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**Investigating the Relevance of Quality Measurement Indicators for South African
Higher Education Libraries**

By

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Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in the
Faculty of Arts, Department of Library and Information Science, University of the Western
Cape

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Submitted: 15 July 2021

Acknowledgements

I would like to thank God, the Almighty, for granting me the energy, strength, dedication, and resilience to start and finish this degree. Behind this wealth of information, people dedicated their time and energy to ensure that I did not lose focus. This includes Dr Gavin Davis, my supervisor and study coach, whom I thank for his guidance and sometimes push factor that enabled me to complete my study journey; and Dr Dawn Person from Fullerton State University, USA, my co-supervisor, who helped me to bring another educational dimension to the study.



Dedication

This thesis is dedicated to my late parents, Vincent and Vinah Ntshuntshe, and my three children, Asithandile, Unam, and Sihle Matshaya, for their unconditional love, care, and support during my study.



Abstract

This study investigates the relevance of quality measurement indicators at higher education libraries for faculty academics, librarians, and students. The study followed a mixed-method design with a mixture of quantitative and qualitative data collection. Faculty academics, librarians and students ranked the existing quality measurement indicators for South African higher education libraries.

The findings revealed that for library quality measures to meet the needs of faculty academics, librarians, and students, the resources must be accessible both physically and virtually, and staff should be accountable and willing to offer services responsive to the users' needs and expectations of a safe, secure, and comfortable library space, be it physical or virtual. The qualitative data highlighted the importance of adequate resources and the adoption of new developments as measures for quality.

Quality measurement indicators must include elements such as adequate funding; relevant resources aligned with teaching and learning programmes; programmes that are integrated into teaching plans; effective supplier collaboration with respect to the process of acquiring relevant learning materials; effective student training; communication of the value of library services and alignment with the student learning outcomes; research support in a digital environment with e-tools and website navigability; research data management; and open access, which is a prominent role of the library. Based on the data, there was a quality measure (process) that was commendable even though it did not form part of the existing quality measures nor a service whose relevance was assessed. The separation of undergraduate and postgraduate learning spaces was amongst those services that ranked quite high from the students' responses (qualitative data). Even though there were differences emphasized on each indicator by either faculty academics or students, there were also discrepancies in the interpretation of what each quality indicator means to each study population group. As the study of this nature has recommendations and gaps identified in terms of research findings, it is quite important to record that there was a series of gaps that were identified in terms of library expectations and perceptions. These gaps were suggested as part of further research that must be conducted to fill the void in terms of library users' voices in the development of higher education library measurement indicators.

List of Acronyms

ACRL	Association of Colleges and Research Libraries
ARL	Association of Research Libraries
CALICO	Cape Academic Library Consortium
CAUL	Council of Australian Librarians
CHE	Council of Higher Education
CHELSA	Committee for Higher Education Librarians of South Africa
CKC Model	Customer Knowledge Cycle Model
EQMF	European Quality Management Framework
ESAL	Eastern Seaboard Academic Library System
FRELICO	Free State Academic Libraries Consortium
GAELIC	Gauteng and Environs Academic Library Consortium
GAT	Gap analysis theory
HEQC	Higher Education Quality Framework
HESA	Higher education in South Africa
IPO	Input-process-output
LIBQUAL	Library quality
QUAL and QUAN	Qualitative and Quantitative
SCONUL	Society of College, National and University Libraries
SEALS	Southeast Academic Library System
SERVQUAL	Service quality

TQM

Total quality management



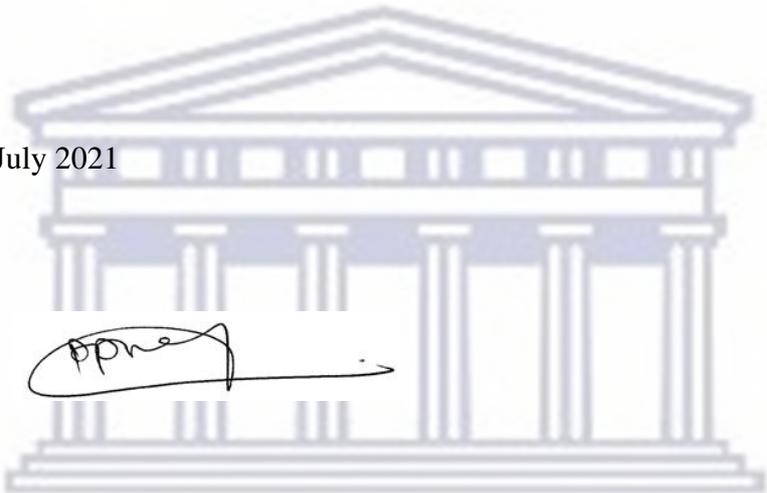
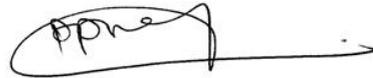
Declaration

I, PATEKA PATRICIA NTSHUNTSHE-MATSHAYA, declare that this research titled “The relevance of quality measurement indicators for South African higher education libraries is my own work, that it has not been submitted for any degree or examination at any other university, and that all the sources of information used have been appropriately acknowledged and referenced.

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Signed:



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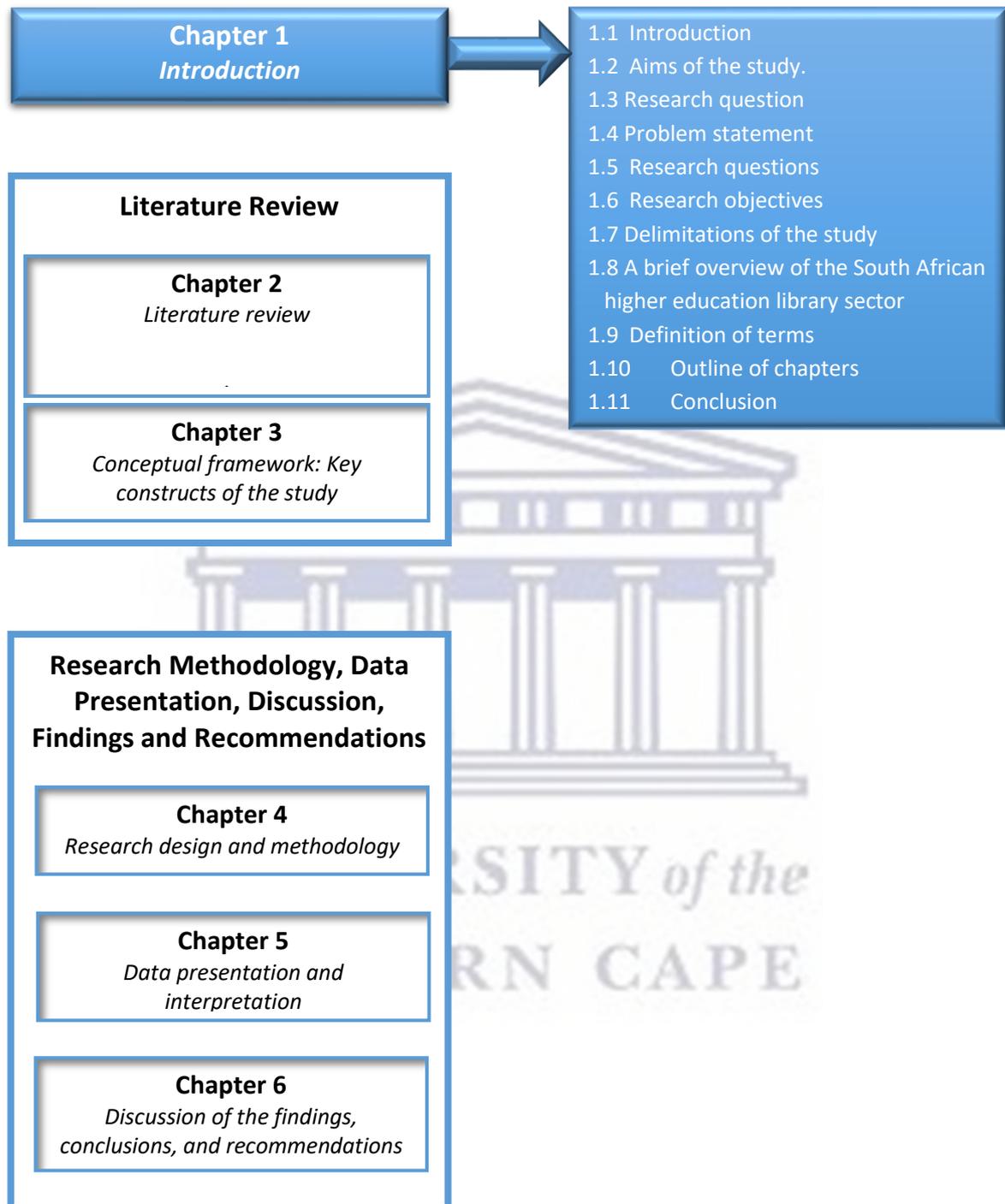
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CHAPTER 1: INTRODUCTION



1.1 Introduction

Quality measurement in the public sector involves a systematic attempt to learn how responsive an institution is to the needs of its users. Higher education institutions form part of the public sector, with academics and students being the stakeholders and role players. Faced with cutbacks in funding, escalating costs, competition for limited resources and a demand for higher quality outcomes, institutions of higher learning have been under pressure to be more efficient. It is becoming essential that they improve the quality of learning programmes, facilities, and services. Ensuring the effective measurement of quality at libraries entails a series of processes preceding the assessment and evaluation, such as understanding what it is to measure quality and setting the criteria for measurement indicators.

The terms “effectiveness” and “efficiency” are often used when quality measurement issues must be addressed, but when reviewing the quality of libraries, the accessibility of resources, their relevance, and the responsiveness of services should form part of what is assessed. According to Calvert (2005:1), achieving quality presupposes that some sort of judgement or measurement has been set by both those who provide the service (librarians) and those who receive the expected service (academics and students). This means quality assurance in this context of Reddy (2017:147). means that a library carefully meets the needs, wants and expectations of its users. Quality, therefore, means a product or service that meets the needs of its users.

According to Pritchard (1996:572) quality measurement at libraries is a way of determining whether the services offered by such libraries are relevant and responsive to the needs of the users. According to Poll (2008:127), measuring library quality in this modern era goes beyond assessing the services the library renders to users to include elements such as the cost benefits of the tools used by the library to meet the organizational demands. The study by Deeter-Schmelz and Kennedy (2011:55) assert that universities are increasingly operating in a competitive international global market. They affirm Poll’s, (2008:128) line of thinking since they also see the role of demonstrating value through quality programmes as critical to a library’s survival. It is important to note that while teaching, learning, and research contribute to the transmission and dissemination of knowledge at universities, central to such activities should be relevant, accessible, efficient, and well-resourced libraries.

