarly, such libraries rarely use charters to inform users of their services and associated obligations. University libraries are refocusing library development and tying it to their specific market niches while demonstrating their commitment to improving service quality by implementing some strategies (Waweru, Odero, and Buigutt, 2020). Universities in Zimbabwe can use library charters to boost customer satisfaction and manage return on investment.

Peacock and Vecchione (2020) suggest that academic libraries are responsible for providing accessible copies of collection materials to individuals facing a variety of accessibility needs. Accessibility needs differ from user to user, often making each request an individualised service.

Academic libraries are responsible for embracing a Universal Design for learning approaches to their acquisitions and establishing policies as part of the procurement process. They should establish practices, policies, procedures, and workflows to meet these needs and provide streaming media services and other collection materials to users with disabilities. Library workers should be educated on accessibility needs, best practices, common workflows, and potential implementation procedures to ensure that they serve all users, regardless of disability. The trend trajectory in higher education is towards using Universal Design to improve educational materials to meet accessibility needs. Universal Design has been shown to enhance learning for all students, not just students with specific accessibility needs (Gordon, Meyer, and Rose, 2016).

Although numerous studies have concurred with this study's findings, Carlsson and Tornngren (2020) demonstrated that more needs to be done to comprehend users through surveys and other techniques, such as suggestion boxes and performance assessment tools in selected universities. A survey of all university libraries in the Association of European Research Libraries (LIBER) was conducted to investigate how different user input methods are used. Exploratory methods based on analysis and close interaction with users significantly increase user knowledge and perceived proper functioning. Surveys can use various tools and techniques to identify new and developing libraries. Libraries that conduct exploratory analyses, such as user experience (UX) and process mapping, report significantly increased user knowledge and perceived proper functioning. However, transferring findings into service changes is time-consuming, especially for smaller libraries, and the results frequently support incremental improvements rather than the discovery of new services. Building an evidence-based self-image and inspiring strategic choices requires university library managers to understand what users perceive as library strengths. Academic libraries should focus on components that contribute to service quality and user satisfaction.

The results showed that the selected libraries have efficient management systems. Having library management systems is insufficient, but it requires systems that are current and equipped with the latest technologies. In that regard, Babovic, Protica, and Milutinovic (2016) suggest steps that libraries should take to improve the effectiveness of their library management systems. For



instance, measuring the communication overhead caused by different communication protocols, message encodings, and graphics processing performance is necessary to comparing the performance of other web platform implementations. These technologies allow the development of a wide range of applications in library domains. Traditionally, real-time messaging applications have been implemented as desktop-based applications that rely on the underlying socket connection between the operating system and a standard graphic library. Standard HTML Web applications have demonstrated advantages over desktop-based applications, such as increased portability. University libraries should move with time to complement Library Management Systems. These developments imply that the selected university libraries should use best practices to improve their services and satisfy their users.

### **6.3.3 Effects of technologies on service quality in university libraries**

The third research question aimed to determine how technology affects university library service quality. It was established (76.6 %) of 653 students agreed that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). Although the library was still essential, students used their mobile devices at home and some services were replaced by technology. Most university libraries have shifted to well-liked online platforms such as Microsoft Teams, Facebook, WhatsApp chat box Zoom, and Skype, in addition to using their sophisticated LMS. The results revealed that libraries have computers for users. Still, students were not entirely using physical libraries because of other alternatives, such as remote access platforms provided by their libraries. The results of this study also revealed that the library was no longer necessary, as 58.9 (501) students agreed that they did not visit the library because of new technology and applications (remote services). The findings are reinforced by Coates (2021), who states in his research that from 2008 to 2018, library use in the United States fell by 31%. Public library services faced a significant problem, as seen by the continual decline that included drops in both gate counts and physical circulation. Coates cites a staggering 70% decline in the UK since 2000, a 22% loss over ten years in Australia, and a 31% decline in library building utilisation in the U.S. since 2000. Notably, the influence of the pandemic on reading behaviour has been included in a recent 2021 survey. It was discovered that during the pandemic, individuals of all ages read more, with almost 87% of U.S. respondents stating they had used a book in 2021, compared to 81% in the prior survey performed in 2019. Such a decline in library usage could result from library services providing surrogates in the

form of competitive information kiosks, electronic resources, and users' attitudes towards libraries.

With the invention of Information and Communication Technology applications and software, libraries are now using various technologies to aid their services. Every day, new technological advances affect how information is handled in libraries and information centres. Libraries are affected by new technologies in many ways. Computing, communication, and mass storage technologies are just a few areas in which libraries are reshaping how they access, retrieve, store, manipulate, and disseminate information to users. Owing to technological improvements, university libraries have reached a new height. In today's technologically evolved world, library and information services can be delivered online, making libraries more user-friendly and interactive. IT has prompted library professionals to use ICT and social media tools and services to provide real-time information. The University has the potential to provide real-time services thanks to Social Networking Sites (SNS) or social media.

The results revealed that the Internet has heavily affected the use of physical libraries (physical visits versus virtual/remote services). According to the Association of Research Libraries at the University of Virginia Library, the number of reference queries handled by librarians has declined over the past two years. This decline can be attributed, in part, to the Internet. There is no argument that the Internet has dramatically changed the complexity of providing reference and quality library services. The results confirm Atkinson's (2021) findings that the decline in library prominence and the rise of online services resulted from students' apparent self-sufficiency in information communication technologies. The Internet not only aids in raising library resource knowledge, but also demonstrates the value and benefits of library and library usage to users, potential users, and university administrators who provide financing. Adebayo, Ahmed and Adeniran (2018) added that Internet users can access multimedia information from libraries remotely from anywhere. For instance, library patrons from selected university libraries made reservations for their favourite library items online using OPAC. The application of various robust technologies in university libraries the service quality.

The results highlight the significance of electronic services in using physical libraries, focusing on the relationship between service quality and library user satisfaction. Mulyono *et al.* (2020) emphasise the significance of electronic resource services on the effect of service quality on student satisfaction and loyalty in higher education. This study analyses the impact of the quality of services provided to students concerning their satisfaction and loyalty. The results showed that student satisfaction significantly mediated the correlation between academics and student dedication, non-academic and student commitment, reputation and loyalty, and campus access and student loyalty. It is necessary to improve library service quality by conducting several marketing campaigns to predict how students build positive perceptions of the library. For instance, libraries in Arabian Gulf universities are seeing self-checkout, curbside pickup, scanning and delivering, and materials delivery. There is less face-to-face interaction with library users unless self-checkout machines are not working. Universities are moving to more online education services, and libraries must collaborate with faculty to offer services seamlessly (Mavodza, 2022). All library users should have direct access to library facilities and staff. There is a need to improve the dimensions that can increase student satisfaction so that students are convinced of their library. Thus, they are likely to recommend it to their peers and spread positive information about their library.

The study's findings indicate that 75.4% (643 students) use mobile technologies to obtain their information, whereas 58.9 (5010 students) agreed that they do not visit the library because of the new technology and applications (remote services). The results reveal that having an online presence provides an alternative way to access academic libraries. Atkinson (2021), Singh and Nikandia (2017), and Adamou and Ntoka (2017) all agree that information is becoming increasingly digitally available in a variety of fields, including business, education, sports, people connectivity, and entertainment, as well as the provision of library services. Despite their widespread availability, emerging technologies have created hurdles to library expansion regarding physical presence (library visits). However, their integration has improved service quality and attracted new users to the library. This was corroborated by Demir *et al.* (2020) who examine the quality of e-services online meeting platforms. This study examines the impact of e-service quality on user perceptions and satisfaction. Moreover, studies conducted during the COVID-19 pandemic showed that the Internet significantly aided libraries in pressuring

organisations to find novel solutions and alter how they conduct business (Carnevale and Hatak, 2020). Online library platforms have substantially increased since the COVID-19 pandemic (Vena, 2020). Libraries were among the service-oriented businesses that experienced the most significant strategic and operational changes during this unexpected pandemic.

According to Coates (2021), a continued high level of utilisation of digital materials will leave the library empty and unfavourable. The decline in public library building use was critical before the pandemic began. Most academic libraries have shifted to e-learning systems that use Internet platforms as a service-provider medium to meet the needs of staff and students enrolled on and off-campus. The use of mobile technologies has caused a transformation in users' perception of what is being hosted in the library to how and when services are rendered to fulfil their requests. Consequently, libraries are becoming less critical for the material they collect or house. Instead, their importance is measured in terms of the fulfilment of user requests. The movement of material from publishers and hosting them for "just in case" some users will need them is being replaced by delivering materials from publishers "just in time" to answer the user's needs (Mayega, 2008).

However, the decline in physical visits may be caused by challenges such as a lack of space and insufficient computers. Other issues include fewer power outlets for students' laptops, lack of comfortable chairs, unsatisfactory digital services, and lack of assistance from library staff. Libraries in Zimbabwe were found to be overcrowded during the examination period, with some libraries having fewer library computers than their patronage and university enrolment (Adeh and Hayatu, 2020). There was a need for library spaces to be fully equipped, and extra space in the library could be freed if some of the library's older resources were weeded and placed in easy reach. Library management should split accessible spaces to allow room for small group conversations. Library administration could begin campaigning for accessible ICTs from government parastatals. The campaign will help them acquire additional ICTs needed for library users. The findings are significant for Zimbabwe university libraries, which are underfunded and require resources compatible with their users.

The findings of this study reveal that technology has significantly impacted library operations. Consequently, Onuoha and Obialor (2015) believe that introducing new technology will help academic libraries develop and improve service quality. However, libraries have stagnated in adapting online services for mobile users, and library and information resource managers must recognise that their core market, like all others, has evolved dramatically in recent years (Weinstein and Macfarlane, 2017). Murray (2015) asserted that to meet the New Economics and Technology Libraries on Client Quality mandate. University libraries must have a significant presence in the physical and digital world. It is typically easier for university libraries to notice changing client preferences and incorporate new IT into their existing collections.

The study results contrast Hartle, Becker and Mhlauli's (2017) study on assessing the use and quality of library services, accessibility, and facilities by students at CPUT. The study concluded that the exponential growth of information and developments in digital technologies for accessing and using data have rapidly created many problems for conventional library service delivery models, such as the location and use of physical items. Despite these developments, libraries have remained a critical place for research, teaching, and learning. This was supported by 52.9% (450) of respondents who agreed that the library was necessary for this age. More critical functioning in a globalised world requires librarians to take advantage of information technology (IT). Librarians are supposed to serve diverse communities that often belong to an equally diverse array of cultures that impact library and information search habits, user satisfaction, and expectations. Mayega (2008) argues that libraries and their users must be careful about becoming too dependent on World Wide Web resources in the technological era. Web resources often change locations, and until location-independent naming schemes replace URLs, updating a library's link to external resources is likely to be a severe problem. Few information providers have a commitment to long-term information maintenance as is the case with libraries; libraries need to be concerned that the creators of the key resources they link today may soon tire of outdated resources. In this case, libraries must avoid relying too heavily on external information resources, which are free today but may become expensive sometime in the future. Some information providers have learned the same business principles as drug dealers, giving out free services until the user is hooked to the business.

While some authors claim that the traditional library is no longer essential in the modern day, a study by Kinya and Muthee (2022) showed varying outcomes. The study examined the relationship between service quality and user satisfaction in academic libraries: A case of Kitui Campus and Machakos University. The study found that some library users frequented the library once every week, whereas others frequented the library daily. The users added that they visited the library because they received individualised attention from librarians. It was noted that the personnel at the library were well dressed and neat at all times. Another discovery made by the respondents is that the library keeps accurate records, for example, circulation accounts and academic reports. It was noted that library personnel were not too busy to respond promptly to students' requests. However, the importance of the library and its use can be increased by the librarians' attitude towards their users. Jan and Ahmad (2020) revealed that librarians were committed.

According to the findings of the current study, 55.6 % (476) of those surveyed agreed that libraries utilise social media to communicate information. The results were supported by a survey conducted in Tripura, India, by Bhattacharjee, Bhattacharjee and Sinha (2016) on social media awareness and preferences, particularly among library users. The study revealed the student community's social media usage patterns. Furthermore, the study indicated the changing trends or perceptions of library services, which aids in determining the consequences of employing social media or social networking sites for library extension services. As a result, social network programmes are game changers in libraries because they are easy and attractive, especially for the younger generations, who use them more. Such developments could lead to a decline in physical visits as most universities' libraries shifted to well-liked online platforms such as Microsoft Teams, Zoom, and Skype, in addition to using their sophisticated LMS. Most libraries in Zimbabwe should follow these advances to improve their service quality and user satisfaction. The results were in contrast to Essien, Lu, Abredu and Zotoo (2022), who compared the effects of ICT use on library service delivery from two universities in Ghana Library (Ghana) and Jiangsu university library (China). The results revealed that social media was not effectively used as a reference, digital, and circulation service in service delivery at both universities. It was also revealed that the lack of trained library personnel, poor internet connection, and erratic power supply were the significant challenges African libraries faced in using ICT. This was

complemented by Ogar and Dushu (2018), who observed that only a few African university libraries have social networking sites, and only a few have been able to link their sites to their libraries' websites. Selected university libraries in Zimbabwe could adopt the same technologies to enhance their quality of service.