Quality management, although a new field in the South African higher education sector, has been receiving the attention of the library and information sector globally. The library and information science literature as stated by Graves, Le Mire, Mastel, and Farrel (2018:1) reveals the importance of libraries designing new and innovative services that can transform them from being places for campus goodwill to spaces for promoting creativity, opening doors, and attracting a new clientele that can add value. Library outreaches that showcase their projects to add value is becoming a new norm. Libraries are no longer waiting for students to be inducted into the libraries they have access to where they are. This is because managing quality and accountability, and undertaking quality evaluation and performance measurement, are becoming some of the core roles of higher education library managers. Higher education institutions want to be recognized as benefactors of noble, high-quality educational programmes, and South African universities are not excluded from this current drive towards excellence. However, it should be emphasized that competing based on research outputs alone is not sufficient to ensure the reputation of a university. The quality of the programmes and outputs as outlined by Nitecki (1996:181) are both important prerequisites for favourable competition. The national education system is calling on institutions of higher learning to establish local quality management units to act as watchdogs to ensure that envisaged programmes are taken through a quality review process before implementation. Since the history of apartheid in South Africa has caused many discrepancies between institutions of higher learning when it comes to equality, the quality control of the programmes on offer has become part of the transformation agenda to level the playing field. The first post-apartheid government as stated on the CHE (2008:3) identified the need for a quality revolution at its higher education institutions because of the inequality between them due to the apartheid system.

The CHE (2011:6) has been the platform for the quality review of South African universities. This council guided the development of the framework that forms the mandate of the Higher Education Quality Committee (HEQC). The mandate of the HEQC suggests the direction universities should take in terms of the five elements of quality assurance. The HEQC is aimed at monitoring their compliance with national standards and quality reviews. The document also focuses on ensuring that programmes are compliant with national minimum standards; institutional audit processes to oversee teaching, learning, and research effectiveness; quality promotion focussed on quality assurance training; and the dissemination of quality assurance methods to institutions.

The HEQC has the mandate to review institutions of higher learning every five years, with libraries among the departments whose quality must be reviewed. However, the forum recognized that there should be indicators to guide the process. The five elements covered by the HEQC framework included no explicit role for libraries or any quality assessment parameters. To start the process, the Committee for Higher Education Libraries in South Africa (CHELSA) approached the ACRL(2010a:3) for permission to use and customize their measures for quality to fit the South African context. Only library directors from libraries of higher education institutions participated in the design and recodification of the instrument. As a result, the quality measurement indicators were only shortlisted by higher education library managers, meaning that operational librarians, academics, and students find them difficult to understand.

In addition to the above limitation, there was an inadequate consultative process with no consensus between the librarians who interact with academics and students, and those who manage libraries on what a quality measurement should entail. The CHE created an additional challenge by requesting the development of a local quality management system that speaks to an effective library, while also addressing the needs of the end-users.

The ACRL measures for quality appeared to cover all the requisite elements, making them the best choice on which to base relevant measures for libraries at South African higher education institutions. According to Kuh and Bhatti (2003:24), higher education institutions' responses to students' demands for learning often takes cognisance of the fact that students want to ensure that their education will give them an opportunity for a better future by offering employability and the skills needed in the society of tomorrow. Libraries, in conjunction with faculties and departments according to Ramanathan (2013:431) offer some of the skills that can place students at the forefront in society. The responsibilities of libraries at higher education institutions include ensuring that academics and students who use information learn the ability to use the library effectively and consistently.

Furthermore, as stated by Ramanathan (2013:432). libraries also must identify various challenges involved in using the available resources and services; challenges that can be addressed by quality measurement indicators. To understand the relevance of quality measurement indicators, this study examined the views of faculty academics, librarians, and students on how they rate the relevance of the existing quality measurement indicators.

1.2 Aims of the study

This study aimed to examine the relevance of the existing quality measurement indicators for libraries at higher education institutions by examining the views of academics, librarians, and students. A further aim was to select relevant quality measurement indicators to design a new, authentic quality measurement instrument based on the participants' opinions.

1.3 Problem statement

A study by Poll and Payne (2006:547) have revealed that quality measurement instruments designed without input from users fail to address their needs and the expectations of the library. Garvin's five perspectives of quality as stated by Russak (2018:3) list three of the critical success factors of quality measurements as product-based, user-based, and value-based factors, which in a nutshell places the users of services central to quality review. Existing measures for quality for libraries at South African higher education institutions were developed by library directors without adequate consultation. Elements that make the existing quality measurement indicators questionable include not just the lack of input from users, but also a lack of scrutiny concerning their relevance during adoption. The guidelines were based on the context of American colleges and research libraries. The relevance of the guidelines was assessed based on the librarian and stakeholder's thinking in the American system, which means that in the South African higher education library sector, only library directors were familiar with the indicators.

1.4 Significance of the study

The reforms to bring transformation, reconstruction and service delivery outlined in the CHE (2008) call for attention to the efficiency, effectiveness, and productivity of public service organizations such as universities. Efficiency, relevance, and productivity at public service organizations revolve around ensuring that consumers are satisfied with the services on offer. The fact that all-around quality audit principles are implemented across all publicly funded entities means that university libraries also must do quality audits. These audits assess the effectiveness of what they do. Libraries also must adopt a transformative and democratic approach in selecting quality measurement indicators and tools for the evaluation of their services.

A transformative and democratic approach would not only ensure the success of library systems, services, and processes, but would also guarantee the legitimacy of their quality management processes. There is no single approach to evaluating a library's relevance and responsiveness to its constituents but measuring the extent to which it suits users is one of the long-standing methods. To ensure the relevance and responsiveness of a library's service, the expectations and perceptions of library users must be managed. The process of managing and meeting the library users' expectations should be guided by a quality measurement instrument with sets of indicators that are clear to both librarians, as they need to monitor its adoption, and library users, who will be affected by its implementation.

At present, the current quality measurement guidelines shortlisted and developed by university librarians for libraries are not mandatory. Following their selection, the guidelines were presented to the HEQC without the creators ensuring their relevance for academics and students. The study by Nitecki (1996:181) argues that the norm is that quality measurement indicators should frame what librarians must do to detect service reliability and errors in accessing library resources. The expectations and perceptions of the users of such services should be monitored constantly. This study seeks to fill the gap of revising and assessing the relevance of the existing quality measures for libraries. In addition to this, the fast-changing role of higher education libraries and the infusion of technology, multimedia, and electronic resources as outlined by Poll (2012:121) as part of the library's core collection make it more difficult to guarantee relevance and the satisfaction of library users. While South African higher education libraries do conduct user satisfaction surveys on their existing services, none of them have tested the relevance of the CHELSA quality measures by combining the views of academics, librarians, and students.

There have been several developments in South Africa and in other countries towards investigating quality measurement indicators for libraries. However, several of these studies focussed on only single elements, such as discrepancies between the library and postgraduate students' perception of library quality; the assessment of the use and quality of library services; or the accessibility of the facility. A research conducted by Kekana and Kheswa (2020); Becker, Hartle and Mhlauli (2017), no studies are available that assess the relevance of the existing quality measurement indicators using the views of academics, librarians, and students. The selection of participants took into consideration the diverse nature of their library needs. Academics would expect the library to be well equipped for teaching, the success of student

learning, and their research; while students expect the library to be well equipped with all the materials they need to learn. The purpose of quality assurance in the eyes of Kaufman and Watstein (2008:226) is to make sure that the services and resources available at the library are relevant and responsive to the needs of the users. The selection of relevant quality indicators for those who use the library makes this study significant.

The uniqueness of this study lies in its use of engagement and an inclusive approach in the selection of relevant quality measurement indicators for libraries. Drawing on Deming (1986:1), this principle of user or customer involvement forms part of the basic principle of total quality management, which, when adopted, ensures the effectiveness of the services to be reviewed. This approach includes focussing on the library's organizational analysis by unpacking its contribution to the university. To make the study more relevant, particular attention is given to the assessment of services of strategic importance to library users rather than to librarians. Academics and students use their experiences of using services to rank the levels of importance or relevance as indicators for measuring library quality.

This approach is helpful as it does not produce only a single output. If more outputs are affected by the ineffectiveness of the library, the users of such services would rank the service as important. Their perceptions are of vital importance to determine the quality and value libraries add to teaching, learning, and research. An effective style of questioning is key to such an investigation. This study included quality service statements to determine the views of academics, librarians, and students on the relevance of library services. A glance at the existing quality measurement guidelines for higher education shows that new developments at libraries, such as the integration of technology and support for e-teaching, are not included in the existing measures for quality.

The researcher therefore took advantage of a democratic process to validate the relevance of elements such as the integration of technology and support for teaching in an e-environment as new measures for quality measurement. The findings of the study will be significant to the CHE and stakeholders in higher education because the standards applied in the evaluation of university libraries must focus on input and output and outcome measurements that are in line with international best practices.

The findings of this study can help the CHE review its external quality assurance processes and procedures to incorporate an evidence-based approach (outcome assessment) for the evaluation

of university libraries in South Africa. The findings of the study are also significant as the study identifies the need to review the current quality measurement guidelines used for the evaluation of libraries at higher education institutions in South Africa. In addition, university libraries can adopt the performance criteria and indicators suggested in this study for self-assessment and benchmarking. The mixed methodology used in this study may benefit other researchers conducting impact studies in South Africa. The study also makes significant constructive contributions to the areas of accreditation and performance measures.

1.5 Research questions

Three research questions assisted in the exploration of quality measurement indicators for libraries at higher education institutions:

- Which quality measurement indicators for libraries are relevant for meeting the expectations of academics, librarians, and students?
- How do the views of academics and librarians on relevant quality measurement indicators for libraries compare?
- To what extent do the views of students with respect to ranking the indicators agree with those of librarians and academics?

1.6 Research objectives

The three main objectives of this study were:

- To determine the relevant quality measurement indicators that would fulfil the needs of academics, librarians, and students.
- To discover how the views of academics and librarians on the relevant quality measurement indicators for libraries compare; and
- To determine the extent to which the views of students with respect to identifying the quality measurement indicators for libraries agree with those of academics and librarians.

1.7 Delimitations of the study

The study was conducted at five higher education institutions from the five consortiums in South Africa. The higher education institutions are:

- the University of the Western Cape in the Calico consortium.
- the University of Fort Hare in the SEALS consortium.
- the Durban University of Technology in the ESAL consortium.
- the Witwatersrand University in the GAUTENG consortium; and
- the University of the Free State in the FRELICO consortium.

The libraries at these universities are all members of CHELSA, the forum that developed the quality measures and guidelines for the self-review of libraries. These institutions represent various categories of higher education institutions in the country, ranging from traditional research and comprehensive universities to universities of technology. The target population at the institutions comprised the academic staff, librarians, and students.

The South African higher education system is currently made up of a combination of both historically advantaged and historically disadvantaged institutions. During selection of the study population the researcher took into consideration the diverse nature of this higher education system and purposively selected one university per province and per consortium per advantaged or disadvantaged group respectively, or a combination of both. The inclusion of both advantaged and disadvantaged institutions was not a disadvantage to this study, as it aligns with the fact that the institutions are not equal, even though the CHE – the mother body for all universities – informs them. They do share the characteristic of all being members of the CHELSA. The study followed a multi-site approach, using the following sites per province: the University of the Western Cape, representing historically coloured and disadvantaged universities; Fort Hare University, representing historically disadvantaged black universities; the Durban University of Technology, representing a combination of historically advantaged and historically disadvantaged universities and universities of technology; Witwatersrand University, representing historically advantaged white and English research universities; the University of the Free State, representing historically white Afrikaans universities. The study did not include other libraries such as school libraries, public libraries, or corporate, special and research council libraries.

1.8 A brief overview of the South African higher education library sector

The South African higher education sector, according to Popescu (2015:411), has undergone a metamorphosis that has been influenced by a transformation process aimed at embracing diversity, social justice, and human rights. By 1994 the country had 21 universities and 15 Technikons, but after 1994 the government reviewed the whole of the higher education sector. They eventually merged some of the institutions to strengthen the higher education system. The government thus reduced the higher education institutions from 36 to 26; with some former universities and Technikons merging to establish “comprehensive universities.” Comprehensive universities are characterized by the fact that they offer former polytechnic and vocational education combined with pure academic streams as part of the same system.

Some universities, specifically historically advantaged universities, were classified as “research-focused”, while those with limited abilities to attract and retain research scholars were assigned a teaching and learning role with fewer research production demands. However, this classification does not exempt them from adhering to quality standards and norms. Support for teaching and learning in an e-environment, research support and innovation are becoming core to the role of higher education libraries. Although there is uneven funding across the higher education libraries when it comes to driving the national agenda, all of them are expected to pursue similar key performance areas associated with alignment, accessibility, accountability, reliability, efficiency, and user-friendliness. CHELSA was established in 2004 when the two higher education library bodies, Inter-Technikon Library Committee (ITLC) and the Forum of University Librarians of South Africa (FULSA), merged. It is this new body that developed strong and effective guidelines for libraries to share resources through interlibrary loans, to improve the quality of their services through CHELSA measures for quality, to educate their users on norms and standards for identifying when information sources are needed, and to evaluate their authenticity through information literacy programmes. CHELSA’s 2005 measures for quality have since been made redundant by developments and innovations in the library and information systems. All higher education libraries are automated with interactive library websites, with some universities using library webpages and faculty portals to support academics and students with seamless access to information. Other developments include library support for e-teaching and e-research with the establishment of learning commons. It is these developments in the South African higher education library system that brought the need to review the existing quality measurement indicators for relevance from the perspective of academics, librarians, and students.

Libraries in South Africa range from traditional libraries that still use manual systems, slightly advanced public library systems, and higher education library systems that have a regionally shared system. Some higher education library systems, though sharing a system with their regional partners, still manage their own servers. In the midst of all this, the higher education library system is one of the more progressive sectors on the South African library scene.

Despite having no home-grown quality measurement guidelines, CHELSA's use of international models such as the ACRL's (2010b) quality framework resulted in them taking the quality and accreditation of libraries seriously. Following a democratic process, the ACRL quality measurement guidelines involve an evaluation system that includes the librarians and the users of the library (academics and students). In the South African setting, the transparency of the process is considered critical and effective for gauging user support of the process. Merely imposing the quality measurement indicators on South African students would be considered an autocratic system if they do not receive the opportunity to endorse the relevance of these indicators.

According to Martin and Stella (2007:41), different quality assurance agencies use the term external quality assurance to denote different practices that serve various purposes, and they exercise the responsibility of carrying out quality assurance in various ways. There are two types of quality assurance systems, namely internal and external. Internal quality assurance ensures that an institution or programme has policies and mechanisms in place to make the attainment of its objectives and standards possible. External quality assurance is performed by an organization or quality assurance agency from outside the institution. Based on CHE, (2008:8) and Sanyal and Martin (2007:5) organization assesses the operation of the institution or its programmes to determine if it meets the agreed-upon or predetermined standards.

1.9 Definition of terms

Terms relevant to the study are defined below to give a sense of how they should be understood in the context of this study: **Accessibility** according to Henry and Abou-Zhara (2014) refers to the process of creating products that are usable by people with the widest possible range of abilities, operating within the widest possible range of situations. Accessibility can be viewed as the "ability to access" and benefit from a library system or entity. With the advent of digital technology and web-blended learning as stated by Spina (2019:1), web accessibility is key to ensuring that web-based content is available and usable to all users.

Accountability as stated by Lilburn (2017:98) is holding a person or an organization responsible after a task has been performed. Being accountable not only means being responsible for something, but ultimately answering for your actions.

Accreditation is defined by Kadjan (2007:147) as the certification of competence in a specified subject or area of expertise or the integrity of a firm, group, or person by a duly recognized and respected accrediting organization.

The study by Schmiedel (2017:96) defines accreditation as the act of granting credit or recognition, especially to an educational institution that maintains suitable standards. Accreditation is necessary for any person or institution in education that wants to prove that they meet a general standard of quality.

Benchmarking, according to Kotler and Armstrong (1996:1), is a rating of an organization's products, processes, and performances against other organizations in the same or another business. The study by Reddy (2017:148) sees benchmarking as a process of comparing the operations, products, and services of a library by judging the quality of processes, products, and services available to the users.

According to Kotler and Armstrong (1996:3), **customer satisfaction** is the level of a person's satisfaction with a product's perceived performance over and against the person's expectations. Therefore, customer satisfaction involves a comparison of inputs before and after obtainment. Studies conducted on customer satisfaction in libraries distinguish between customer satisfaction and employee satisfaction. As stated by Bea, Musabila and Deogratus (2018:2) see customer satisfaction in libraries as a concept that is widely used to determine factors that positively or negatively influence library customers' wants, needs, and demands for products and services.

Higher education refers to any tertiary institution offering formal post-secondary qualifications in the form of a diploma or degree. LIBQUAL TM, as defined by the (Association of Research Libraries), ARL (2018:534), is a well-known model for assessing the quality of services. It was adapted from the commercial sector's SERVQUAL TM model. This tool measures the gap between the minimum expectations, perceived levels, and desired levels of services. The study by Ip and Wagner (2020) view the LIBQUAL as a measurement tool to predict library users' intention to patronize the library more in future.

Performance measurement, according to Appleton (2018:1), is the quantification of a company or segment's efficiency or effectiveness in conducting business operations by counting the times customers are satisfied with the service they receive. The key performance indicators libraries use in the views of Holmes and Parsons (2016:25) serve as tools to assess how well the library is achieving its outcomes. Performance measurement, as stated by Reddy (2017:149), is necessary to identify problems, if any, and to find new ways for improving the products or services.

Total quality management (TQM) refers according to David (2014:31) to the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The TQM therefore acts as a method by which management and employees can become involved in continuous improvement of the production of goods and services.

1.10 Outline of chapters

Chapter 1 discusses the background to the study, the research problem, research questions and research objectives, the significance of the study and the definition of terms.

Chapter 2 provides a comprehensive discussion of quality measurement indicators for higher education libraries. The chapter also discusses quality measurement, the adoption of the relevant theoretical frameworks, as well as how these factors add value to this study. Specific reference is made to the multiple frameworks applied in this study and the results found.

Chapter 3 provides an overview of the conceptual framework used for the study, and the key constructs are unpacked and discussed. This is followed by an outline of how they informed the study questionnaire.

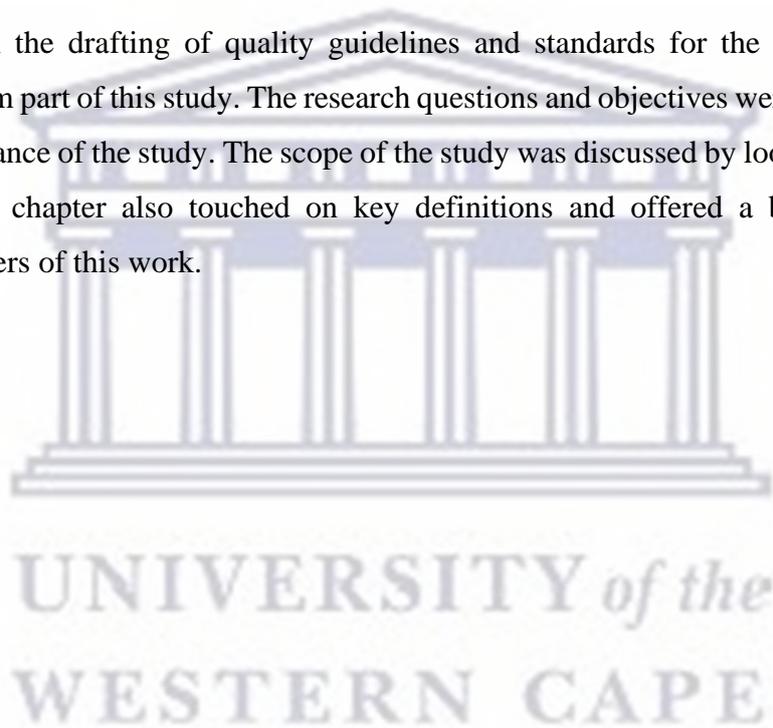
Chapter 4 provides an overview of the research design followed in this study. This includes the selection of a study sample, the study population, the type of sampling and methods used. The chapter also recounts how the online questionnaire was designed and distributed, including its structure and alignment with the study objectives. It unpacks how the data were analysed, which software was used, and what the challenges were in taking this route.

Chapter 5 presents the data and the study findings based on the empirical analysis of the data. Findings are discussed and interpreted to determine if they warrant further research.