The study showed that postgraduate students used study rooms, library computer resources, and open spaces in the selected university libraries. In support of these findings, Kumah (2015) conducted a study at the University of Ghana to compare Internet and library use among graduate students. This was built on the assumption that graduate students spend more time on the Internet than in the library. According to the study, students do not seek information outside the library. They use both the library and the Internet, but the Internet is used more frequently than the library; therefore, it is the preferred source of information. The library was reconfigured to keep up with the recent research advances. In this study, graduate students were used to unpack their library usage. Zimbabwean university library administrators can learn how to increase library and internet usage by reconfiguring research technology advances.

#### **6.3.4 Service quality characteristics that contribute to user satisfaction**

The study's findings establish that service quality characteristics contribute to user satisfaction. Customer (user) satisfaction and value addition have existed since time immemorial. Service quality characteristics comprise of three dimensions: physical facilities, materials, and staff. Service quality has two aspects: technical and functional. Similarly, service quality encompasses technical, applicable, and environmental qualities.

Three components of service quality (interaction quality, physical environment quality, and outcome quality) are perceived. Interactions between clients and staff while providing services are included in the interaction quality. The way the service staff conduct themselves while providing the service and whether or not they have received the necessary training for the job. According to Thuy, Hau and Duyen (2019), the effectiveness of customer-frontline service staff contact is the key factor influencing how customers judge the quality of the services they receive. One of the most important factors affecting customer loyalty is their opinions on the quality of

their interactions with the service provider. Customers are satisfied when they interact with the service. University library managers must improve their approach to customer service delivery.

The results showed that the range of materials in the library meets the clients' course needs; they used postgraduate study rooms, library computer resources, and open spaces. Service quality characteristics included tangibles, such as the appearance of physical facilities, equipment, personnel, and communication materials. The surrounding area is known as the physical environment quality and ambient conditions, referring to non-visual characteristics, such as temperature, fragrance, and music. The arrangement or architecture of the space is referred to as facility design, which can be valuable or aesthetically pleasing. Another issue concerns social elements, including the quantity and diversity of people present in the service environment and their conduct. These characteristics of quality service are associated with the functional ability of customers who need a product that they value. The atmosphere and facilities of a library play a significant role in customer loyalty. Consequently, library facilities and the environment increase library user satisfaction. The results were affirmed by Kalpana and Komathy (2012), who state that 7% of students used the library because it is a quiet place to study. Library staff plays an essential role in user satisfaction, patronage, and the use of library resources and services. Having a well-stocked collection and suitable facilities will not provide the overall satisfaction users seek; competent staff must be available to assist users in locating whatever they require, and library staff must be friendly and approachable. Wang and Shieh (2006) added that collections, loaning and returning services, the overall atmosphere, electronic database system, and online reservation and renewal are the top five crucial service quality features ranked by users.

Furthermore, there is no significant difference in the perceived importance of service quality dimensions across institutes or statuses. These are some of the qualities that a sound university library should possess. Library users in the selected libraries in Zimbabwe are most likely to feel satisfied if they experience high-value services and library products driven by information, interaction, and facility quality. Libraries should pay more attention to information service quality using mobile apps and social media and improve their understanding of information



habits. Timely research can result in efficient and effective service quality implementation, management, and sustainability in the selected Zimbabwe university library.

The findings of this study were supported by Osinulu et al. (2017), who stated that librarians should be competent in all aspects of librarianship, including basic foundational knowledge in librarianship, readers' services, information and communication technologies (ICTs) handling and use, and reference services. Librarians must be responsive and willing to help customers and provide prompt services. Before librarians can market library services and information products adequately and effectively, they must be knowledgeable, skilled, and appreciate library services. Overall, the findings favour integrating libraries with cloud computing, enabling them to adopt smart library nomenclature, and optimise and improve library services in the information age. Abukari (2019) recommended that some improvements be made to the library's general serenity and electronic collection. The eSmart Library category is currently dominated by cloud-based libraries. Every library must create a modernised infrastructure for information delivery and a favourable environment that can sustainably support teaching, learning, and research. Libraries must integrate cloud computing technology to stay current and maintain relevance.

The findings showed that the significant characteristics of libraries were illuminated in terms of cleanly equipped computer labs and various electronic power points in their libraries. In improving communication materials, Adebayo, Ahmed and Adeniran (2018) state that the sustainability of efficient library services is crucial and is triggered by the role of ICT in managing and providing library services and its implications. Despite the numerous opportunities offered by the development of ICT, the application of ICT to library services in Nigeria appears insufficient, most likely as a result of several difficulties. The capacity and degree of ICT adoption in the selected university libraries could be increased by focusing on computer architecture development in selected libraries. Ibrahim (2018) recommends that libraries use cloud computing to become more innovative institutions. Internet services, thin client architecture, wireless access points, and digital librarians are considered prerequisites for cloud computing deployment. Digital resources should also provide support. By integrating with cloud computing technology, academic libraries in Zimbabwe can maintain their relevance and become a part of the IoT experience, which will soon rule every aspect of the educational sector.

Sudiardhita *et al.* (2015), Yusoff, McLeay and Woodruffe-Burton (2015), and Weerasinghe and Fernando (2017) agree that student satisfaction is a short-term feeling that stems from an evaluation of a student's educational experiences. Furthermore, Weerasinghe and Fernando (2017) support the study findings by stating that service quality provision significantly affects university student satisfaction. As a result, user satisfaction is a function of the university library's general organisation, including its look, quality services, staff behaviour toward users, and resources and accessibility. The results are supported by Rilwan's (2017) study assessing Library Service Quality and User Satisfaction among Undergraduate Students of Yusuf Maitama Sule University (YMSU) Library. The study concluded that undergraduate students' general perception of undergraduate students towards the use of facilities, resources, and services of the YMSU library and city campus is highly satisfactory. However, in the same study, he implored library management to maintain a high level of user satisfaction by improving the provision of current and relevant information resources, modern facilities, and befitting services that would meet users' needs and expectations. The selected university libraries must improve their facilities and services by adhering to modern practices. Therefore, it has become necessary for university libraries to adopt a more strategic approach in addition to the initial ones used to understand their users' perceptions, since libraries exist purposely to serve users. Hence, there is a need for university libraries to understand and satisfy users' needs. The results showed that library staff members were supportive. Customer experience is one of the most crucial aspects of the service industry and libraries.

Patrick, Aghojare, and Ferdinand (2015) agreed that excellent customer service directly affects customer satisfaction, which, in turn, influences library customer loyalty. Postgraduate students were satisfied with the library staff's experience. The library staff provides training on accessing library resources, such as book arrangements, and they can be conducted anytime in the library. The library staff was knowledgeable about their work. The results were confirmed by Amin and Shoid (2017), who opined that user satisfaction had been described as addressing user needs with what the library has to offer. They state that user satisfaction can be defined simply as how satisfied library users are with the library's quality and services. Additionally, user satisfaction and library service quality are related to users' behaviour and attitude toward the library

environment, library collections, library services, library facilities, and the library staff itself (Chen and Shen, 2019). If users are satisfied with a library's facilities and services, they will promote it to their friends (Motiang *et al.*, 2014).

The study results confirm the five dimensions of SERVQUAL: tangible, reliability, responsiveness, assurance, and empathy. Srirahayu, Anugrah, and Layyinah, (2021) suggest using the Customer Acquisition Cost (CAC) metric of customer satisfaction to measure the quality of customer service and overall customer satisfaction. Even so, turnover is one of the parameters for evaluating and forecasting an organisation's difficulties and avoiding their adverse effects. Customer Satisfaction Rating (CSAT) assesses whether a product or service meets customers' needs. The metric combines NPS and CSAT CES. These metrics measure the effort that customers are expected to put into a particular engagement with a company. Library administration will be able to assess the present status of user experience and how to avoid disappointment and maintain client loyalty. However, using resources such as new contacts informs the measurement of customer satisfaction. (Srirahayu, Anugrah and Layyinah, 2021).

Kaushamalika and Weerakoon (2020) believe that customer satisfaction refers to whether users obtain the desired information resources, facilities, and services at the library and how users judge the services of a library. The purpose of a library is defeated if its users are not satisfied with its resources and services. Therefore, information services should be developed not only to meet user needs and improve prompt services but also to anticipate users' needs in the future. Library staff should have the knowledge and courtesy of employees and their ability to convey trust and confidence. Library management must thoroughly understand user needs through periodic assessments. Osinulu, Adekunmisi, and Okewale (2017) stress that librarians should be competent in all aspects of librarianship, which include basic foundational knowledge in librarianship, readers' services, ICTs handling and use, reference services etcetera before library professionals can adequately and effectively market library services and information products, librarians must be knowledgeable, skilled. They must possess good attributes and dispositions in the core aspects of librarianship. University libraries should have a strong customer strategy, which includes recognising their varied consumers; better understanding their needs as individuals, specific user groups, topic areas, and collectively; and aiming for high satisfaction

rates. Utilising these tactics will require knowledge of how users function and search for information.

Kaushamalika and Weerakoon (2020) studied three regional centre libraries at the Open University of Sri Lanka to support the study results on students' satisfaction with library services and facilities. The authors believe that customer satisfaction refers to whether users obtain the desired information resources, facilities, and services at the library and how users judge the services of a library. The same authors argue that the purpose of a library is defeated if its users are not satisfied with its resources and services. Therefore, information services must be developed to meet user needs, improve prompt services, and anticipate future user needs. Library management in selected university libraries encourages an understanding of the user's needs through periodic assessments. These assessments provide feedback on areas requiring improvement.

The research findings of this study agree with the authors (Ahmed 2017; Alam 2020; Twum *et al.*, 2020; Zeithman *et al.*, 2018), who propose that the number of public library users is high when the service delivered is of prodigious value, improving quality of life, and the gratifying and crucial need for most library users. They suggested that the selected libraries in Zimbabwe could borrow from the four SERVQUAL rates—empathy, responsiveness, assurance, and reliability—which can considerably impact library user satisfaction. According to the same authors, all service quality dimensions were positively correlated with library customer satisfaction. The service quality and customer satisfaction correlation revealed that service quality has a substantial impact on library user satisfaction. The authors concluded that user satisfaction with public libraries and service quality are substantially connected. Relevant library resources, appealing physical facilities, a variety of quality services, knowledgeable staff, loan services including interlibrary loan services, staff responsiveness, loaning, shelf arrangement, functional library systems, and access to library resources and instructions are all factors that contribute to user satisfaction in Zimbabwe.

#### **6.3.5 Decline in the usage statistics of the selected university library**

The fifth research objective sought to establish the decline in the usage statistics of the selected university libraries. Librarians require statistics to make the best investment decisions for their

institutions (Atsango, 2016). Librarians may also utilise statistics to assist funding applications, guide collection development, and possibly make selection judgements such as withdrawal decisions. University libraries extensively use statistics for logistical planning and resource demand evaluation (Noh, 2021). They are used to tracking and reporting library performance development strategies. They are also employed in the library evaluation and benchmarking processes. Statistics are utilised to provide library management with a complete and accurate picture of the library's current situation (Duren *et al.*, 2021). Fresh data are needed to sustain and support library resources, as they take on new responsibilities in an ever-expanding universe of knowledge. Although statistics are not recent in university libraries, further advances and observations may emerge due to current studies and the specific sectors that employ them. The study results confirm the results of a survey in Zimbabwe on university students' library usage. According to the findings, university students' use of library facilities and services is deficient (Ncube, 2015).