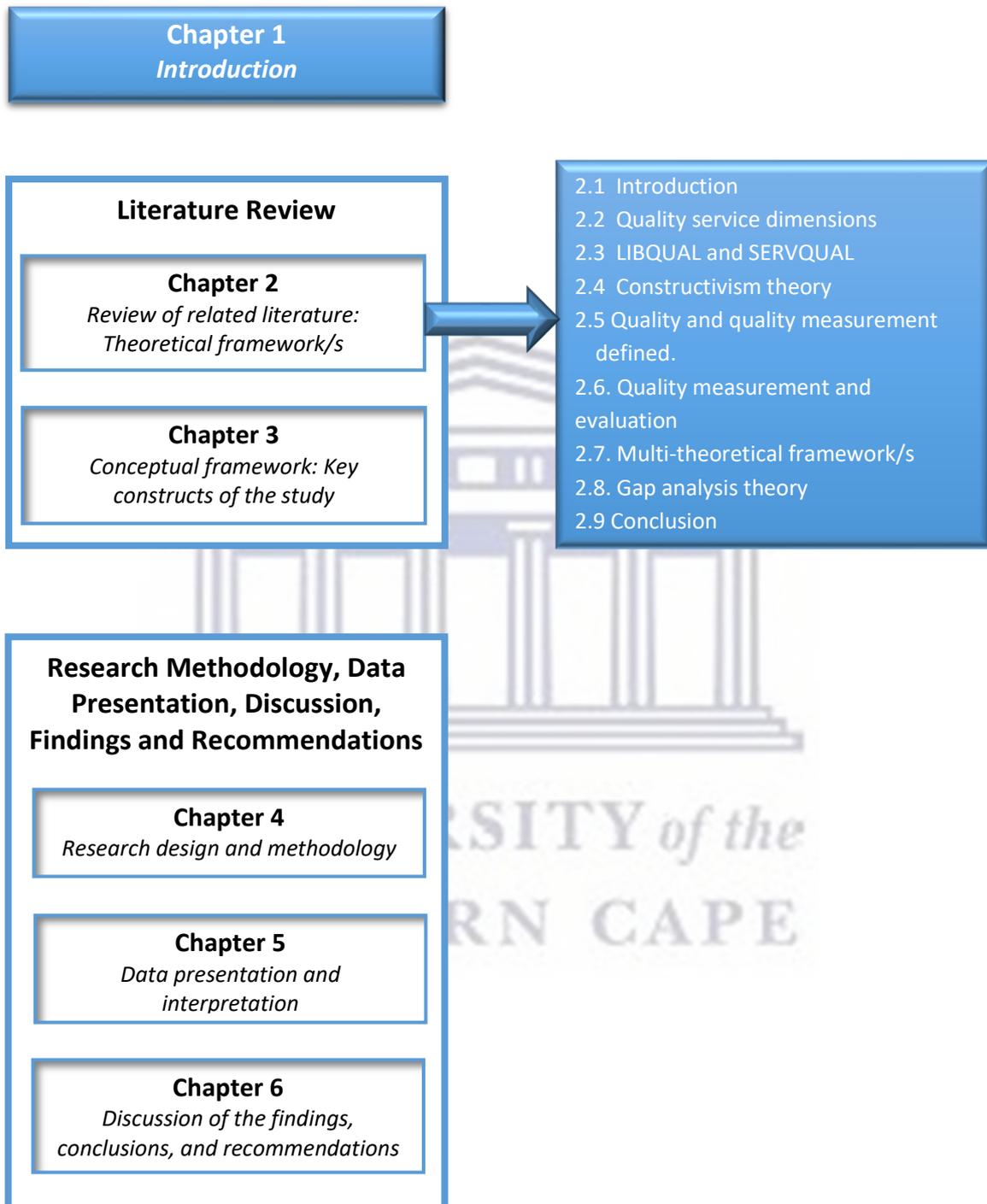
Chapter 6 discusses the most salient results of the study. It provides a summative overview of the study, its meaning, and its practical implications. This is followed by conclusions and recommendations, after which suggestions are made for future research.

1.11 Conclusion

This chapter briefly introduced the research problem within the context of libraries at South African higher education institutions. It included a brief overview of some of the factors that played a role in the drafting of quality guidelines and standards for the higher education libraries that form part of this study. The research questions and objectives were outlined, along with the significance of the study. The scope of the study was discussed by looking at the study limitations. The chapter also touched on key definitions and offered a brief look at the remaining chapters of this work.



CHAPTER 2: REVIEW OF RELATED LITERATURE: THEORETICAL FRAMEWORK/S



2.1. Introduction

This chapter offers an account of how quality, quality measurement indicators and the evaluation of libraries evolved. It examines related literature and studies conducted on what relevant quality measurement indicators for libraries entail. The literature review serves three main purposes – firstly, to determine what has already been established by other researchers on the subject. Secondly, to identify synergy, contradictions, silences, and gaps in the research. And lastly, to provide the rationale for adopting multiple theoretical frameworks for this study. As stated by (Council of Higher Education), CHE (2008) studies conducted on the broad terms of quality management and quality assurance in higher education clearly show the characteristics that should be in place for the full accreditation of a university, but different criteria are used with no specific method given to assess library quality.

Theoretical frameworks such as input-process-output, TQM, gap analysis theory and the customer knowledge cycle, are discussed with reference to their contribution to what libraries should do to determine what library users view as determinants of quality in their services. The latest developments reveal that the IPO quality measurement model is a commonly used approach to explain the processes that direct the researcher towards a series of actions required to complete the research process. In this study, one would deduce that this would entail the identification of the attributes of an effective and efficient library (what the library puts in place to ensure effectiveness). As stated by Yoo, Kim, Yoon, Lee, Lee, Hong, and Park (2020:16) the process evaluation and tools to assess relevance or effectiveness with output automatically relating to interventions put in place serves as a remedy to ensure quality of the outcome. This approach, according to Bless and Higson-Smith (2000:1), helps a researcher to easily understand a phenomenon, its origin and how it evolved. A definition provided by Hernon and Whitman (2001:1) justifies a user-centric approach, as their definition “affirms that library users should shape the services according to their needs and expectations.” Besides spending time on shaping classroom activities, academics also have a role to play in guiding the library towards acquiring relevant resources for student learning and their research. The study by Hernon and Whitman (2001:2) also affirms that “students spend a large percentage of their time in the library”. In the higher education environment, the bulk of knowledge construction and knowledge creation by either academics or students takes place by using library resources or in the library. This study therefore considered academics, librarians, and students as beneficiaries of what a library does and offers.

According to Maali and Decker (2013:136), “for quality to take place in the student learning environment, a student/user-centred approach should be applied”. This approach as stated by Cohen and Brawer (2003:16). encourages library users to take an active role in their learning and thereby succeed in mastering what ought to be learned from the user-centred services,

2.2 Quality service dimensions

One of the yardsticks for quality is the ability of a service provider to render a service that is considered equally efficient and effective by the user and the provider. The service provider conforming to the standards expected by a service recipient is according to Ramya, Kowsalya and Dharanipriya (2019:38) considered to be a quality service dimension. A combination of TQM and customer knowledge cycle models as viewed by Dale (1999:1) and Oakland (1993:3) promotes the use of customer knowledge through communication and a probing of their views on the responsiveness of the library quality to user needs. Furthermore, there is a quite popular library quality service instrument, LIBQUAL, that has made strides in the library and information sector. The library quality measurement indicators included in this instrument were critically examined against the existing quality measurement indicators for South African higher education libraries. A quick comparison was done to determine the extent to which the CHELSA measures for quality align with LIBQUAL. Since LIBQUAL has been widely adopted within the South African higher education library sector, as stated by ACRL (2012:320), LIBQUAL was used together with SERVQUAL to inform the development of ACRL quality measurement guidelines.

2.3 LIBQUAL and SERVQUAL

The CHELSA measures for quality were derived from the (Association of College and Research Libraries), ACRL (2018:2) which chose LIBQUAL as their quality measurement instrument. It is quite important to note that attempts were made during the 1990s to standardize measures as a means of addressing library service quality. SERVQUAL as stated by Lane, Anderson, Ponce and Natesan (2011:22) and Natesan (2016:30) was designed at that stage to identify the gaps between customer expectations and customer experience, while LIBQUAL was used specifically to draw user perceptions towards library service quality. Recent developments have shown that LIBQUAL is one of the most popular quality measurement instruments.

It has been in existence for a number of years as stated by Heath, Kyrillidou and Askew (2014:3) in assisting academic libraries across the globe with an aggressive approach to aligning their services to their universities' visions, missions, and strategic objectives. While LIBQUAL was derived from SERVQUAL, it uses 22 service quality statements that describe what the library does to improve quality. SERVQUAL has added technical tools and qualitative data that add a flavour to the instrument. The study on LIBQUAL by Rizky, Huda, Muslikh and Rini (2020: 182); the case study by Guder (2012) and CAUL, (2014:6) on LIBQUAL; and the research by Bucak (2014) reveals the relationship incompatibilities between the two instruments (LIBQUAL and SERVQUAL) as they complement each other. While SERVQUAL measures the opinions of users about library services, LIBQUAL as stated by Rana, Bhatti and Naeem (2020) collects data that provide evidence of quality. Despite LIBQUAL having been used by South African university libraries as an individual quality assessment instrument, a series of its quality service statements could add value to the revised local quality measurement instrument.

LIBQUAL+®, according to Heath, Kyrillidou and Askew (2014:1), is a suite of service libraries offered by the ARL to solicit, track, understand, and act on users' opinions of service quality. Its quality service aspect considers three dimensions: affect, information control, and the library as a place. These three quality dimensions must be customized for South Africa. Mindful of the instrument (LIBQUAL) derived from SERVQUAL, there is little evidence showcasing independent use of SERVQUAL without mentioning the components of LIBQUAL. A publication on LIBQUAL by Anglia Ruskin University (2016) reveals six goals for library service quality assessment. Those goals are to:

“Foster a culture of excellence in providing library service, help libraries better understand user perceptions of library service quality, collect and interpret library user feedback systematically over time, provide comparable assessment information from peer institutions, identify best practices in library service, enhance library staff member’s analytical skills for interpreting and acting on data.” (ARL, 2018:2).

The revised version of LIBQUAL has a collaborative component that allows libraries to view quality from the perspective of improving the user’s experience of their service and by benchmarking themselves against their counterparts.

In looking at the quality enhancement programme used for South African universities, the collaborative/benchmarking sophistication of the instrument would add value to the local environment. In an effort to delineate what LIBQUAL and SERVQUAL do and do not do, Cook and Heath, (2002:53) point out that SERVQUAL assesses and compares libraries to measure the extent to which users' expectations and perceptions of libraries correlate. Furthermore, both instruments are web-based, even though LIBQUAL assesses the impact of service quality quantitatively while SERVQUAL assesses the perceptions of the users of the service quality. A study conducted by Kulkarni and Deshpande (2012:1) using SERVQUAL in India revealed that the focus on assessing user expectations of resources, staff, services, guidance from the library and the environment compromises the users' perceptions as based on their experience of using the library.

A study conducted by Atkinson and Walton (2017:3) affirms that the LIBQUAL tool has since its inception been adopted by more than 2600 institutions across 31 different countries on five continents. Out of these 2600 institutions, 13 were South African university libraries. The LIBQUAL quality service statements are not widely different from the CHELSA measures for quality, but they include new library services and new indicators, such as user involvement in the development of library plans and technology.

Comparing the LIBQUAL service statements to the existing CHELSA measures for quality shows how diverse and common these quality service statements are, as is evident from their usage in libraries from different parts of the world. LIBQUAL focuses on products and resources, while SERVQUAL looks at processes. CHELSA combined the two instruments. However, the main difference lies in how simple the LIBQUAL quality service statements are in comparison to the CHELSA measures for quality. The way in which questions are framed as statements that are ranked according to their relevance can affect the way users (academics and students) respond to the library questionnaire. Taking this into consideration is critical to the design of revised South African higher education library quality measures. While a series of studies were interrogated which examined the relationship between LIBQUAL and SERVQUAL and their adoption in libraries, literature on how LIBQUAL mirrors SERVQUAL shows that there is little evidence that any other instrument has progressed in libraries more than LIBQUAL. Scholars such as Newman (2001:126) and Carr and Newman (2002:281) question how SERVQUAL's use of psychometric testing tools reduce library services to only a "gap or theory of customer satisfaction".

As customer satisfaction is subjective and can be affected by the mood, environment, and circumstances, if quality norms are left dependent on “customer satisfaction”, some of the library services would never improve. It is on this basis that SERVQUAL was not vigorously interrogated in terms of its link to the CHELSA measures for quality. In their attempt to clarify the difference between the constructs “quality” and “satisfaction”.

The study by Hernon and Nitecki (2001:688) discovered that some academics were using the two concepts interchangeably; with some contending that satisfaction is transaction-specific whereas service quality is what you experience cumulatively when using a service. In this study, LIBQUAL is viewed as an instrument that strikes a balance between evaluating the experience of service satisfaction and the user’s expectation.

2.4 Constructivism

This study explores higher education libraries’ attempts to develop relevant quality measurement indicators. This means that consideration should be given to the recent shift from classroom-centred to student-centred learning. As stated by Brooks and Brooks (1999:20) this constructivist approach to learning is a way to empower students to take ownership of their learning. The process encourages them to become active participants rather than passive players in a lecture/textbook-centred system. The use of a constructivist approach in library research by Harland, Stewart, and Bruce (2019:319) involves an inductive approach with sampling that aims for theory development and a literature review after theory has been developed. Using a survey technique with structured questions, academics and students ranked the relevance of the existing quality measurement indicators for libraries according to a Likert scale. The structured questionnaires gauged their expectations. The second section comprised of open-ended questions that enabled them to reflect on the services of critical importance to library quality, and their perceptions of these. The rationale for choosing the study population was that academics teach students who use library resources while learning, and the frequent use of the library for studying resonates with students. Training on how to use library resources equates to learning, and the independent use of such skills links this study to constructivism. The study by Brooks and Brooks (1999:21) assert that academics and students come to the library with expectations that their needs will be met and when these needs are not met, their perceptions of the library are negative. The perceptions of academics and students based on their experiences of using the library make them suited to identify, along with librarians, the relevant quality measurement indicators for libraries.

According to Ültanir (2012:3), constructivism is an epistemological approach that explains the nature of knowledge and how human beings learn. Constructivist discourse therefore asserts that knowledge is created through interactions between what learners already know and believe and ideas already accumulated. According to Brooks and Brooks (1999:21), the learners, who in this study are library users (academics and students), construct new understandings of the world around them (library use and experiences of using library services) based on their experience of using the services. Nicholson (2004:181) suggests that an input-output process can help libraries manage user expectations.

When there is a reciprocal understanding between librarians and library users, supplemented by adequate resources (collection, access platforms, staff, and facilities), there is quality. The input-process-output theory, when applied to the higher education sector, relates to what universities provide as input in the form of teaching methodologies and the learning styles of students, with librarians supporting the process. The output relates to student success or the outcomes of that process as argued by Van den Bekerom, Schalk and Torenvlied (2017:625). If all of that the above is in place, libraries can improve quality and meet the expectations and perceptions of their users. The output represents how users experience the services.

The researcher applied constructivism to library and information services by reviewing the relevance of the quality measurement indicators based on the views of academics and students. The role of the library service providers, the librarians, provide the setting, pose the challenges, and offer the support that encourages new knowledge construction and use. According to Lorenzen (2001:19), learning (library use) becomes effective only when there is a high degree of relevance, with interactions between librarians and users serving a good cause. Academics and students' understanding of libraries and their uses become more productive when an opportunity is created for active engagement in the management of libraries. This study combined three theoretical frameworks, namely TQM, gap analysis theory (GAT) and the customer knowledge cycle model (CKCM), to investigate how libraries generate user learning experiences (lasting knowledge) that could guide them in selecting relevant quality indicators. The characteristics of the frameworks (TQM, GAT and CKCM) subscribe to the principles that guided this study in achieving its objectives.

According to Knowles (1984:13), the CKCM is a theoretical framework developed to empower library users in using their knowledge and experience in framing relevant measures for library quality. In arguing for the alignment of total quality management and the customer

knowledge management cycle with constructivism. A study by Bonstingl (1992:12) sees a synergy between the user consultation in constructivism, user knowledge, CKCM and quality and continuous improvement in TQM. In the study by Anderson (2010:15) shows how these pieces of the puzzle come together. The combination of these approaches and methodologies makes it possible to consider a series of factors such as the experience of library use, library communication, needs analysis and user feedback. When all these factors are combined, the result determines the use of constructivism (user needs), the customer knowledge management model (library experience) and TQM (communication and using user experience) for quality and continuous improvement.

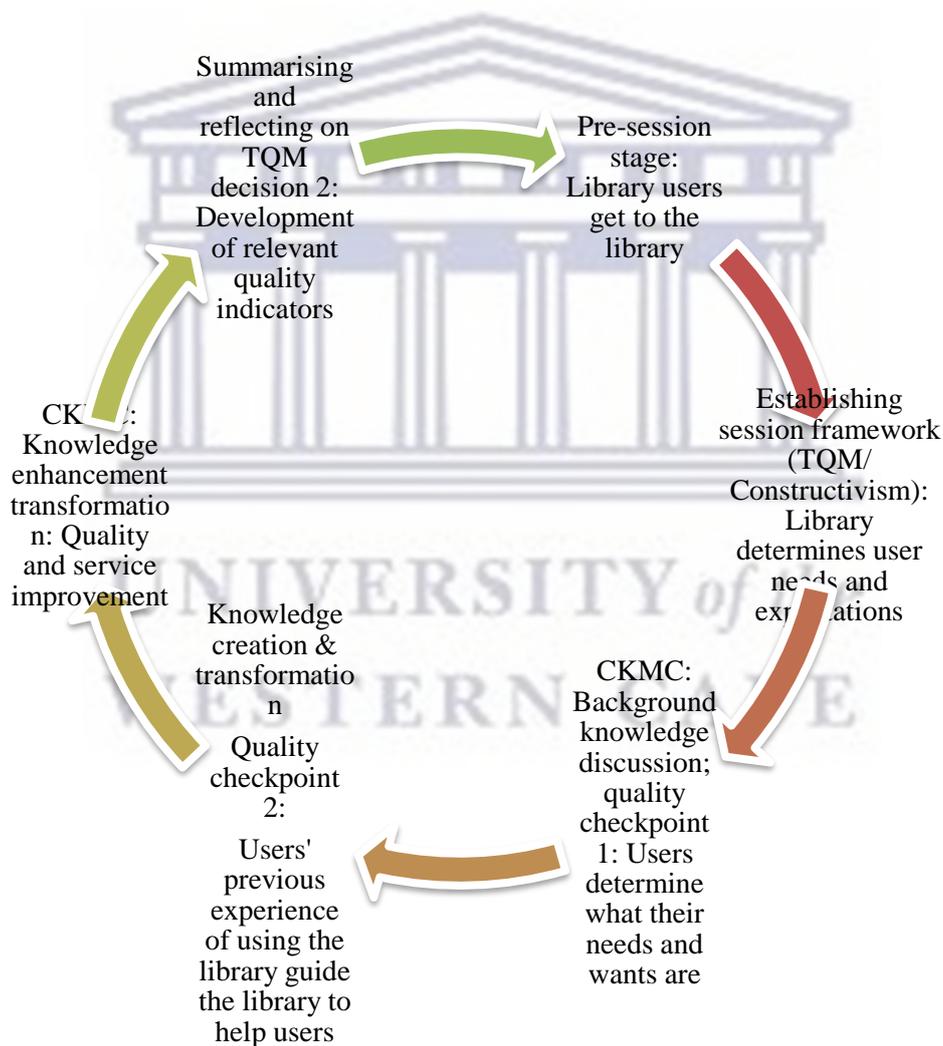


Diagram 1: Alignment of constructivism, TQM and CKCM by Anderson (2010)

Putting the above into context, there is a relationship between constructivism, TQM and the CKCM when it comes to developing relevant quality measurement indicators for libraries. The most significant part of all the three models, when aligned with what takes place in the libraries,

is that it does make sense to use users' knowledge to improve service quality. The independent use of library resources without a librarian's guidance, is regarded as equal to knowledge enhancement (customer knowledge that contributes to improving users' perceptions of the library service). These three study paradigms (TQM, the CKC Model and constructivism) are adapted to guide the holistic approach. The fact that South African higher education library quality measurement guidelines were developed without library users and librarians' views begs questions about their relevance for meeting the realistic expectations on the ground. The focus on library quality, which is based on meeting users' needs, make these needs central to achieving effective results.

According to Knowles (1983:2), the early involvement of users in the design or formulation of an instrument to assess library quality is critical to developing relevant quality measurement. The role of higher education libraries has to be unpacked to give a holistic view of the teaching, learning and research support libraries offer. The questions asked in the questionnaires administered in this study, invited library users to rank the relevance of the services as quality measures and to share their perceptions and the expectations of an efficient library.

2.5 Quality and quality measurement defined

The vast literature on library quality management, standards and measurement indicators for evaluation offers no precise, universal quality standard that meets the requirements of all libraries across the globe. Each part of the world designs and develops its own set of quality measurement indicators based on the requirements of the country. According to Hernon and Calvert (1996:387), one of the basic principles of developing relevant quality measurement indicators for libraries is to engage the users of such services. The publication by Appleton, (2018:1) on the development of quality measures for libraries reveal that most tools or instruments used to assess the library, value user perceptions of the service in gauging the effects of service, access to information and personal control, with the exclusion of the users' perspectives on instruments itself. This is an element that validates this study direction. The emergence of COVID-19 as stated by Daniel (2020:1) has also resulted in new ways of measuring library effectiveness. This includes amongst others the following: "diminishing print, e-everything, end of big library deals, distinctive collection digitization, virtual and self-service and embedded librarianship". These developments are central to the list of library quality measurement indicators.

Relevance as a concept, although subjective in nature, when viewed through Poll and Payne's, (2006:562) lens is a measurement of the effectiveness and efficiency of an exchange of contract between the library and a user to derive real meaning in the context of libraries. The role of libraries should be derived from the institution's mission of teaching, learning and research. By virtue of this role, the library has an obligation to meet the needs of their users. While library practice is changing, it remains committed to quality service. Collections of books and other information resources housed in a library without the accompanying access tools, instructions, and quality services, are mere warehouses, not libraries.

Librarians at all types of libraries strive to provide their users with quality and relevant services in support of the mission and goals of their parent organization. In the context of higher education institutions, libraries' role is to support the universities in their mission with respect to teaching, learning and research. However, the question that remains unaddressed is whether libraries/ librarians know if their services are relevant to meeting the expectations and perceptions of the users? This study strives to understand what quality and relevant quality measurement indicators for libraries mean to library users and library practitioners. The saying "quality is the degree of business excellence" as stated by Kadjan (2007:150) includes the excellence of the final product, the processes behind service delivery, the extent to which the library conforms to user needs, functionality, aesthetics, as well as the excellence of the process that produces the product.

While there are various arguments on the complexity of the term 'quality', the most appealing definition is that of Garvin (1988:1), who sees quality as a product interdependent on how well it fits the patterns of consumer preferences. This definition was adopted for this study. In support of this, Harvey (1995:124) using a political lens, describes 'quality' as a transformation process that, in educational terms, refers to the enhancement and empowerment of students or the development of new knowledge that leads to continuous quality improvement. (Begum, 2003:1) links quality with the library by saying that it refers to user satisfaction through product or by service. The customers of higher education libraries are academics and students.