This research discovered that usage statistics declined due to individual behaviour, library staff, library services, and library technology. The COVID-19 pandemic was one of the reasons for the decline in physical library visits, but it ignited the uptake of electronic resources. According to annual figures from the Chartered Institute of Public Finance and Accountancy (Cipfa), COVID-19 has caused a steep decline in visitors and income. However, an increase in digital visits indicates that libraries continue to value them. In contrast, Laitinen (2019) argues that there is a constant reduction and closing of libraries worldwide; therefore, there is a growing need for libraries to use reliable and accessible data to show how good they perform and how good they are compared with other libraries. Competition has become genuinely globalised. Modern academic libraries require reliable and accessible data to measure and assess the quality of their services and user satisfaction. Service quality assessment includes internal statistics and reports, annual reports for the public, and data collected from state or national statistical providers. Coates (2021), a senior London-based bookseller, library supporter, and former managing director of Waterstones, cautions that U.S. library usage figures show a severe fall for years now, and he believes that library officials must do more to address the trend. This is even though the numbers from a report issued in May 2022 show a slight increase in the use of libraries globally.

The study findings suggest that the decline in library use was due to poor library service delivery, for example, the non-availability of interlibrary loan (ILL) services. For instance, Kehnemuyi and Larsen (2019) and Goolabsingh *et al.* (2019) agree that the sharp decline in ILL requests in the USA and the UK over the past few decades has been exacerbated by the increased accessibility of e-journals. A study of 20 CONBLS (Consortium of Southern Biomedical Libraries) members revealed a 19 per cent decline between 2016 and 2018. The decline was attributed to "the proliferation of open-access publications... technologies that facilitate easy information sharing, the availability of extensive digital back files, and more restrictive publishers' licensing agreements". Contrary to the findings of this study, Connell, Wallis and Comeaux (2021) discovered that during the COVID-19 pandemic, ILL requests (for borrowing, document delivery, and lending) significantly increased. The fact that document delivery was made available to undergraduates during the COVID-19 pandemic on a 24/7 basis and that this service was not offered to these patrons before the COVID pandemic time was one of the factors contributing to the rise in borrowing and document delivery. Thompson, Munson and Harper (2021) call for engagement in global resource sharing in discovery and request methods, policies and service models, copyright and licensing, and delivery and payment. Academic libraries should improve the sharing of resources across borders by supporting researchers in a globalised environment.

The study reveals that the physical visits and physical use of university libraries were declining due to the proliferation of technological gadgets, electronic resources, and surrogates to library service provision websites and resources. These findings are in congruence with Kalpana and Komathy (2012), who highlight that during the explosion of information, access to information resources has become cheap and available with less effort where users can access library resources without being physically present in the library building, and the numbers will always decline. Users can easily access other library resources such as online catalogues and available databases. The fact that the Internet has opened libraries to students and faculty worldwide may result in users shunning the physical library. Consequently, libraries have been forced to rethink their mode of information resources and service delivery to their clientele. Otherwise, they risk losing their clientele bases.

Consequently, understanding and anticipating user needs, expectations, and satisfaction with their resources and services have become the primary focus of most libraries. For instance, in Zimbabwe, results show that most university libraries have automated acquisitions, content management services, circulation services, circulation processes, and unique collection services. Automation has added to the quality of services and has attracted students. University libraries in Zimbabwe, however, face significant technological challenges and lack adequate funding while pursuing their desire to support with academic libraries (Mabweazara, 2018). To provide resources to their students, most university libraries in Zimbabwe have subscribed to numerous online databases and other e-resources (Mawere and Sai, 2018).

The findings show that librarians carried different types of statistics in their libraries. These results seem to be supported by those of Laitinen (2017). The selected Zimbabwean libraries hold user statistics in large amounts of data, contributing to quality and general library service enhancements. Statistics in the form of data resources in modern university libraries have the features of big data. Libraries can use statistical methods and user analytics to transform, think, and rethink innovation, resource transfer and utilisation, innovation, and cultural and social identities. Traditionally, librarians have used user statistics for decision-making. Big datasets already available in libraries may serve the transformational purposes of users and the academic community. In short, the current study adds to the literature on transforming the declining user statistics and big data in the selected Zimbabwe university library. The awareness of low user statistics alongside big data and analytics can help Zimbabwe university libraries make current and future informed decisions, innovation, and cost-effectiveness to shore up the community of users.

The results seem to confirm a study by Becker and Hartle (2021) in their case study of how the CPUT is actively using library statistics to promote and advocate for better library services for its users in a new digital environment at the Proceedings of the IATUL Conferences. The study aimed to promote library activities, evaluate the return on investment, and show clients increased value. Most of today's pupils are members of Generation Y, commonly known as the Internet generation. Some digital natives learn from their peers rather than from the authorities. For example, most university library customers are attracted to libraries that employ computer-driven

technologies (Dimock, 2019). Younger generations have a different approach toward knowledge than older generations. Google and other online search sites have become primary entrance points for students searching for and accessing materials in university libraries. They respond better to advertising and want to be personally involved in marketing, that is, to be stimulated, engaged, and empowered. Targeted and user-oriented marketing is the most effective strategy to boost library usage.

The results revealed that librarians regularly collected library usage information on all the activities. Noh (2021) suggests that libraries should carry out national statistics and conduct a thorough survey to determine the actions of their libraries. Unless national statistics are conducted, the overall evaluation of libraries and policy proposals at the national level will be meaningless. In supporting the importance of statistics in university collections and libraries, the IFLA Library Statistics Manifesto of 2010 seems to agree that statistics expose and evaluate libraries' remarkable value. They further affirmed that quantitative and qualitative statistics on library activities, use, and patrons are required. According to Bahtiar *et al.* (2017), library statistics are essential for Evidence-Based Librarianship (EBL). They provide scientific evidence for use, user numbers, and library resources (physical and electronic applications). Ideally, these figures are critical for service level and long-term strategic planning. Statistics from university libraries will reveal rich content and hidden success stories and ensure that all demographic groups have access to essential information.

Several studies have been conducted by Pandey, Upadhyay, Upadhyay and Chakraborty (2022); De Groote and Scoulas (2021); and Connell, Wallis and Comeaux (2021) comparing usage statistics before and during the COVID-19 pandemic to shed more light on the debate on the decline of library use. Connell, Wallis, and Comeaux (2021) compare library resource use (including interlibrary loans, website and discovery tool page views, database use, patron interactions, etc.) at three university libraries before and after the pandemic. In support of the study findings, they discovered that the use of leading library sites has been steadily declining since 2012. Despite increased access to online collections, the use of library resources has been disrupted. They reported that the pandemic altered library and resource usage statistics and the learning environment. The authors noted changes in library instruction that transitioned to remote



and online environments. Significant changes and declines in the acquisition of print resources and services have been reported. They concluded that there was uncertainty about whether the dramatic dip in numbers during the pandemic would continue post-pandemic.

Contrary to the popular belief that library user statistics are rising, according to the Freckle Report (2021), in the U.S., there has been a decrease of 31% in public library building use over eight years up to 2018, concluding that a “continuous decline of this nature,” which includes drops in both gate counts and physical circulation, shows that the public library service ignores the figures it does have and does not strive to find the figures it should have. For instance, Craig and Davis's (2022) study on Harris County Robert W. Hainsworth Law Library user statistics supports this view. The library has an average of more than 60,000 visits per year, and the Law Library and its reference desk were a hub of activity, with the busiest periods coinciding with the business hours of the district and county courts and the district clerk's office. During the pandemic, the type of patron requests did not change drastically from the pre-pandemic level, except for the methods of providing reference services. This contradiction may be due to the particular use of the library and the user needs. However, Coates (2021) notes that the decline in library use was critical before the pandemic, and the continuing high use of digital materials will worsen it. The report also acknowledges the contentious state of the digital library market, which Coates suggests does not represent good value and may require a new strategic approach. Selected university library managers are urged to holistically address their decline in library usage. Otherwise, they encounter more serious problems that affect their services.

Furthermore, prior to the COVID-19 pandemic, previous literature showed that users' in-person library visits over 15 years decreased (De Groote and Scoulas, 2007). However, online resources such as e-journals have increased (Cohen, 2019). The online resources increase because the ability to access e-books, journals, databases, and services has shaped users' library use patterns owing to the availability of remote online access to information such as journals, books, and indexing and abstracting databases. Previous studies conducted before the COVID-19 pandemic showed that more than 60% of students reported visiting the library at least “once a week”; within that, 18% said visiting the library “daily.” Only 12% reported never seeing a physical library (Scoulas and De Groote, 2019). According to the ALA, 99% of all libraries initially

limited access to the physical libraries at the beginning of the pandemic. However, many libraries have also reported that they are planning to reopen on some level to meet the needs of students and researchers (Fernando and Jayasekera, 2020).

Another issue was that librarians blamed the low turnout on the COVID-19 pandemic outbreak. Several libraries were then shut down. However, the libraries were still in high demand, as shown by the responses. Connell *et al.* (2021) studied the usage statistics of three libraries at different academic institutions pre-COVID-19 and during the spring of the 2020 pandemic period. The use of all three library databases, websites, and discovery tools has decreased, although virtual reference services have increased. Other libraries have also noted an increase in virtual reference services (Landøy and Færevaaag, 2020). During the COVID-19 pandemic, respondents were less likely to visit the library in-person, whereas more students relied on online libraries. Virtual communication increased in each of the three libraries. During the researcher's visit to the designated libraries, it was discovered that the majority were closed and those that were open had limited numbers and hours of operation during the epidemic. The closure of libraries affected the number of patrons visiting the libraries.

The issue of students not using the library because the services were unsatisfactory is contentious in library settings. Cox and Brewster (2020) seem to disagree with the findings of this study, particularly concerning the COVID-19 pandemic period. The demand for print material was minimal. The author highlights that the borrowing of print collections was restricted in many parts of the world, including Zimbabwe's university library. The closure affected physical visits, but libraries were innovative in their business approaches. The libraries in the Gulf region received requests for chapters of print books, and they would scan them and send PDF formats to the students (Mavodza, 2022). Libraries shifted to using more Open Access (OA) and Open Education Resources (OERs). Some universities posted materials on Learning Management systems for students to continue with assignments. Major publishing houses offered OA scholarly articles and had access to COVID-19 materials. Library websites were used for marketing and for accessing vital information. Such innovations and shifts could boost the use of libraries on online platforms, thereby increasing user satisfaction and convenience.

To determine the reasons for the decline in library use, Puarungroj *et al.* (2018) investigated factors affecting library visits by university students in Mueang, Thailand using data mining. The University had sufficient resources and space. The study aimed to determine why the Loei Rajabhat university library had trouble attracting visitors despite its capacity and space. The students' library gate entries and student information from the university registrar's office were gathered from the library database. Data mining yielded interesting results. Senior students were observed to use the library less frequently than younger students. The fact that senior students have been at the university for a longer time and know more ways to acquire knowledge from sources other than the library could have caused their lack of use. This research uncovered some key student characteristics that can help predict library usage. The data mining results might be utilised to enhance library use by organising activities that target such traits. For example, libraries and academic staff could develop postgraduate student programmes together. Such programmes could eliminate the lack of resources, space, and computers in selected libraries and encourage students to visit them.

While people with disabilities were accommodated in libraries, the findings indicated that they had not yet built facilities. Students with such issues may avoid going to the library because of a lack of resources for disabled people. The DRC is a library dedicated to people with impairments at one of Zimbabwe's university libraries. The library has braille materials, access to software that helps magnify or enlarge text, and speech software. It also has pathways for people with disabilities and ramps for wheelchairs in all libraries and is overseen by a coordinator who assesses the library on extraordinary developments and needs regularly. The results suggest the need to develop guidelines that address a shared understanding of disability and accessibility for library staff, policies, library services, and resources.

### **6.3.6 Discussion of the hypotheses**

This section presents the results of the hypothesis to establish how the independent variables in this study predict the performance evaluation of service quality and user satisfaction in selected Zimbabwe universities. The results revealed that library performance evaluation, library policies, technology, and quality services (with  $p$ -values  $> 0.05$ ) are significant in the model and must be embraced as the four factors contributing to user satisfaction with library services. All four variables positively contribute to user satisfaction with library services. The results show a

significant relationship between performance evaluation, service quality characteristics, and user satisfaction. Thus, the proposed hypothesis was rejected.

The second hypothesis was that there is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty. The results reveal that Research Question 3.3 (with a  $p\text{-value} = 0.797 > 0.05$ ) is insignificant in its contribution to satisfaction with library services. However, the constant, Research Question 3.1 Library has enough computers and printers for users, RQ3.2 use library computers in my research, Research Question 4.14 the library has accurate and helpful written instructions in all designated places, Research Question 4.15 Library provides a variety of services, and Research Question 4.16 Library management systems are functioning (with  $p\text{-values} < 0.005$ ) are all significant and positively contribute to the satisfaction of users in library services as the factors that significantly contributed to user satisfaction with library services. The results show a substantial relationship between user satisfaction, availability of technological tools, and library customer loyalty. Thus, the proposed hypothesis was rejected.