2.6 Quality measurement and evaluation

Scholars such as Nicholson (2004:164) define measurement as the determination of a quantity, and evaluation as the process of determining the merit, worth or value of something or a product

of a process. To simplify the concept ‘measurement and evaluation’, measurement implies a process used to determine value, while evaluation compares ‘what it is’ (current status quo of a system) to ‘what it ought to be’ (future outcomes). These two terms are used in conjunction as they would be meaningless when singled out. Measurement alone as argued by Verhoef et al. (2009:31); Poll (2008:127) will not aid in the feedback loop of a library quality management system. Measurement is therefore just a precursor for the evaluation of a system to be fully understood.

Using an assertive way of clarifying the interrelationship between measurement and evaluation, McGregor (2008:17) states that libraries, rather than using mass inspection of every output product to measure the output, could sample statistics in a cause-effect relationship of the process to cover the evaluation part. Putting all those processes into library practice implies that libraries should constantly evaluate themselves using surveys and annual reports presented to academics to contribute to quality and continuous improvement. According to Lindauer (1998:549), performance measures are meticulously defined as broad, managerial tools that encompass the measurement of inputs (indicators of the resources essential to provide service), outputs (indicators of the services resulting from the use of those resources) and impacts (the effects of these outputs on other variables or factors). When there is a disconnect between the three processes, quality is compromised.

Quality in higher education is measured from different perspectives. Studies often use the three concepts of quality, measurement, and evaluation when library quality issues are being addressed. It is rare to see an organization with a quality measurement or quality management system not using that approach to address its quality assurance issues. In defining ‘quality measurement, Cullen (2001:662) aligns the term with the processes associated with library user expectations, such as measuring library collection and services in relation to the needs of the users. At this point, although we know that quality measurements would include many more characteristics than just conformance to user requirements, the relevance of this to library users calls for further investigation.

While searching for research conducted on investigating the relevant quality measurement indicators for libraries using the views of library users, a great deal of literature was found on existing quality measurement models, library performance evaluations, studies related to library quality evaluation, and library efficiency and effectiveness based on users’ views. These sources of information were devoted to two major areas that are often found in library

publications. Firstly, they focussed on efforts to describe the determinants of effectiveness, or what quality is in relation to how it is implemented by libraries. Secondly, they offered library-tested quality measures and methods of evaluating the library using inputs, processes, and outputs as stated by Calvert (2001:732); Morgan (1997:1); Poll and Boekhorst (2007:3). There are studies concerning this topic that were conducted in South Africa specifically by De Jager, (2006:111); Rapp, (2007:22), Sayo (2006:62), Ubogu and Walker, (2007:19). The study by Broady-Preston and Lobo (2011:123) argues for the development of quality measurement indicators since the literature makes it clear that measuring the impact of library services is difficult to achieve.

The current approach is to move librarians from traditional ways of evaluating their services – confined to collecting statistics, annual reports, and user surveys – to new ways of managing user expectations and perceptions of the library. There seems to be a scarcity of literature dealing with user involvement in developing quality measurement indicators for libraries. The few studies in existence merely confirm the importance of aligning library quality measurement indicators with users' needs. Studies by Poll and Payne (2006:547). In the article by Rowley (2005:510) asserts that library quality measurements currently necessitate a more holistic approach. According to Xie, Joo and Matusiak (2020:1), recent developments also reveal that with the emergence of digital technology, higher education libraries are introducing new e-services to maximize the accessibility of libraries beyond physical visits. This warrants new quality measures to enhance that line of thinking.

The above arguments spur on the development of a quality measurement matrix relevant to local universities on a country-by-country basis. At the core of library quality measurement are issues such as measurement and evaluation, accountability, accessibility, reliability, value, and responsiveness. These issues are discussed in the next section. The quest for library quality measurement and evaluation as viewed by Lancaster (1997:156) has been going on for several years in libraries across the globe. Lancaster asserts that what these processes lack are not measures, but coherence in the way they are proposed and applied. Their implementation depends on how librarians understand them. Researchers such as Sputore and Fitzgibbons, (2017:10) also observe gaps in the ability of librarians to keep up with quality matters, an element that inspired the researcher to continue with this research. It was one of the study's aims to resolve these superficial contradictions by involving librarians and library users in selecting relevant quality measurement indicators for libraries.

When both parties (librarians as service providers and the users) are given equal opportunities to select the most appropriate and relevant quality measurement indicators, the study will have a better chance of yielding positive results. The four major approaches to organizational evaluation that seem common to quality and might apply to libraries as well, as seen by Tiemo and Ateboh (2016:54) are the goal attainment model, the system resource model, the internal processes model and the constituency satisfaction model. Given this study's scope, these models are not explored as they would direct this study to quality on a macro-level. One of the dimensions of addressing relevant quality indicators as part of a holistic approach is described by Al-Harhi and Ginsburg (2003:1) as giving users power/knowledge by taking part in informing the process of designing a relevant quality measurement tool that could be used to measure the performance of libraries. Quality measurement criteria that meet users' expectations while also supporting their perceptions, have the potential of receiving a high score as a measure for quality.

2.6.1 Accountability

The pressure for accountability and quality in higher education does not only apply to teaching, learning and research, but also libraries. The continuing drive for more accountability at academic institutions presents unique opportunities for libraries. This could develop as librarians connect what they do with students, faculty teaching staff and administrators. While libraries and librarians across the globe have accepted the need for and the importance of being accountable to library users, this study discovered a discrepancy between acceptance and implementation. Understanding the importance of accountability as a measure alone does not address its implementation when dealing with user issues so said Lilburn (2017:93). TQM confirms that the quality and implementation of a service plan should match, and the users should confirm this. If libraries are to be managed like businesses, those principles that cannot be quantified financially should at least be guided by accountability norms.

The world of libraries, as attested by Markless and Streatfield (2011:167), is progressing and understanding the importance of being accountable, yet what is still missing is how they involve their users in framing what they are accountable for in the form of quality measurement indicators. Alternative approaches to measuring quality that have emerged in the business sector include quality measurement instruments such as SERVQUAL, which looks at quality from the angle of service performance effectiveness and user accountability as argued by Zeithaml, Parasuraman and Berry (1991:1). The quest for user-centred approaches is slowly

emerging in the design of library quality measurement tools. The existing quality measures that are reviewed as part of this study were developed more than ten years ago without users' opinions. As stated by Nicholson (2004:164); Tiemo and Ateboh (2016:55), one therefore can presume that the library's slow uptake of these instruments that warrant user accountability is based on their approach to quality, which includes users' opinions in the evaluation process rather than at the design stage.

Higher education libraries according to Cullen (2001:663) are facing two major threats that are pushing them to account for and improve the quality of their services to survive, namely the global digital environment and increasing competition and funding constraints, which affect their spending patterns and require justification of their existence. Users' opinions of the quality of library services are quite critical. The traditional way of showing the contribution of libraries, namely annual reports, as stated by Nitecki (1996:183) are important to librarians, but the content of those reports – issues such as collection growth and usage – has absolutely nothing to do with quality. The quality measurement guidelines for South African higher education libraries are based on data collected from librarians on what would help them develop service standards that would guide quality and benchmarking. Reporting on the quantitative growth of libraries by generating and collecting traditional statistics, with self-assessment on how the library sees itself in aligning with the university and supporting teaching and learning, is not enough. The concept of quality therefore becomes irrelevant without accountability to library users and the use of transformative processes, such as their involvement in decision making.

Drawing on Harvey (1995:123), quality is viewed as exceptional perfection/consistency, fitness for purpose, value for money and transformation. If the concept 'quality' alone carries so much significance when it comes to higher educational processes, the question that arises is about the role libraries play in ensuring that this exceptional/perfect product is achieved.

The need to understand what library users expect in terms of service quality is as stated by Calvert (2001:733) now emerging as a good management practice for any library. Library managers, more than ever before, should introduce cost-effective ways to make their libraries beneficial to users so that quality can be viewed as a return on investment.

2.6.2 Communication

Libraries should develop a clear communication strategy using simple language that is understood by both academics and students.

Studies according to McGregor (2008:18) following a pragmatic approach using TQM in libraries resulted in the identification of the following indicators for effective organizations: total employee involvement, continuous improvement, continuous training, teamwork, empowerment, empowerment commitment and support, democratic management style, communication, customer/citizen satisfaction and cultural change. In looking at these criteria, the two that seem to align most with other popular quality indicators for libraries are as outlined by Psychogios (2005:122), communication and continuous improvement. The search for good ways of managing the quality of library service (measuring techniques) should take cognisance of the characteristics of a good library. The important elements, such as effective communication, should be viewed as enabling systems to strengthen the library reporting system. Demands for library quality and accountability compel libraries to develop an effective communication system that not only addresses library rules and regulations but allows users to address and present their needs.

Communication strategy as a relevant measure for quality emerged in the study conducted by Kyrillidou (2002:43), who looked at library capabilities in determining the turnaround time for interlibrary loans from the submission of a request to the receipt of a book by a user. One of the major issues identified apart from the processes themselves was library communication about service outcomes. It is quite critical to understand the importance of communication between the service providers (librarians) and users at each stage of the service process. Another aspect of communication is mentioned in the study conducted by Sayery (2015:9), who approached it through the lenses of problem-based learning, service accuracy, service relevance and feedback. The study emphasized the importance of process ownership on the side of those who deliver either a service or an instruction, and a learner.

When the above is translated to the relationship between students and the library, one can deduce that learning and/or students' understanding of the role of the library should be a two-way process (librarian training students while students mastering the skill to use the library).

In this study, there was more emphasis on the "function related to collection effectiveness and efficiency" than the actual process of communication. A study by Sayery (2015:10) outlines that effective communication with library users does help library managers to improve their library collections and their relevance with respect to the users' needs. Studies conducted on the relevance of communication as a measure for quality have progressed as stated by Calvert, (1998:3; Cullen (2001:665) and Sayo (2006:39) and are still evolving. These studies promote constant communication and user involvement in shaping the relevance of what libraries do.

According to Parasuraman et al (1991:39) and Lilburn (2017:96), user expectations and perceptions are guided by how libraries communicate about their services. CHELSA (2006:5) states that. Communication channels such as word of mouth, training and prior exposure to such services help users understand what value and benefit libraries can add to their studying and learning. Statements such as these, shaped this research to avoid questions that would expect either academics or students to assess the relevance of services that they do not understand.