#### **6.4 Summary of discussion of findings**

ECT provides the study with a theoretical lens for the research hypotheses. This theory was used in this study to answer "why" questions. Significantly, the theory explored why performance evaluation is critical and why library usage statistics are declining in the selected universities. The theory further tested the relationship between high performance on service quality characteristics and user satisfaction, and between the following variables of user satisfaction: availability of technological tools and library customer loyalty. For instance, expectations, performance, satisfaction, confirmation, and disconfirmation are some of the constructs discussed in this study. The results show a close relationship between service quality and user satisfaction. A hypothesis was drawn from this relationship. It was confirmed that there was a significant relationship between the two variables. The results showed that variables such as performance evaluation, service quality, user satisfaction, and comprehending performance evaluation standards contributed the most to quality services and user satisfaction in Zimbabwe.

## **CHAPTER SEVEN**

### **SUMMARY, CONCLUSION, AND RECOMMENDATIONS**

#### **7.1 Introduction**

This chapter provides a summary, conclusion, and recommendations on evaluating service quality performance and user satisfaction in selected Zimbabwe university libraries. This chapter summarises the findings from the previous chapters, draws conclusions from those findings, and offer suggestions for further research. The following research objectives guided the chapter: (1) Establish reasons for the criticality of performance evaluation in university libraries, (2) identify the aspects of performance evaluation standards that contribute the most to service quality and user satisfaction, (3) examine how the service quality of libraries is affected by technologies, (4) assess service quality characteristics that contribute to user satisfaction, and (5) evaluate the decline in the usage statistics of the selected university library. This study uses a pragmatic paradigm. The study employed a combined quantitative and qualitative approach and adopted ECT as the theoretical lens for viewing the research hypotheses. The study used a survey design. The target population consisted of library patrons who were postgraduate students and librarians, and their deputies in the selected universities in Zimbabwe. The researcher selected four universities. Purposive sampling based on a small number of library sites was used in this study. Quantitative data were collected through a closed-ended questionnaire, whereas qualitative data were collected through semi-structured interviews and observation. Qualitative data were designed considering themes and reporting followed the same trend. Qualitative and quantitative data were analysed using thematic analysis and SPSS to generate narration and descriptive and inferential statistics.

#### **7.2 Summary of chapters**

This section presents a summary of the chapters. Chapter One introduces the study context guided by the research topic. It presents the case study by unpacking the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries. The research agenda was fuelled by the importance of encouraging a continuous performance evaluation process and its contribution to improvements in the management of university libraries. Service quality, user satisfaction, performance evaluation, and associated methods in multiple contexts are topical research issues. The current study provides insights (such as dimensions, indicators,

measurement scales, and variables) from other knowledge domains into Information Science to unpack issues on library performance.

The second chapter analyses the theories related to the study. Different approaches were reviewed based on the adopted theory selection plan to underpin a study to investigate the performance evaluation of service quality and user satisfaction in selected university libraries. The Expectation Confirmation Theory (ECT) was chosen for this study after all the relevant ideas were subjected to a rigorous selection procedure. Other theories were eliminated based on the theory selection tool and their use, currency, and context specificity in the field of study. The selection of ECT for this study was based on its appropriateness, ease of application, and explanatory power.

Chapter three reviewed the literature on the research objectives, hypotheses, and variables related to the purpose of the study and the research questions. The relationships between performance evaluation, service quality, and user satisfaction variables were hypothesised in the current research. International standards that many libraries practice bring about efficiency and improvement in the number of library users. The study was triggered by the fact that evaluating performance service quality offers excellent potential in providing information gathering for better decision-making, reviewing the overall service variety, or planning for progress. There is a need for studies in the Zimbabwean context to develop standard tools to help libraries to set individual objectives within their institutional goals. As a focus of this research, university libraries in Zimbabwe need classic procedural manuals to guide daily operations. The emergence of technologies, inadequate service provision, underutilisation of resources, and the emergence of competitors providing other information have necessitated a decline in usage statistics. Some performance evaluation projects and tools for evaluating service quality have been explored, but they do not mainly originate from the African continent nor are broadly used in African libraries, particularly Zimbabwe. Based on extant literature, the current study attempts to trigger the development of robust performance evaluation instruments for Zimbabwean libraries.

Chapter four presented the research methods used during the research process. This study adopted a pragmatic approach combining quantitative and qualitative methods. The study used a

survey design. The target population consisted of eight (8) university librarians and their deputies and seven thousand five hundred forty-five (7545) library patrons who are postgraduate students in the selected universities in Zimbabwe. Four universities were selected using judgement sampling. The qualitative sample was deduced using descriptive phenomenology (Colaizzi, 1978). The sample size calculator software developed by Rao Soft (2004) was used for quantitative research. Accordingly, the sample size for the quantitative aspects was one thousand one hundred and fifty-three (1153), and eight librarians for the qualitative strands. Quantitative data were collected through a closed-ended survey questionnaire, whereas qualitative data were collected through semi-structured interviews and observation. Cronbach's alpha was used to determine the internal consistency and reliability of the quantitative instrument (Abbas, 2015). The quantitative data collected were reported using descriptive and summary statistics. The study used pilot testing, test-retest reliability, and member checking techniques to determine trustworthiness. The collected qualitative data were subjected to thematic analysis. The study considered high standards of ethics based on Babbie and Mouton (2010) and Cohen, Manion, and Morrison (2000), and protocols at UKZN and those of the research sites.

The fifth chapter concentrates on data analysis and presentation of the findings. The respondents were librarians, deputy librarians, postgraduate diploma and PhD students from selected universities. The quantitative results of the survey were analysed and presented using SPSS version 23. Quantitative data were presented using descriptive analysis to generate percentages, frequencies, bar charts, and cross-tabulations. The methods of quantitative data analysis included the use of PCA and Exploratory Factor Analysis (EFA), which were used to reduce the number of variables and avoid redundancy. At the same time, Likert scales complemented and analysed all research objectives and their stem questions. Qualitative data were analysed using thematic expressions. The qualitative data were organised into themes and analysed on a theme-by-theme basis.

Chapter six looks at the discussion of the findings. The discussion revolved around performance evaluation, user feedback, and user suggestions for library services that were critical to library performance and improving library services. Zimbabwe university libraries have used performance evaluation techniques to improve their services. The discussion on the implications

of the results for ECT showed that the users were satisfied with the library services as a result of performance evaluation strategies. The selected university libraries experienced a sharp drop in physical visits and use of library resources. Patrons in the selected libraries were dissatisfied with inadequate technological gadgets, poor library service delivery, how librarians treated them, and the location of the libraries from their patrons. The results showed that selected libraries need to improve their services by providing ILL services, as evidenced by 71.3% (609) of students who disagreed that the library offered ILL services. This study found that the usage statistics were declining, as supported by 65.5% (555) of students who agreed. Another reason for the reduced library use was the prevalence of the COVID-19 pandemic. The research notes that libraries successfully offered digital content throughout the COVID-19 pandemic. Distance to the library was a significant factor in the decline of usage statistics.

Chapter seven provides a summary, conclusion, and recommendations for evaluating service quality performance and user satisfaction in selected Zimbabwe university libraries. It presents a summary of all chapters of the study. The research questions guided the summary of the findings. The study hypotheses established how the independent variables predicted the performance evaluation of service quality and user satisfaction in selected Zimbabwean universities. The study conclusion was based on the key findings of each of the research questions. This study came out with several recommendations based on its objectives. The contribution of this study is highlighted in terms of theory, practice, policy, and methodology. This study examined the performance of service quality and user satisfaction in selected Zimbabwe university libraries.

### **7.3 Summary of findings**

This section summarises the findings. The research questions guided the presentation framework. The first research question sought to determine why performance evaluation is critical to the selected university libraries. The findings established that respondents had a strong feeling that performance evaluation, user feedback, and user suggestions of library services are more critical to library performance and improving library services. To keep up with a continuously changing technological landscape, libraries must evaluate their performance. Performance assessment has been identified as a crucial component for enhancing library services. Eighty-three point five percent (701) of postgraduate students agreed that performance evaluation was essential for



improving library services. It was also established that library patrons were satisfied with their libraries' overall performance. For instance, Karim (2018) asserts that an essential administrative task is to measure library performance and user satisfaction. This is widely acknowledged as a significant concern, particularly for libraries and information centres. An organisation providing public services, such as public and university libraries, requires the application of a specific perspective on performance and management. University libraries must respond to users' growing expectations for high-calibre and modern services (Friedrich, 2017). Assessing performance service quality has many possibilities for obtaining data to help with better decision-making and reviewing the full service in terms of either variety or future planning.

The second research question sought to establish aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. Performance evaluation standards allow library managers to measure organisational performance and service provision. The study's findings established that the library's management system is effective. The results revealed that library policies, procedures, and regulations had the greatest impact on service quality and user satisfaction. Seventy-three point eight percent (624) of postgraduate students in Table 24 (page 174) revealed that the library has rules and regulations placed at key strategic areas with the most significant influence on service quality and satisfaction. The study findings revealed that university libraries use and borrow standards from international and national standards associations and organisations. They also offered charters to their customers, which guaranteed excellent services. Selected university libraries in Zimbabwe also conducted annual periodic (weekly and monthly) performance evaluations to assess their services and staff performance. However, some library managers and employees alike hate annual performance reviews. They feel it is awkward, outdated, and demotivates their workforce. They also compile weekly updates for each section of the library. The updates are sent to the librarian, who then selects improvement areas. At the end of the year, library progress is reviewed in terms of service provision, and employees maintain track of their progress and improve service delivery.

The third research question determines the effects of technologies on service quality in university libraries. The emergence and continuous evolution in the ICT sector is greatly impacting the service quality landscape. The findings of this research show that the use of computers has

increased library performance. It was found that physical library visits declined owing to the proliferation of technologies. It was also established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). Technology has impacted library operations because the Internet has dramatically affected the utilisation of physical libraries. University libraries have improved access to OPAC, library databases, and automated circulation of library materials. Students no longer visit libraries because electronic books, journals, and other digital resources as well as online databases and other research tools are now available from users' homes. Although the library was still essential, students used their mobile devices at home and some services were replaced by technology. According to interviewees, technology had an impact on academic libraries. Electronic resources have enhanced research quality by supplementing hard copies. Adopting library technologies improves the quality of library services and increases customer satisfaction. The observation checklist revealed that electronic gadgets in the library improved the service quality and user satisfaction.

The fourth research question sought to establish the service quality characteristics that contribute to user satisfaction. The findings indicate that libraries have resources and facilities that meet users' needs. The library staff were highly commendable. The library was providing quality services. However, the students strongly disagreed with the view that libraries offered ILL services, which is an essential service for all libraries. The observation notes show that the selected university libraries had a clean reading environment. Current architectural discourse, technical advancements, environmental factors, and programme requirements directly impact library building architecture. The physical attributes of the adopted university libraries expressed some functional features and conveyed how users, including employees, felt about them. Continuous technological advancements that resemble the layout of the library also affect the architecture. As a result, the library acquires tangible qualities that serve as architectural depictions of the most significant accessibility to knowledge (Letzter, 2023). The libraries offer a pleasant reading atmosphere, reading space, functional library systems, hardworking customer service staff, and directional signage. These qualities make a good product.

The fifth research question sought to evaluate the decline in usage statistics of the selected university libraries. The findings of this research revealed that university library services were unsatisfactory. The physical buildings of university libraries were reported to no longer attract clients. The results also showed that the library materials were irrelevant, and the students preferred using the virtual library over the physical library. The decline in physical visits and use of university libraries may be due to individual behaviour, library staff, library services, and library technology, which continually took over the library business. Some reasons for this decline may be the proliferation of technological gadgets, electronic resources, competitors (vendors), and surrogates to library service provision websites and resources. Students preferred to use a virtual library to the physical library. Another reason was that students were not using the library because of unsatisfactory services. Another reason for the reduced library use was the prevalence of the COVID-19 pandemic. The core finding notes that physical library usage had decreased, which is unsurprising given the closures, stay-at-home orders, and other COVID-19 restrictions. Proximity to the library was a significant factor in the decline in usage statistics. 74.4% (633) of the postgraduates agreed that the library was far from their residence. In most places, the campus library was the core of intellectual events where students from different faculties could meet. Libraries are only fully utilised when they are found in college campuses. While attending college, students used libraries as study spaces, computer labs, and printing facilities.

### **7.3.1 Hypothesis testing**

This section presents the results of the hypotheses to establish how the independent variables in this study predict the performance evaluation of service quality and user satisfaction in selected Zimbabwean universities. The first hypothesis is that there is no significant relationship between performance evaluation, service quality characteristics, and user satisfaction. The constant ( $p$ -value = 0.323 > 0.05) and library performance measurement ( $p$ -value = 0.503 > 0.05) are not significant in the built model. The results reveal that performance evaluation standards, library service standards, and library services (with  $p$ -values < 0.05) are effective in the model and must be embraced as the four factors contributing to user satisfaction with library services. All four variables positively contribute to user satisfaction with library services. The results show a

significant relationship between performance evaluation, service quality characteristics, and user satisfaction. Thus, the first hypothesis is rejected.

The second hypothesis was that there is no significant relationship between user satisfaction, availability of technological tools, and library customer loyalty. The results reveal the relative contribution of independent variables with a  $p\text{-value} = 0.797 > 0.05$  is insignificant in its contribution to satisfaction with library services. However, the dependent variables with  $p\text{-values} < 0.005$  are all significant and positively contribute to user satisfaction with library services as factors that significantly contribute to user satisfaction with library services. The results show a substantial relationship between user satisfaction, availability of technological tools, and library customer loyalty. Thus, the proposed hypothesis was rejected.

#### **7.4 Conclusion**

The study conclusion is based on the key findings on each of the research questions. The first research question sought to identify why performance evaluation was critical to the selected university libraries. The study established that performance was a crucial imperative of every organisation, and its evaluation and maintenance are the responsibility and task of its management. The findings confirmed that respondents strongly felt that performance evaluation, user feedback, and user suggestions for library services are more critical to library performance and improving library services. The results show a significant relationship between performance evaluation, service quality characteristics, and user satisfaction. The study concludes that variables such as performance evaluation, service quality, and user satisfaction contribute to library service quality. In addition, aspects of performance evaluation standards (such as authorised borrowing, overdue fines, damage and loss policies, patron privacy, collection development procedures, intellectual freedom, selection guidelines, copyright, and ILL services) contribute the most to quality services and user satisfaction in selected libraries in Zimbabwe. Performance evaluation was crucial for the selected libraries because it improved service quality and ignited user satisfaction. In addition, excellent library services attracted users who may have encouraged their peers to use the selected libraries. Moreover, the libraries are evaluated based on the results. Library managers should improve library performance by identifying specific library service-related issues; tracking the implementation of specifications; and comparing past, present, and desired performance levels.

The second research question sought to establish aspects of performance evaluation standards that contribute the most to service quality and user satisfaction. The results revealed that performance evaluation standards aspects such as library policy and procedures, rules and regulations, a library-quality service charter, and efficient library management systems contribute to service quality and user satisfaction. The findings concluded that university libraries that subscribe to local and international associations and organisations develop more in their management. The selected libraries can raise their standards by becoming members of local and international associations. Members are updated on current advancements in the library and information science/service fields. The study's findings conclude that library charters and policies improve library services and guarantee excellent customer service. The existence of library charters and policies suggests that the selected libraries have conventional operating processes that may attract patrons. The library's Standard Operating Procedures (SOPs) have occasionally negatively affected student satisfaction and the staff's ability to serve students (Tijjani, 2019). The selected university libraries in Zimbabwe, should regularly conduct weekly and monthly performance evaluations on their employees to keep track of their progress and improve service delivery. Users are crucial in determining the quality of services; therefore, library management must emphasise them more than how well their services are doing.

The third research question determines the effects of technologies on service quality in university libraries. It has been established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). The results revealed that libraries in the selected Zimbabwean libraries lacked sufficient computers for their users, which impacted service quality. Library managers should improve their ICT infrastructure to improve the use of these resources, a development that is also likely to enhance university teaching and research activities. Management and employees of the selected libraries should advocate for the addition of more electronic devices for their users. The computer lab ought to have sufficient computers, and they ought to be conveniently located. It was concluded that the availability of electronic resources enhances research quality by supplementing hard copies. University libraries should invest in electronic resources and ensure that they subscribe to a variety of these resources to increase the accessibility of their collections. While the selected libraries had

electronic gadgets such as book detection machines, CCTV, desktop computers, printers, scanners, and photocopying devices, concerns should be raised regarding the decreased utilisation of library resources.

The fourth research objective sought to assess the service quality characteristics that contribute to user satisfaction. The findings showed that university libraries had resources for course needs, study rooms for postgraduate students, the ambience of physical facilities, the presence of library staff in their places, such as circulation and reference desks, and the availability of OPAC in all the libraries. The presence of resources demonstrated that the libraries were assisting their patrons. However, several libraries in Zimbabwe do not provide ILL services. The directors of selected libraries could resuscitate the best resource sharing practices by negotiating with the Zimbabwe library consortium (ZULC). In addition, they must decide what to do regarding the sharing of electronic resources.

The study findings in research objective five determined the reasons for the decline in the usage statistics of the selected university libraries. This research found that usage statistics were declining due to varying reasons. For instance, 67.3% (574) agreed that the library reading space, resources, and computers were inadequate. The notes showed that the physical library was deserted by the users in preference of using virtual online databases for the physical library, as supported by 68.9% (588) of postgraduate students who agreed. The study concluded that the decline in usage statistics was due to the proliferation of technological gadgets, electronic resources, competitors (vendors), and surrogates to library service provision, websites, and electronic resources. Another reason for the reduced library use was the prevalence of the COVID-19 pandemic. There is a need for outreach marketing programmes by librarians to strengthen the usage of library services and increase library visits.

Furthermore, the ICT infrastructure and off-campus access should be improved. Since the current study has shown that library visits were low, the library can provide services and create activities that target students, for example, reaching out to students in their first years. For instance, familiarising students with library resources in their infant career stages at university can give them a positive attitude towards the library and enhance their chances of future use. The library

should actively promote its services through orientation programmes, marketing campaigns, and ongoing information literacy training. It was also concluded that the library's distance from its users was a major factor in the decline in usage. It was noted from the interviews with library staff that only one of the chosen libraries operated on campus, while the other libraries were further off from their clients. University administration and library management should harness technology in their operations and be close to users to sync with the dynamics of library development in the 21<sup>st</sup> century.

## **7.5 Recommendations**

This study came out with several recommendations based on its objectives. The results revealed that the university library is the central location where students can read and search for scholarly articles applicable to their research and studies. This can be accomplished by providing space, collections, and personnel to assist students in completing their degree programmes. The underlying recommendation for university libraries in Zimbabwe was that the government should enhance the budget of academic libraries to raise the standards of both their services and research (Taufiq, Rehman and Ashiq, 2020). The findings suggest the need to allocate appropriate university library funds to improve the libraries' infrastructure, services, and resources (Mahmood, Ahmad, Ur Rehman and Ashiq, 2021). The following recommendations were based on each research objective.

### **7.5.1 Performance evaluation at university libraries**

The findings established that respondents strongly felt that performance evaluation, user feedback, and user suggestions on library services were critical to library performance and improving library services. The study recommended that work on performance measurement and evaluation must be performed regularly. Every academic library's measurement and evaluation team must suggest proper planning for conducting performance surveys. Surveys performed periodically can help the library track its users' changing needs and expectations. It is also recommended that academic library managers set up benchmarking efforts to compare their library's performance to that of other local, continental, and international libraries to enhance their performance by incorporating outstanding practices from its partner libraries (Mugo and Mathu, 2021).

The study also recommends that university libraries make proper plans to improve their facilities and services. Improving facilities is critical to ensuring that academic libraries can provide better library resources and services to meet the needs and expectations of their users. Based on the results of the survey, improvements to library facilities and services may be made from time to time (Mokhtar, Shaifuddin, Satirah, Saman and Baba, 2018). The study also recommends the development of evidence-based quality library services and programming standards that are widely applicable to university libraries (Thorpe and Howlett, 2020). Given the preceding discussion, university libraries in Zimbabwe may consider referring to quality programme standards, as available at national level.

#### **7.5.2 Performance evaluation standards**

The findings reveal that performance evolution standards aspects such as library policy and procedures, rules and regulations, a library-quality service charter, and efficient library management systems contribute the most to service quality and user satisfaction. The study recommends that specific standards be adhered to allow university libraries to use different indicators and the latest version in their operations (ISO 11620, 2008). Due to digital expansion, libraries in Zimbabwe should create some of the best practices that might improve the academic information environment and usability of academic libraries. This research recommends a new model suitable for evaluating the efficiency of digital library services.

The study recommends collaborative efforts through national associations (ZimLA), Zimbabwe Library Consortia, and other international associations (IFLA, AFLIA and ALA). It is also recommended that they provide professional guidelines for training and benchmarking the LIS sector in the development process. Furthermore, the study suggested developing draft national guidelines for minimum standards in Zimbabwe university libraries as a step with the potential to serve as a leading player in developing standards and criteria for quality assurance in the LIS sector (Egberongbe, 2020). The study also recommended that university libraries in Zimbabwe should develop frameworks for quality standards and contribute to the development of new structures. University libraries should use benchmarking formulations by micro-research on performance evaluation of quality and user satisfaction. Zimbabwean academic libraries should



apply performance assessment criteria and guidelines to match the competition from other information service providers to perform similarly in service delivery.

### **7.5.3 Effects of technologies on service quality in university libraries**

The third research question sought to determine the effects of technologies on service quality in university libraries. The university library environment is changing. It has been established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). The results revealed that libraries lacked sufficient computers for users, thus impacting the service quality. The use of disruptive technologies, big data, IoT, and artificial intelligence may improve the quality of library services and increase customer satisfaction. It is recommended that university libraries of the 21<sup>st</sup> century be equipped with technical resources to support their users continuously.

This study recommends that university libraries keep pace with the latest technological advancements. Providing unlimited access to electronic information resources in the university's digital libraries and keeping track of them is one way of keeping pace with ever-changing technological environments. The library must try to offer different information access and delivery mechanisms, such as networked CD-ROMs, video-conferencing, and downloading via the Web to the users to widen the limited scope of the resources and services currently employed to serve users (Ekere, Omekwu and Nwoha, 2016).

The study also recommends that library management create a section of the library dedicated to eliciting user needs. Professional librarians in the 21st century should embrace these new technologies through retraining and retooling and adopt new strategies to improve information service delivery that would meet international best practices (Raliat and Adenike, 2020). The study recommended that library management start lobbying for government parastatals to support them by donating ICT gadgets and data packages to support learning (Adeh and Hayatu, 2020). Lobbying will assist them in obtaining additional ICTs required for student use. There is a need for the library to be reconfigured in the latest technology direction to keep up with recent research advances.

#### **7.5.4 Service quality characteristics contributing to user satisfaction in Libraries**

The present study's findings in the fourth research objective show that service quality characteristics contribute to user satisfaction. Service quality characteristics included tangibles (library facilities, collections, and support services), reliability (library service procedures and accuracy of information), responsiveness (librarian's readiness, sensitiveness, and hospitality), assurance (librarian's knowledge, skills, courtesy, and insights), and empathy (librarian's concern and sincerity). The results show that the selected libraries need to improve their services.

The study recommends that university libraries have a strong customer strategy, which includes recognising their varied consumers, better understanding their needs as individuals, specific user groups, topic areas, and collectively aiming for high satisfaction rates. This study also recommends the use of surveys to assess user needs. These surveys help evaluate library strengths and weaknesses and allow library managers to enhance user satisfaction.

The quality of library services has been demonstrated to influence consumer satisfaction significantly and favourably. Therefore, it is recommended that library managers enhance the quality of library services by making web design more appealing, improving reliability, guaranteeing security in transactions, and offering library services under client requirements. The most critical factor is expanding the scope of customer service, which respondents believe still falls short of meeting needs, failing to handle customer issues, and providing satisfactory answers to customer inquiries. Customer satisfaction has been demonstrated to have a considerable and favourable impact on service quality. Therefore, it is recommended that customer happiness be boosted by making transactions more accessible, ensuring the quality of the library resources given, and enhancing library services or delivery. The primary elements that need to be considered and improved in the dimensions of library services are library service information, web performance, and quality assurance (Hasyim and Ali, 2022).

#### **7.5.5 Usage Statistics in university libraries**

The study findings in research objective five determined the reasons for the decline in the usage statistics of the selected university libraries. The results of this research revealed that usage statistics declined. The decline in physical visits and use of university libraries may be due to

individual behaviour, library staff, library services, and library technology, which continually took over the library business.