2.6.3 Responsiveness

Historically, issues such as the collection of books and journals framed library responsiveness and effectiveness. These things as outlined in CHELSA (2006:4) were measured by the size of the library's holdings and various counts of its uses. Ranganathan's five principles and the laws that inform the library philosophy are a testimony to the fact that librarians are quite aware that according to Safi (2019:24) "every reader should get [the] right access to the right book, at a right time for a right cause." Some progressive studies conducted in developing countries as outlined by Nitecki (1996:182) argue that "measuring quality for libraries based solely on its collections become an obsolete quality measurement indicator without user's opinions on how responsive they are in their needs and expectations". Library responsiveness to teaching and learning is compromised if the services it provides are not on par with what academics and students expect. Regarding this study as witnessed by Kyriallidou (2002:43), librarians should consider working in close partnership with academics in the promotion of students' information use and the improvement of their information retrieval patterns. As argued by Hernon and Calvert (1996:387), library responsiveness to teaching and learning can be ineffective if academics do work hand-in-hand with librarians in promoting the use of the library by students. In the context of TQM and library responsiveness, Harvey (1995:124) views quality in five ways:

- Firstly, quality can be described as being exceptional in terms of being distinctive, exceptional, and exceeding high standards of responsiveness to user needs.
- Quality can be described as consistency, especially in processes that involve service specifications that culminate in a zero-defect.
- An approach to quality and responsiveness is viewed in relation to the purpose of the product or service and how it is viewed by "aligning customer specifications, mission-based fitness for purpose to customer satisfaction".

- Quality can be described in relation to responsiveness in as far as value for money is concerned through efficiency and effectiveness, with special emphasis on performance indicators; and
- Lastly, quality can be viewed in terms of services being transformative in relation to qualitative change, ongoing continuous improvement, and customer empowerment through the enhancement of services.

The impact of a service on user needs and expectations for teaching, learning and research support in Blixrud (2003:3) are more important than they are to librarians.

The studies by Brophy and Bawden (2005:498), Heskett and Sasser (1997:203), and Sara (2015:159) recommend the design of a responsive service should that considers a set of systems that includes the people, technology, physical facilities, equipment, and process by which a service is created. According to Reddy (2017:146), the latest developments still indicate that responsiveness as a service quality dimension refers to the library or company's willingness to provide its users with good, efficient, and fast services. A South African study conducted by Kekana and Kheswa (2020:3) also echoes the importance of the connection between the services the libraries offer and what library users want or need from the library.

2.6.4 Accessibility

Online access to library collections in the views of Nitecki (1996:186), is in great demand as measures for quality in libraries. The effective use, accessibility and relevance of libraries are also elements that are fundamental to the teaching and learning success of any university. Furthermore, the study by Samson (2010:202), which looked at information literacy outcomes and success, revealed that amongst the selective evaluation resources ranked of high importance by students, was access to relevant information sources.

Earlier research conducted by Lubans (1998:3) and Burton and Chadwick (2000:310) show that the time used for information accessibility is one of the major factors influencing the breadth of the information resources students explore. Technologically driven improvements in the distribution of access to resources have seriously undermined "the bigger the better" value proposition, according to McGregor (2008:17). Accessibility has overtaken the value proposition, the fact that filling library shelves with books – no matter how relevant or used they are – are no longer valued; quality, therefore, is not viewed based on quantity, but on the relevance and accessibility of materials. Other studies such as CHELSA (2006:1); Meznick,

(2007:561); Poll (2008:128) and Ubogu and Walker (2007:20), reveal the perspective importance of the academics and students' perspectives of library quality centres around convenience, relevance, and the accessibility of library materials in various formats. The study by Sohal and Raza (2012:12), which measured the quality of library services, reveals that 61% of the respondents that were asked to rank resource accessibility as a quality measurement indicator for libraries, ranked it quite highly. The basic role of a higher education library is to provide university staff, students, and researchers with accessible (printed and online) teaching, learning and research materials. Those materials should be placed in a physically or virtually accessible environment that is simplified in such a way that they can be used in alternative ways.

The accessibility of such resources should form part of the prerequisites of information use. As Brady and Cronin (2001:34) say that the more accessible information sources are, the more likely they are to be used, users tend to find information sources that require the least effort to access. To improve issues of inadequacy, such as material inadequate accessibility, a study by Brady and Cronin (2001:35) suggest that libraries should forge a strategic partnership with academics. These partnerships should be used to guide the process of purchasing relevant teaching, learning and research materials.

The objectives were to verify how much academics and students value these services. The study by Herson, Nitecki and Altman (1999:7) questioned terminology to use when assessing the relevance of library quality measurement indicators. Library users tend not to understand the terms used by librarians, especially for services directed at them. This issue tends to negatively affect how those services are ranked. Simple terms, such as 'customer' when referring to library users as outlined by Nitecki (1996:182), sometimes confuse the users of the library. Though there is merit in using academics and students in selecting relevant quality measurement indicators for libraries, the definition of terms and or avoidance of library jargon should form part of the survey design.

2.6.5 Reliability

Reliability in terms of library performance and quality as witnessed by Coleman et al (1997:237) is the ability to perform the promised service dependably and accurately. Library users define service quality as the extent of the discrepancy between what users expect or desire and what librarians perceive to be their needs. For this study, service quality determined as the

discrepancy between the minimum, perceived, and desired levels of performance across five dimensions, which are outlined by Coleman et al. (1997:238) as tangibles, reliability, responsiveness, assurance, and empathy. Library service reliability in CHELSA (2006:6) is confirmed as one of the existing relevant quality measurement indicators for South African higher education libraries.

2.6.6 Value

According to Donald (1997:3), there are methods for evaluating services by putting a dollar value on the tangible and intangible benefits of services. These are borrowed from businesses and the corporate environment with applicability in evaluating customer service and service quality that can also fit the library environment. These include measuring money saved or productivity gains in using librarians and resources, cost-benefit analysis, and TQM. There have been various debates on the application of quality management systems in higher education that are witnessed by Zeithaml, Parasuraman and Berry (1991:39). Kaufman and Watstein (2008:226). These serves as measures for determining quality in the organizations that puts more value in what is to be achieved such as institutional value and the degree on which maximum outcomes that align to institutional benefits are attained. The pressure exerted by the information suppliers has compelled libraries to demonstrate and justify their value to their university community.

Issues such as guaranteed access and the relevance of library resources and services remain core to libraries, and they most definitely have a value that would not be associated with money in the higher education context. This would happen only when library activities are communicated in such a manner that the users would feel like using them, and access to them is reliable and responsive to the users' needs.

The study on the value of academic libraries by Farkas (2013:6) unveiled many good ideas that enable librarians to start focussing their current reliance on input and output measures on those services and resources university administrators consider significant. This study indicates that the quality of the library service should determine its value. When library services are delivered efficiently in such a way that they address the essential components of the users' needs, adding value in the users' opinion is realized. In Farkas's opinion, questions such as "how can libraries prove value?", when asked by librarians, should be infused with what they need to know when they add value. His study sees a considerable difference between coming from a place assuming

you are valuable and trying to find evidence that confirms it. Farkas's suggestions are for higher education libraries to start investing in seeking information or data that matters, such as demonstrating correlations between libraries' collections, library instruction delivered to students, the use of such collections, and student and faculty success. Such information would help higher education libraries improve their relationship with academic staff, while at the same time provide evidence of the value they add to the university's success. When a library can show a significant correlation between library usage and student achievement and academic success rate, or even if they cannot, what they can do with that data would improve their value in student success.

2.6.7 Tangible and intangible benefits

In a study conducted by Cullen and Calvert (1996) on New Zealand libraries, tangible factors such as the physical appearance of the library facilities (building), the usability of equipment and services, the repair/fixing of materials, and the appearance of personnel were found to have a significant effect on perceived quality. This also is confirmed in the study conducted by CHELSA (2006:3) and White and Abels (1995:36).

2.6.8 Research conducted with user-centric quality measurement indicators

A few studies conducted on related topics have used a similar approach of engaging library users. However, even though quality measurement indicators are reviewed from the users' perspectives, missing in these studies is the original thought on the design of a quality measurement instrument. This study therefore aimed at filling that gap. While there is a series of literature that demonstrates the role of the library in learning and student success, the following readings are useful sources for librarians and academics in their quest to explore how libraries contribute to teaching, learning, and student support. They also provide evidence of how these roles can be fulfilled.

Table 1: Studies conducted with user opinions on library quality measures

Author/s	Relevance to the study
Edwards and Browne, 1(1995:163)	This study sought to strike a balance between a user-centred and a librarian approach in measuring library quality. It addressed question such as to what extent the services of the library meet or exceed the user's expectations.

Shaughnessy (1993:7)	The article discusses the use of TQM in higher education libraries and focuses on the identification, collection and use of reliable data. The outcomes of the study suggest that, amongst the methods for measuring library quality, indicators such as benchmarking of resources, services and staff should be employed by libraries as part of quality and continuous improvement.
Lincoln (2002:3)	The purpose of this study was to assess user perceptions of the library quality measurement indicators employed by ACRL(2010b) in America. The study findings reveal that users of the library prefer libraries to improve services that are related to collections access and service relevance to the needs of the users.

The results of the study by Edwards and Browne (1995:166) showed that academics and librarians have similar expectations, but that there are differences in the emphasis each group places on aspects of service ratings (reliability, responsiveness, and accountability). The study acknowledged that librarians have recognized the need over the past decades to apply quality management processes to improve and enhance their service and library products. One of the approaches as stated by Parasuraman, Zeithaml and Berry (1985:41) included the adoption of some of the quality measurements listed in this study, namely reliability, responsiveness, accessibility, communication, credibility, and tangible, understanding and knowing the customer's expectations. The results of the study by Shaughnessy (1993:2) gave another dimension to the assessment of library quality in terms of which performance measures coupled with benchmarking are also alternative ways of assessing total quality. The study by Lincoln (2002:3) shows the importance of certain services as library indicators for quality.

Some of the indicators include the library as a study place where learning study material, studying, and research for papers is pursued. The library does have the potential of meeting the symbolic need for a home away from home, with the interaction between librarians and users symbolizing home and neighbourhood, schooling, and intellectual experiences, and the library becoming a temporary another habitat. Between formal classes, libraries are found to be convenient places for study. This study showed the importance of the library facility as a quality

measurement indicator; its relevance should be explored through the users' opinions. Based on Shaughnessy's (1993) study, the following questions are quite pertinent to gauge the views of the library users on the effectiveness and relevance of a quality measurement instrument. Shaughnessy also covers a broader spectrum of quality issues, such as the invention of technology and how it affects the role of libraries, transition in the role of universities as places for the dissemination of knowledge to business enterprises that need librarians to be responsive to taxpayers' needs. Lincoln (2002:4) argues that a library service is not something one acquires and distributes, it is rather an enacted service. It is because of such enactment that when the library components are not working (quality-wise) they affect the previous experience of its users. Though the study did not have a hypothesis, however, claims such as these warranted further exploration on what quality service statements matter most to academics and students than those prescribed by librarians.

2.7 Multi-Theoretical Framework/s

In arguing for a multi-theory approach, Wilbur (2003:209) asserts that one of the fundamental components to achieving a holistic approach is taking an individual aspect of a theory and combines it with another theory to produce a meaningful principle. A theory, according to Ngulube (2019:1), guides a researcher to explain and locate its reality which is more associated with its subject discipline. In the context of this study, TQM, GAT, and the customer knowledge cycle model (CKC Model) were adopted to investigate the relevant quality measurement indicators for libraries using a holistic approach. TQM encourages inclusivity, with libraries communicating with and involving their users in quality and continuous improvement.