In light of the aforementioned developments, the study recommends that library management and librarians organise advocacy programmes to create more awareness of the existing resources and services of the library. This study suggests user-oriented marketing to increase library usage. University library managers should prioritise quality service delivery to increase library patronage. University library management should ensure that adequate statistics are sustained in the library to guide its management. There was a need for the library staff in the readers and electronic sections to be closely monitored in keeping with accurate statistics. This study also recommends that library staff be trained and retrained on how to maintain library statistics (Aloysius and Torosco, 2022).

#### **7.5.6 Contributions and originality of the study**

In research studies, contributions are knowledge-increasing as they present new findings, expand the research to new areas, and make existing theories and methods more detailed, accurate, or appropriate for some contexts. Therefore, this research is expected to add value to performance evaluation, quality services, and user satisfaction in selected universities in Zimbabwe.

#### **7.5.7 The originality of the Study**

The present study advances our understanding of service quality in the context of university libraries in the Zimbabwe landscape. Several studies have been conducted in developed countries, such as the UK, to assess the level of service in library environments using customer satisfaction and other marketing or company components. However, few studies have been conducted in Africa, particularly in Zimbabwe, on the relationship between customer satisfaction and service quality testing and the service quality dimensions of both service quality and customer satisfaction in library and information science (Moyo and Ngwenya, 2018). Measuring service quality in information services centres, including libraries in Zimbabwe, is not well-developed, and user expectations and ever-changing are poorly formulated (Mushunje, 2020). In this regard, it is fundamental to investigate the relationship between the elements and variables of service quality and user performance in Zimbabwe university libraries.

This study adopts ECT as a theoretical lens to view the research hypotheses. The adoption of a theoretical lens from a customer behaviour perspective is premised on the quest to extend what we know and, on the need, to transform research in higher education that is underpinned by interdisciplinarity, originality, and the use of a lens in another knowledge domain foreign to Information and Library Science (Miller and Pate, 2019). This theory has been applied in several scientific fields, including psychology, marketing, consumer behaviour, and information systems, to explain post-adoption satisfaction (Chalomba, 2016).

The current study promotes the use of an insightful theoretical perspective for new theoretical contributions to emerge (*see the section on the theoretical framework for the full details*). For instance, the investigation focuses on the usability domain of university libraries based on simplicity and interactivity for satisfaction and brand loyalty (by library users). The theory also sheds new light on appreciating the private sector, corporate world, and industry. In addition, the core attributes of the theory are directly related to the research objectives in a way that could inform and advance knowledge. Moreover, the theory is unique and can be distinguished from other theories or frameworks. The research literature contributed to the development of an instrument that will be used by academic libraries in Zimbabwe. The literature will help spread knowledge about using library instruments to measure library quality and user satisfaction in African libraries and beyond.

#### **7.5.8 Policy implications**

This study can potentially encourage stakeholders (library managers, university administrators, and students) to develop substantive policies for library development. For example, research data management has emerged as a new phenomenon in libraries. Such actions require librarians to create policies that include developing and maintaining institutional data repositories, providing data mining and visualisation software, and training data management researchers. The study has the potential to offer advice on institutional policies, help develop data management strategies and metadata for datasets, and help with intellectual property.

Policymakers in academic libraries in Zimbabwe and other African countries can utilise these research findings to develop instruments that would allow libraries to better understand their customers' standard of service assessments and use that information to plan their operations.

Academic libraries should inculcate a culture of performance assessment that involves a continuous and periodic evaluation process and manage functional processes either reactively or proactively through deliberately designed parameters. This study encourages university library managers to recognise the breadth and depth of performance standards evaluation to grow their library user base. All the above developments lead to policy developments regarding standardisation, instrument development, and management issues.

#### **7.5.9 Practical implications**

The current study's findings established that respondents strongly felt that performance evaluation, user feedback, and user suggestions for library services are more critical to library performance and improving library services. In terms of practice, this study contributes towards urging librarians in selected universities to use performance benchmarking against other global and regional universities. University librarians could perform auditing as a performance evaluation criterion used as a strategic plan to evaluate their performance. The results also reveal aspects of performance evaluation standards such as library policy and procedures, rules and regulations, a library-quality service charter, and efficient library management systems. For example, KOHA, Millennium, and M3 contribute the most to service quality and user satisfaction. In this regard, the findings contribute to the establishment of more formidable library systems. Library managers could improve by updating their charters and adopting a business model approach to improving library service provision and attracting customers.

It has been established that the Internet has significantly influenced the utilisation of physical libraries (physical visits versus virtual/remote services). The findings can be helpful to academic librarians in university environments to align their roles with changes and emerging trends in the ICT environment. The results showed that the selected libraries must improve their services by providing interlibrary loans. The findings of this study may also be helpful to professional bodies in Zimbabwe, such as ZimLA, ZULC, and CARLC, in formulating policies that promote the adoption of collaborative sharing of resources and rejuvenate the concept of interlibrary loans. Furthermore, the findings of this study revealed that usage statistics were declining (the decline in physical visits and physical use of university libraries), which affected libraries. Therefore, the findings of this study can assist university library managers in developing strategies for

increasing the use of library resources and client visits to improve performance through access and use.

#### **7.5.10 Methodological implications**

This study contributes to pragmatic methodology by combining quantitative and qualitative methods. In recent years, with regard to research practice, combining quantitative and qualitative research has become unexceptional and unremarkable (Bryman, 2006). Many researchers are acquainted with the use of integrated methodology. Data collection takes less time than the sequential methods. However, studying this phenomenon using these two methods requires significant knowledge and effort. Future research can improve the understanding of the combined methodology by triangulating one set of results with another, thus increasing the validity of the inferences. This approach has been more productive because using a single method is insufficient to address the complexity of the research questions involved in this study. The reliability of the instrument scores leads to meaningful interpretation of the data. In this research, reliability was measured using Cronbach's Alpha Formula technique in SPSS 20.0 for Windows. Correlation was calculated between the two sets of results, and the obtained results were subjected to Cronbach's alpha to determine the measure of internal consistency and reliability of the quantitative instrument (Abbas, 2015). The study further used Practical Component Analysis to reduce the number of variables while retaining information from the original data set, and it is a widely known and used dimension reduction technique. For instance, in this study, all five objectives had more than five question stems, with one having 16. It was helpful for several variables (possibly many) and reduced the redundancy in the questions presented.

#### **7.5.11 Areas of further research**

This study examined the performance of service quality and user satisfaction in selected Zimbabwe university libraries. The study was limited to selected universities. This study only focused four university libraries. Zimbabwe has private and public universities. Thus, the selection of this nature could exclude potential library development. This limitation indicates the need for further study to focus on a broad spectrum of private and public academic libraries to determine the performance evaluation strategies, clients' behaviour, and quality service underpinnings. Future studies could use new research methods or approaches to further enhance

validity and reliability. Given that the current research was conducted on the performance evaluation of quality services and user satisfaction, future research may be carried out on digital library services, particularly developing new models that may be used to gauge their effectiveness. The findings of this study revealed that usage statistics were declining. Future studies can focus on increasing the number of library clients during the technological period. There is a need to examine the marketing of library resources, particularly the digital marketing of library services and resources. Future research could examine digital library expansion as a field that requires more research, as new and ever-changing developments are emerging.

### **7.12 Summary of the chapter**

This chapter provides a summary, conclusion, and recommendations for evaluating service quality performance and user satisfaction in selected Zimbabwe university libraries. An outline of the chapters is presented based on the chapters of this study. The research questions guided the summary of the findings. The study hypotheses established how the independent variables predicted the performance evaluation of service quality and user satisfaction in selected universities in Zimbabwe. The study's conclusion was based on the key findings of each research question. This study came out with several recommendations based on its objectives. The contribution of this study are highlighted in terms of theory, practice, policy, and methodology. This study examined the performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries.

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## LIST OF APPENDICES

### Appendix 1: Letter of introduction



27 February 2018

**To whom it may concern**

Dear Ma/Sir:

**RE: Introducing Mr Shadreck NDINDE – PhD Student at University of KwaZulu Natal**

This letter serves to introduce and confirm that Mr Shadreck Ndinde is a duly registered PhD (Information Studies) candidate at the University of KwaZulu Natal. The title of his PhD research is, 'Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries'. He is under my supervision. The outcome of the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree, he is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the study is to be undertaken has approved.

We appreciate your support and understanding to grant Mr Shadreck Ndinde permission to research your organisation. Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding






**Dr Gbolahan Olasina**  
**Room 336**  
**New Arts Building**  
**School of Social Sciences**  
**OlasinaG@ukzn.ac.za**  
**Tel: +27 33 260 5285**

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Postal Address: Private Bag X01, Scottsville, 3209, South Africa

Telephone: +27 (0)33 260 5285 Facsimile: +27 (0)33 2605092 Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

## Appendix 2: Request for permission



University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg, South Africa

**07 June, 2018**

**The Registrar:**

Bindura University of Science Education  
741 Chimurenga road, Bindura

**Re: Application for permission to conduct research**

Dear Sir/Madam

I am Shadreck Ndinde, a PhD candidate at the University of KwaZulu-Natal, South Africa. I write to seek permission from your office to include your organisation/institution in my study which I wish to undertake mid in the year or later. The title of the Research is **Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries**. The study seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected Universities in Zimbabwe. Performance evaluation of service quality and user satisfaction has gained popularity in business, industry and more recently in the education sector. This study, therefore, will not be complete without the invaluable views and contribution of university library users and staff. To this end, I humbly seek permission to interview students and staff in your organisation to get their views about service quality paradigm and how it has affected the Universities. The data shall be used purely for academic purposes, and feedback shall be given to the organisation upon completion of the study.

You are at liberty to send an electronic response at your convenience. My contact details are as follows:

Email: [216075795@stu.ukzn.ac.za](mailto:216075795@stu.ukzn.ac.za), +263773902739

**N/B:** For further enquiries do not hesitate to contact my supervisor: Dr Gbolahan Olasina, [OlasinaG@ukzn.ac.za](mailto:OlasinaG@ukzn.ac.za), +27332605285

Yours Sincerely



Shadreck Ndinde



University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg, South Africa

**07 June, 2018**

**The Registrar:**

National University of Science & Technology  
PO Box AC 939, Ascot, Bulawayo  
Zimbabwe

**Re: Application for permission to conduct research**

Dear Sir/Madam

I am Shadreck Ndinde, a PhD candidate at the University of KwaZulu-Natal, South Africa. I write to seek permission from your office to include your organisation/institution in my study which I wish to undertake mid in the year or later. The title of the Research is **Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries**. The study seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected Universities in Zimbabwe. Performance evaluation of service quality and user satisfaction has gained popularity in business, industry and more recently in the education sector. This study, therefore, will not be complete without the invaluable views and contribution of university library users and staff. To this end, I humbly seek permission to interview students and staff in your organisation to get their views about service quality paradigm and how it has affected the Universities. The data shall be used purely for academic purposes, and feedback shall be given to the organisation upon completion of the study.

You are at liberty to send an electronic response at your convenience. My contact details are as follows:

Email: [216075@stu.ukzn.ac.za](mailto:216075@stu.ukzn.ac.za), +263773902739

**N/B:** For further enquiries do not hesitate to contact my supervisor: Dr Gbolahan Olasina, [OlasinaG@ukzn.ac.za](mailto:OlasinaG@ukzn.ac.za), +27332605285

Yours Sincerely



Shadreck Ndinde



University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg, South Africa

**07 June, 2018**

**The Registrar**

Midlands State University  
P Bag 9055 Gweru

**Re: Application for permission to conduct research**

Dear Sir/Madam

I am Shadreck Ndinde, a PhD candidate at the University of KwaZulu-Natal, South Africa. I write to seek permission from your office to include your organisation/institution in my study which I wish to undertake mid in the year or later. The title of the Research is **Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries**. The study seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected Universities in Zimbabwe. Performance evaluation of service quality and user satisfaction has gained popularity in business, industry and more recently in the education sector. This study, therefore, will not be complete without the invaluable views and contribution of university library users and staff. To this end, I humbly seek permission to interview students and staff in your organisation to get their views about service quality paradigm and how it has affected the Universities. The data shall be used purely for academic purposes, and feedback shall be given to the organisation upon completion of the study.

You are at liberty to send an electronic response at your convenience. My contact details are as follows:

Email: [216075@stu.ukzn.ac.za](mailto:216075@stu.ukzn.ac.za), +263773902739

**N/B:** For further enquiries do not hesitate to contact my supervisor: Dr Gbolahan Olasina, [OlasinaG@ukzn.ac.za](mailto:OlasinaG@ukzn.ac.za), +27332605285

Yours Sincerely



Shadreck Ndinde



University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg, South Africa

**07 June, 2018**

**The Registrar:**

Women's University in Africa  
549 Arcturus Road  
Manresa  
Harare

**Re: Application for permission to conduct research**

Dear Sir/Madam

I am Shadreck Ndinde, a PhD candidate at the University of KwaZulu-Natal, South Africa. I write to seek permission from your office to include your organisation/institution in my study which I wish to undertake mid in the year or later. The title of the Research is **Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries**. The study seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected Universities in Zimbabwe. Performance evaluation of service quality and user satisfaction has gained popularity in business, industry and more recently in the education sector. This study, therefore, will not be complete without the invaluable views and contribution of university library users and staff. To this end, I humbly seek permission to interview students and staff in your organisation to get their views about service quality paradigm and how it has affected the Universities. The data shall be used purely for academic purposes, and feedback shall be given to the organisation upon completion of the study.

You are at liberty to send an electronic response at your convenience. My contact details are as follows:

Email: [216075@stu.ukzn.ac.za](mailto:216075@stu.ukzn.ac.za), +263773902739

**N/B:** For further enquiries do not hesitate to contact my supervisor: Dr Gbolahan Olasina, [OlasinaG@ukzn.ac.za](mailto:OlasinaG@ukzn.ac.za), +27332605285

Yours Sincerely

Shadreck Ndinde



## **Appendix 1: Approval Letters**



## BINDURA UNIVERSITY OF SCIENCE EDUCATION

P. Bag 1020  
Bindura, Zimbabwe

Tel: +263-0271-7615  
7531/2/6, 7622/4  
Cell: 0772 154 882/7  
registrar@buse.ac.zw  
buseregistrar@gmail.com

9 September 2018

### REGISTRY DEPARTMENT

Mr Shadreck Ndinde  
University of KwaZulu Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg  
SOUTH AFRICA

Dear Mr Ndinde

**RE: APPLICATION FOR PERMISSION TO CARRY OUT EDUCATIONAL RESEARCH AT  
THE BINDURA UNIVERSITY OF SCIENCE EDUCATION**

Bindura University of Science Education has granted you the permission on the following conditions:-

- a) The research shall be limited to your topic "**Performance Evaluation of Service Quality and User Satisfaction in selected Zimbabwe University Libraries**".
- b) Whilst carrying out this research, you shall not disturb the core business of the University.
- c) That the research shall be for academic purposes only.
- d) That you shall be guided by the University's official secrecy ethics.
- e) That you shall avail a copy of your research findings to the University.

I wish you success in your research work.

Thank you

Yours Sincerely

M.P. Neusu (Mr)  
University Registrar

Cc: Librarian



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**NUST INSTITUTIONAL REVIEW BOARD**

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**DATE:** 29//09/2022

Dear Mr Ndinde S

**TITLE: Performance evaluation of service quality and user satisfaction in selected Zimbabwean University libraries**

Thank you for submitting your Research Proposal for review by the NUST IRB. Please be advised that the IRB reviewed your protocol and it was approved.

The approval by the NUST IRB was based on the following documents you submitted:

- (i) Research Proposal Document of the Study,**
- (ii) Data Collection Tools and**
- (iii) Consent Form,**

The approval number for the study is **NUST/IRB/2022/102** and should be used in all correspondence, consent forms and other documents as appropriate.

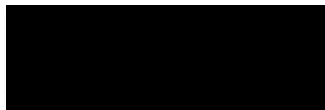
Approval Date : 29 September 2022

Expiry Date : 30 September 2023

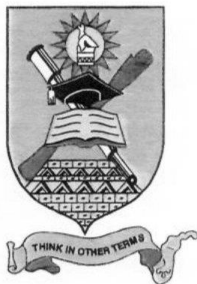
After the expiry date, the project may only continue after renewal. Renewal application process should commence three months before the expiry date.

All problems related to the safety of participants must be reported to the NUST IRB within 3 working days. You should not deviate from the protocol and procedures stated in the proposal. Do not make any adjustments/changes to the protocol and consent forms without prior written approval to the NUST IRB.

Thank you



Dr P. Makoni  
Chief Research Officer



## National University of Science and Technology

P. O. Box AC 939, Bulawayo, Zimbabwe  
Cnr. Gwanda Road/Cecil Avenue

Telephone: 263-9-282842/288413/39/58  
Fax: 263-9-289057

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From Registrar F. Mhlanga Dip Edu, BEd, MSc(UZ); MBA (NUST)

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FM/sm

21 June 2018

Mr Shadreck Ndinde  
University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg  
**SOUTH AFRICA**

Dear Mr Ndinde

**RE: APPLICATION FOR PERMISSION TO CONDUCT RESEARCH**

Reference is made to your letter dated 07 June 2018 on the above request.

We would like to inform you that you have been granted permission to conduct a research titled ***"Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries"***.

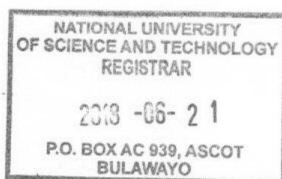
We would like to emphasize that all the information gathered should be for research purposes only and that confidentiality has to be exercised.

The University wishes you all the best in your research.

Yours sincerely

  
**F Mhlanga**  
Registrar

cc NUST Librarian





University of KwaZulu-Natal  
School of Social Sciences, New Arts Building  
Golf Road, Private Bag X01, Scottsville, 3209  
Pietermaritzburg, South Africa

07 June, 2018

**The Registrar**  
Midlands State University  
P Bag 9055 Gweru

**Re: Application for permission to conduct research**

Dear Sir/Madam

I am Shadreck Ndinge, a PhD candidate at the University of KwaZulu-Natal, South Africa. I write to seek permission from your office to include your organisation/institution in my study which I wish to undertake mid in the year or later. The title of the Research is **Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries**. The study seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected Universities in Zimbabwe. Performance evaluation of service quality and user satisfaction has gained popularity in business, industry and more recently in the education sector. This study, therefore, will not be complete without the invaluable views and contribution of university library users and staff. To this end, I humbly seek permission to interview students and staff in your organisation to get their views about service quality paradigm and how it has affected the Universities. The data shall be used purely for academic purposes, and feedback shall be given to the organisation upon completion of the study.

You are at liberty to send an electronic response at your convenience. My contact details are as follows:

Email: [216075@stu.ukzn.ac.za](mailto:216075@stu.ukzn.ac.za), +263773902739

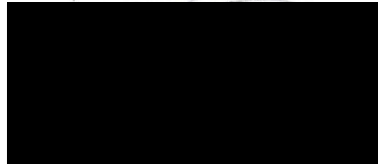
**N/B:** For further enquiries do not hesitate to contact my supervisor: Dr Gbolahan Olasina, [OlasinaG@ukzn.ac.za](mailto:OlasinaG@ukzn.ac.za), +27332605285

Yours Sincerely

Shadreck Ndinge



Approved



27/07/18



# WOMEN'S UNIVERSITY IN AFRICA LIBRARY



*Addressing gender disparity and fostering equity in University Education*

## MEMORANDUM

TO: THE REGISTRAR

FROM: SUB LIBRARIAN

DATE: 4 SEPTEMBER 2018

### RE: RECOMMENDATION FOR AUTHORITY TO CARRY OUT A RESEARCH STUDY AT WUA LIBRARY

Reference is made to the attached application letter from Mr Shadreck Ndinge, Systems Librarian at GZU expressing his wish to carry out a PhD research study on WUA Library among other University Libraries.

The Library is recommending that Mr S. Ndinge be allowed to do his research. This will market our library as well as strengthen our relationship with our partner ZULC.

Thank you

P. Chaitezvi  
Sub Librarian

Recommended/Not Recommended

Registrar

04/09/18  
Date

Approved/Not Approved

P.VC/ Dr Chikwiri

5/9/18  
Date

## Appendix 2: Informed Consent Letter

Social Sciences, College of Humanities,  
University of KwaZulu-Natal,  
Pietermaritzburg Campus,

Dear Participant

### INFORMED CONSENT LETTER

My name is **Mr Shadreck Ndinde**; I am a PhD candidate studying at the University of KwaZulu-Natal, Pietermaritzburg campus, South Africa.

I am interested in learning about **performance evaluation of service quality and user satisfaction in selected Zimbabwean University libraries**. I am studying cases from University libraries. Your University is one of my case studies. To gather the information, I am interested in asking you some questions.

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 1 hour and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
- The research aims at evaluating service quality and user satisfaction at your Institution Library.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	willing	Not willing
Audio equipment		

I can be contacted at:

Email: [216075795@stu.ukzn.ac.za](mailto:216075795@stu.ukzn.ac.za)

Cell: [REDACTED]

My supervisor is Dr. G. Olasina who is located at the School of Social Sciences, Pietermaritzburg campus of the University of KwaZulu-Natal.

Contact details: email: [olasinag@ukzn.ac.za](mailto:olasinag@ukzn.ac.za) Phone number: 0332605285

You may also contact the Research Office through:

P. Mohun

HSSREC Research Office,

Tel: 031 260 4557 E-mail: [mohunp@ukzn.ac.za](mailto:mohunp@ukzn.ac.za)

Thank you for your contribution to this research.

**DECLARATION**

I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

**SIGNATURE OF PARTICIPANT**

**DATE**

.....

.....



### Appendix 3: Questionnaire for postgraduate students

#### **Performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries**

##### **Questionnaire for postgraduate students**

I, Shadreck Ndinde, am a PhD student at the **University of KwaZulu-Natal, Pietermaritzburg** campus, in South Africa. I am carrying out a study entitled *Performance evaluation of service quality and user satisfaction in selected Zimbabwe university libraries*. The research seeks to evaluate how performance studies on service quality and user satisfaction have been carried out in selected universities in Zimbabwe. Performance evaluations of service quality and user satisfaction have gained popularity in the business, industry, and, more recently, in the education sector. Therefore, this study will not be complete without the invaluable views and contributions of university library users and staff. To this end, I humbly request your participation in the study and ask you to please complete this questionnaire as honestly as you can. It is purely academic research, and your response will be treated anonymously. The results of this study will only be used for educational development. All information will be treated with the utmost confidentiality. The success of this study depends on your cooperation.

For further details, please contact me on 0773 902 739/ 0719 902 739 or use my email: [shadreckndinde@gmail.com](mailto:shadreckndinde@gmail.com)

**Thank you in advance for your participation.**

*Tick one option for each of the items listed below*

Gender		Age ranges				Residence		Level of education		
F	M	20-30	31-40	41-50	51-60	Campus	Non Residence	Postgraduate diploma	Masters	PhD

*Tick one option for each of the items listed below*

S/N	Item	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
<b>Section B: RQ1: Why is performance evaluation critical in your library?</b>					
1	Performance evaluation is key to improving library services				
2	The University library is highly rated by users				
3	University libraries are competing on the provision of their services				
4	Performance evaluation/user feedback/user suggestions of library services are critical				
5	I am satisfied with the performance of our library				
S/N	Item	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
<b>Section C: RQ2 Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction?</b>					
1	The library has clear policies and procedures				
2	The rules and regulations are defined and displayed				
3	Rules are placed at strategic places				
4	Library quality service charter is accessible				
5	The library has an efficient library management system				

*Tick one option for each of the items listed below*

S/N	Item	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
<b>Section D: RQ3 How does technology affect service quality in University libraries?</b>					
1	1.The library has enough computers and printers for users				
2	2. I use library computers in my research				

3	3. The internet has heavily affected the use of the physical library (physical library visits versus virtual/remote services)				
4	4. I do not visit the library because of the new technology and applications (remote services)				
5	5. I get my information on my mobile technologies at home				
6	6. Our library uses SMS to provide us with new acquisitions and news				
7	9. Students bring their gadgets (PDAs, laptops, iPads) to the library for use				
8	10. The library uses social media to disseminate information (Facebook, Twitter, Instagram, and WhatsApp)				

*Tick one option for each of the items listed below*

S/N	Item	Strongly Disagree	Disagree	Agree	Strongly Agree
	<b>Section E: RQ 4</b>				
	<b>Which service quality characteristics attribute to user satisfaction in libraries?</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	<b>Physical resources</b>				
1	The range of materials held by the library meets my course needs.				
2	I use library postgraduate study rooms, library computer resources, and open spaces				
3	The materials I want are in their proper places on the shelves.				
4	Library physical facilities are appealing				
5	I am satisfied with all aspects of library services				
	<b>Library staff</b>				
6	The library staff provide quality services to its library users				
7	I am satisfied with the customer service experience of the library staff				
8	Library staff provide training on accessing library resources like book arrangement and OPAC				
9	Library staff can be contacted any time				
10	Library staff are knowledgeable in their tasks				
	<b>Library services</b>				
11	The library needs to improve its services to its users				

12	The library provides interlibrary loan services				
13	The library online access catalogue (OPAC) is always accessible each time I come to the library				
14	The library has accurate and helpful written instructions in all designated places				
15	Library provides a variety of services				
16	Library management systems are functioning				

S/N	Item	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
	<b>Section F: RQ5</b> <b>Why are library usage statistics declining in Libraries?</b>				
1	I use the library for research				
2	Library reading space, resources, and computers are not adequate				
3	Library materials are not relevant (they may not be appropriate, outdated, or unsuitable for new university programmes).				
4	I seldom use the library because the services are not satisfactory				
5	University libraries are no longer useful				
6	I prefer using virtual online databases to the physical library				
7	The library is a distance away from my place of residence				

**Thank you for your participation and time**

## Appendix 4: Interview Guide

### **RQ1: Why is performance evaluation critical in the selected university libraries?**

**(A structured and productive approach for measuring library work and results based on their library services offering is known as performance evaluation. Performance evaluation also aids librarians in becoming more self-aware of their library's performance indicators by giving them regular feedback).**

1. What services do you offer your library clients that help make the library more visible?
2. Do you do performance evaluations in your library? If yes, why is it critical?
3. How is the evaluation of library services carried out? Do you have a quality assurance team or use library audits?
4. Which performance evaluation tools and programmes are you familiar with? e.g. do you use SERVQUAL or LibQUAL tools for performance measurement? Or you have developed your tool?

### **RQ2: Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction?**

**(Service quality means the capacity of a service provider to satisfy the customer in an efficient manner in which it can boost performance).**

1. (a). What national and international library associations and standards Associations is your library subscribed to? (ZimLA, ZULC, AFLIA, IFLA, CILIP, SCECSAL, ALA, ISO and SAZ)
- (b) How do the national and international library associations help in the performance standards of libraries?
2. What methods and standards do you use for service quality assurance?
3. Describe the service quality charter status of your library?
4. How often do you conduct performance evaluations with your library staff?

### **RQ3: How does technology affect service quality in university libraries?**

1. How many computers do you have in your library? Are they adequate to sustain the number of students/users you have?
2. What library services are computerized/online?

**PTO**  
**2**

3. How is the emerging technology affecting other services in your library?
  4. In what ways have library services improved in light of technological advancement? Can you share some examples or experiences with this in your library, please?
  5. How do you train your Library staff and users to cope with library standards developments?
- What is the value of technology in service quality?

**RQ4: Which service quality characteristics contribute to user satisfaction in libraries?**

1. Can you briefly explain some of the quality issues as regards services in your library?
2. How do you provide quality services in your library?
3. What efforts are you making to ensure that the University Library provides quality services?
4. User satisfaction and quality services are positively related. Can you explain it?

**RQ5: Why are library usage statistics declining in the selected University libraries?**

1. What kinds of statistics do you collect/have available in your library?
2. How are user statistics collected in your library considering the physical and virtual visits?
3. Considering the proliferation of technology, are you experiencing changes in library usage statistics? Where are the greatest changes observed and how can the changes be explained?
4. World over, there is a belief that libraries are no longer attracting huge numbers due to competing factors; how do make sure your library is relevant to modern developments?
5. How does your Library cater to persons with disabilities?

**Thank you for your participation and time.**

## Appendix 5: Observation Checklist

### Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries

#### Observation Checklist

The researcher will carry out a physical observation of the libraries with a checklist to help determine the performance evaluation of service quality and user satisfaction in selected libraries. The checklist will be used to provide feedback for the study under review. The information on this checklist is used for the research study only. All the information will be treated with the confidentiality it deserves. Selected libraries will be coded.

<b>Time</b>	<b>Context Information</b>			
	<b>Date:</b> _____		<b>Presenter</b> _____	
	<b>Location:</b> _____		<b>Observer</b> _____	
	<b>Topic:</b> _____		<b>Role</b> _____	
<b>Period</b>	<b>Research question</b>	<b>Physical aspects of the library</b>	<b>Attributes</b>	<b>comments</b>
Opening hours Midday End of day	<b>RQ1: Why is performance evaluation critical to the selected University Libraries?</b>	<b>Library organisation,</b> Physical objects Pictures, photos, library furniture arrangement Staff attire Library ambience bathrooms, study rooms/Carrels, discussion rooms, library materials in shelves and staff presence Library study spaces and offices Library convenience	Movement patterns of students and staff The proximity of library offices Pictures, notices Pictures, photos and records Staff expression The orderliness of library furniture housekeeping issues Librarians in corporate clothes Library environment (decoration) and office furniture and floor type (convenience of access)	

		rooms		
	<b>RQ2: Which aspects of performance evaluation standards contribute the most to service quality and user satisfaction?</b>	<b>Physical aspects of the library:</b> New and emerging technologies Access and navigation tools Library management systems, e.g. KOHA, 3M, CCTVs+ and TVs IT help desk	Use of technological devices  Active engagement/interaction between librarians and users.  Students using electronic resources sites, open-access databases  Librarians assisting students at the circulation desk and reference desk  Students bringing their gadgets (availability of access points)	
	<b>RQ4: Which service quality characteristics contribute to user satisfaction in libraries?</b>	<b>Physical sites of the library:</b> Library environment Library facilities Ventilation Well stocked collections and library resources Friendly staff	Students using library facilities  The proximity of facilities, e.g. circulation desk, inquiry desk and librarians' offices  The library environment, space and ambience	



## Appendix 6: Ethical Clearance Letter



20 November 2018

Mr Shadreck Ndinde 216075795  
School of Social Sciences  
Pietermaritzburg Campus

Dear Mr S Ndinde

Protocol Reference Number : HSS/1840/018D

Project title: Performance evaluation of service quality and user satisfaction in selected Zimbabwe University Libraries

### Full Approval – Expedited Application

In response to your application received 8 October 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



.....  
**Dr Shamila Naidoo (Deputy Chair)**  
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Dr Gbolahan Olasina  
cc Academic Leader Research: Professor Maheshvari Naidu  
cc School Administrators: Ms Nancy Madau

---

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: [ximbap@ukzn.ac.za](mailto:ximbap@ukzn.ac.za) / [snymann@ukzn.ac.za](mailto:snymann@ukzn.ac.za) / [mohunp@ukzn.ac.za](mailto:mohunp@ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)



100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

**Appendix 7: Editor's report.**

26 November 2023

School of Social Sciences

University of KwaZulu-Natal

Information Studies

Scottville

Pietermaritzburg, South Africa

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**To Whom It May Concern**

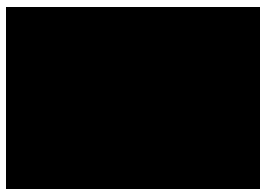
**CERTIFICATION OF ENGLISH GRAMMAR EDITING OF**

**Mr Shadereck Ndinde's Doctoral Thesis**

This document certifies that the PhD thesis entitled: **PERFORMANCE EVALUATION OF SERVICE QUALITY AND USER SATISFACTION IN SELECTED ZIMBABWE UNIVERSITY LIBRARIES** by Shadereck Ndinde, for the award of the Degree of Doctor of Philosophy (Information Studies), has been thoroughly scrutinised and edited for correct English language usage, such as syntax, spelling, punctuation, and overall writing and presentation style.

The author's ideas, content and context were however not altered during the editing process. Where meaning was not explicit the sentence or paragraph was marked, and recommendations were advanced and the responsibility of implementing them rests with the author of the thesis.

Sincerely



Thompson Ndlovu

**MA Language for Specific Purposes (UZ); BA Hon. Linguistics (UZ)**

**thompsonndlovu@gmail.com Mobile/WhatsApp: +263 778664765**

## Appendix 8: Proposed performance evaluation of quality and user satisfaction instrument.

### The instrument

Academic libraries should use performance evaluation and user satisfaction tools. This instrument should be used by a group of experts from academic library organisations quality units, universities management, or the national accreditation board to make choices on library operations. The instrument can be further developed to meet the changing needs of library operations.

### Products (tangible)

#	Products	Score				
1	Library Location (distance)	1	2	3	4	5
	The library is centrally located for its users: (Near the Hall of residents, non-residents' accommodation, and staff quarters).					
	The university has branch libraries as well as campus libraries.					
	Mobile libraries are available.					
	Faculty or departmental libraries exist.					
	Satellite or halls of residence libraries are available at the University.					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

	<b>Products</b>	<b>Score</b>				
#	<b>The library Building (Infrastructure)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	The library was built with a specific purpose in mind: design.					
	There is enough seating.					
	The atmosphere in the library is pleasant. It is located far from the industry. (There is no noise, and the heat is mild.)					
	Shelves (metal/wooden) are available.					
	Staff offices are available at the library.					
	There are doors for entry and exit.					
	The fire exit, fireguard, and emergency points are all easily accessible.					
	Large discussion rooms, postgraduate study rooms, and carrels are all available.					
	Among other things, the library has ground, first, second, and third flows.					
	The library has restrooms and toilets.					
	There is adequate ventilation.					
	Resources for people with disabilities (ramps, toilets, chairs, computers, etc., tailor-made for people with disabilities)					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

	<b>Products</b>	<b>Score</b>				
#	<b>Library holdings</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	A sufficient number of books in the library (The ratio of patrons is normal)					
	Enough journals, dictionaries, special collections, archives, and biographical sources are available.					
	References sources					
	Almanacs, yearbooks, handbooks, encyclopaedias, and journals are plentiful.					
	The library features a periodical section.					
	Electronic databases					
	The computer-to-student ratio is satisfactory.					
	The library has educational database subscriptions.					
	Multimedia resources are available.					
	Social media services, open-access journals, video cassettes, audio cassettes, talking books, library catalogues, OPACs, and laptop sockets are all available.					
	Library operating times					
	The library is open every day of the year.					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

	<b>Products</b>	<b>Score</b>				
#	<b>Library Policies</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Policy on Information and Communication Technologies</b>					
	Policy on Security					
	Rules and regulations					
	Libraries' Standard Operating Procedures manual					
	Bring your Device (BYD)					
	Handbook for People with Disabilities					
	Policies on strategic library management					
	Library services charter					
	Library collection development policy					
	Public lending rights					
	Training policy					
	The right to intellectual property					
	Open-access policy					
	Institutional repository policy					
	<b>Library Resource evaluation</b>					
	Authority					
	Objective/bias					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

	<b>Products</b>	<b>Score</b>				
#		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	Reliability					
	Currency					
	Coverage/scope					
	Currency					
	<b>Library service and departments</b>					
	Reference					
	Collection development					
	Systems department					
	Information services					
	Technical services					
	Reader Services					
	Quality and Marketing					
	Reserve collection					
	Selective dissemination of information (SDI)					
	Current awareness (CAS)					
	Orientation					
	User education					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Services need improvement</b>

	Products	Score				
#	Library information marketing/communication channels.	1	2	3	4	5
	Library website Information quality, Functional Fit-to-task, Tailored Communications, Response Time, Visual Appeal and easy to operate					
	Notice boards					
	Display unit					
	Library Journal, newsletter, prospectus, signage					
	Remote access (LAN, WAN)					
	Library Computer Lab					
	Subscribed journals					
	Approved journal publishers					
	Online journals					
	Citation sites					
	Anti-plagiarism software					
	Social media Facebook, Twitter, LinkedIn, Instagram, ask the librarian,					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Services need improvement</b>



	Products	Score				
#	Library management systems	1	2	3	4	5
	Security systems (3m, CCTV, guards)					
	Circulation management system					
	Citation and reference systems					
	Disaster management systems (sandbags, or buckets, hoses pipes, water)					
#	<b>Librarian(s) – student ration</b> <b>1 professional librarian for every 400 students (ZULC, 2001)</b>					
	Number of seats A sufficient number of seats and varied seating for 20-25% of full-time students					
	Cataloguing Use of a standard manual for cataloguing, for instance, AACR rules second edition (AACR2) RDA					
	Budget At least 10% of the Institutional operations budget					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

	<b>Products</b>	<b>Score</b>				
#		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	Affiliation Be a member of National and International Associations.					
	Staff qualification and experience Guided by the national recruitment agency					
	<b>Overall comment</b>	<b>Excellent</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Not satisfactory</b>	<b>Products need improvement</b>

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