GAT acted as a hypothesis, as it informed this study about the five gaps that usually suffice in studies of this nature librarians and users, users themselves, and differences of opinions between librarians. How these quality service dimensions are used in framing other libraries' quality is acutely described in this study Section 2.3 in Chapter 2.

The third framework that is the CKCM was adopted for the study to show the importance of user's opinions in framing library quality. The cycling of user knowledge aligns very well with the way academics and students repetitively use libraries for one or the other reason. The adoption of CKC Model guided the study to understand that relevance of library quality measurement indicators would never be viewed the same by academics, students, and

librarians. In each of the three studies, important stakeholders have their unique perceptions of what an effective library should do.

The study by Griffiths and King (1993:3) and Kaplan (2002:2) confirms that the adoption of multi-theoretical frameworks on library quality studies, library evaluation, and user satisfaction studies on library services does yield positive outcomes in terms of gathering use diverse thoughts. The three theoretical frameworks adopted for this study, namely TQM, gap analysis, and the customer knowledge cycle, align with a constructivist approach by tapping into the previous knowledge and experience of library users. It is therefore expected that, through the infusion of these new interventions and services into higher education quality measurement indicators, academics and students could indirectly see their importance and, in turn, the researcher will determine the level of understanding that the academics and students have of them through their use.

As proactive as they are in their nature, concerning digital content management and support for e-teaching, e-pedagogy, and e-learning, including the transformation of library resources from print to electronic resources, the success of what higher education libraries do depends solely on the exploitation of such services by academics and students. With the many new dimensions in which librarians and their role in teaching and learning support for users are perceived, issues such as the library service as a return on investment, value-added services, and embedded librarianship with evidence practice, are strongly emerging as aspects that will form activities that might warrant assessment.

Some of the arguments question whether libraries have any role in the teaching and learning success of students. It was quite evident that an argument such as this prompted probing on how aligned library services are with student learning.

2.7.1 Contextualization of multi-theoretical frameworks

One of the fundamental components of holistic theory is that individual components can be combined to produce something beyond the sum of those components (Wilbur, 2003). In the context of measurement and evaluation, it means that a more thorough knowledge and understanding of a system can be gained from combining different measures than can be derived from taking those measures separately. Studies conducted in library measurement, library evaluation and quality measurement by Herson and McClure (1990:3); Kaplan (2002:1) render good and effective results if more than one theoretical framework is used.

The effectiveness of this inter-connectivity is witnessed by Griffiths and King (1993:6) where the views of the users or consumers influence the choice of materials to be acquired by the library. Central to the multi-theoretical framework is the value of communication placing the customer at the centre of a decision to be taken with aims to satisfy their needs and or meet their expectations.

The study by Sudhana, Ameen and Isaac (2020:1009), Ngulube (2019:1) reveals that any study focussing on assessing or gaining an understanding of the people requires a theory to underpin their needs and expectations. The theoretical underpinnings of the study based on these scholars hypothesize that people which in this study are (academics, librarians, and students) form their interests and choices by focussing on several cognitive variables such as self-efficacy, outcome expectations and goals as well as how such variables interact with their environment. Gauging on this study one can easily deduce the centrality and importance of a customer to the formation of a decision related to his /her learning environment.

Various studies marry the dominant concepts of customer satisfaction and service quality, and expectations and perceptions are always joined together. It is through triangulation that quality managed libraries tend to satisfy and meet the expectations of their users. The management part act as a subcomponent of input, while the services of that library are linked to processes, with customer satisfaction and effectiveness associated with output. The intermarriage of the TQM, GAT and CKC Model also address the holistic approach used in this study. Some of these themes, such as user communication, which centres around their satisfaction with the library when services of the library take consideration of their needs and expectation does feature on the study findings. Suggestions on what the library should do to gain the confidence of the users and to win over their perceptions came across in various parts of the study findings (quantitative and qualitative results). The user-centric approach in selecting the services of relevance to the users also came out quite strongly as an element for the improvement of libraries.

When librarians do not understand the needs of their users and cannot speculate their expectations, that notion aligns with GAT. Based on the issues outlined in these tripartite theoretical approaches, corrective measures are needed to ensure that libraries put people (the users) first to be able to address service gaps. Through those measures, the selected quality measurement indicators for libraries would yield positive outcomes in improving library quality and user expectations. Research conducted by Begum (2003:2) on TQM, GAT and

CKC Model showed that these theories are gaining popularity in library and information studies, especially those that have implemented quality measurement matrices such as LIBQUAL. The components of these three frameworks as outlined by Nicholson (2004:165) when merged do address the nature of the library, its users and its evaluation norms that place the user central in-service quality and continuous improvement.

The totality of the quality service loop which is covered by TQM principles suggests that the library without users' opinions in its service plans subject itself to creating a gap between what it does and what users expect of it. While Nicholson (2004:166) claims TQM as having some limitations when applied as service quality, its strength is derived more from merging with other frameworks such as GAT and CKC Model. In contrast, Shrader-Bogen, et.al, (1997:1977) outline positive accounts of TQM as having a proven record of accomplishment of success for its coverage of pertinent elements such as resources, processes, staff, and communication, which locate it well in relation to libraries, which are expected to use their users to consume or receive and be satisfied with the service.

However, it is important to unpack what TQM is and what it is not. One of its substantial benefits is its totality, which revolves around the library setting the resources, services and activities based on the users' needs and expectations for relevance. In this way, three facets that characterize TQM related to costs, schedule and performance become non-threatening, when replaced by the core library services whose impact could be experienced with immediate effect. This investigation of relevant library quality indicators from the users' opinions and the librarian's point of view implies that their previous experience of using the library, combined with the librarians' rendering of the service, becomes beneficial to inform the process of choosing criteria for evaluating its quality. Nicholson's (2004:166) study advocates for a three-way approach to holistic library quality by using an input-process-output approach. The infusion of these three steps in identifying relevant quality measurement indicators revolves around evaluating the relevance of services offered by the library as quality measurement indicators that can be used for accreditation of libraries. This study therefore considered input as the resources and services set by libraries to ensure quality, process – as the systems put in place by the libraries for resources and services to be accessible and or engagement between the librarians and output - being benefits derived by users out of the services rendered. The output therefore does include user experiences and/or their feedback on whether the services meet their needs or not. This study took considerable advantage of Nicholson's three quality steps, by using the steps to guide the formulation of quality measurement indicators whose relevance was confirmed. The study did take into consideration the importance of the users

with the operational librarians in shortlisting relevant quality measurement indicators for higher education libraries. The diagram below depicts how these three frameworks are envisioned when merged while developing a quality measurement system.

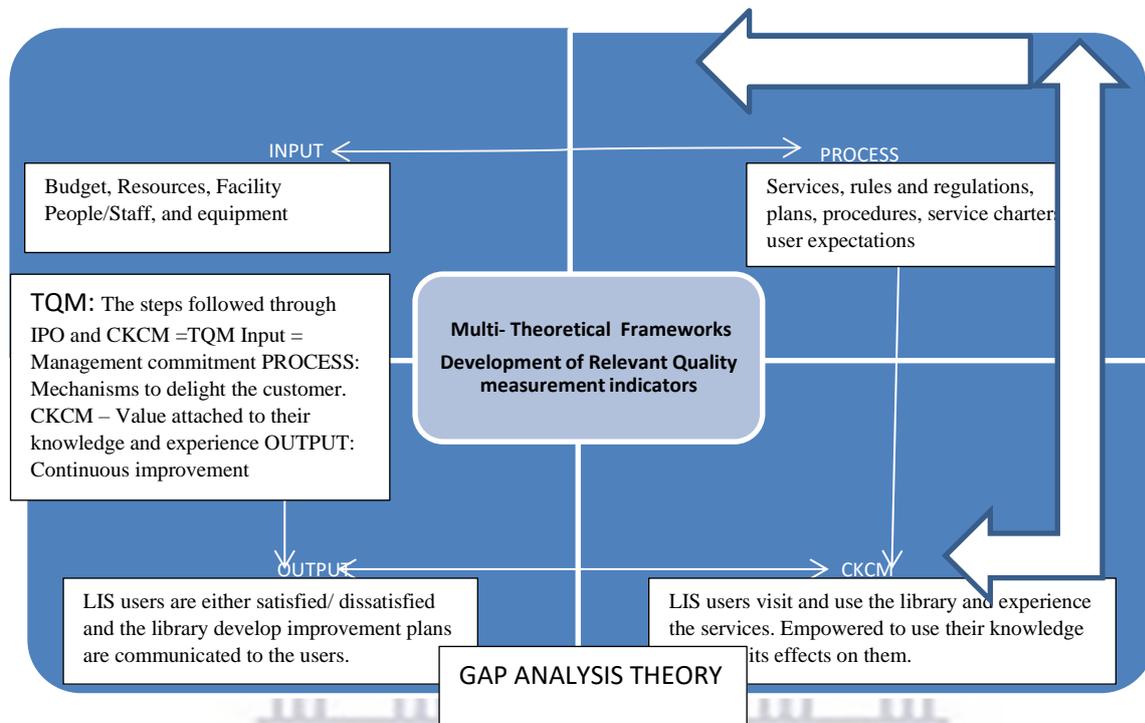


Diagram 2: multi-theoretical frameworks , Nicholson (2004:166)

2.7.2 Input-process-output

Various studies marry the dominant concepts of customer satisfaction to service quality, and user expectations to perceptions and it is means to an end of the customer knowledge management cycle. Quality as a principal values communication, valuing of customer expectations and perception, while customer satisfaction occurs when the service needs meet user expectations. When user expectations are managed, perceptions are also managed. The management of these processes implies that the libraries' input combined with processes aimed at meeting user needs as stated by Nicholson (2004:166), lead to customer satisfaction that in turn results in output that completes a totality in the quality management system does confirm the importance of the CKCM. The study by Van House (1989:268) and Van den Bekerom, Schalk, and Torenvlied (2017:1) indicates that the extensiveness and effectiveness of library services delivered (input), and the process which involves communication, are the most difficult attributes to measure, and the effects of the services provided to the library clients

(output) guide the evaluation process. Nicholson's (2004) and Van House's (1989) observations resonate with the principle of performance measures that responsiveness of the service is understood as an after effect, yet relevance to several kinds of measures could be reflected after several experiences on the performance of an organization. To premise this argument in this study, libraries in university environments do not exist in a vacuum.

What libraries do and plan for library quality should form part of their university's plans. There must be an interrelationship between the internal library processes (input) – what the library does, the process activities that are facilitated by librarians in delivering the service, and the external system (output) what the library needs from external sources to fulfil its entire role. In cases where there is a direct link between the internal and external support system for higher education libraries, it becomes clear that the quality and relevance of activities in supporting the outcomes of the university. In alignment with this study, these arguments relate very well in considering the study approach, of investigating how successful the library is in meeting the needs of academics and students. The intertwining of the library's internal processes and external processes using librarians' understanding of what they do to determine whether they match the library users' expectations did try to expose gaps. Studies conducted by Aper, (1994:1) and Whitmire (2002:107) which investigated the relationship between academic library performance measures, library use, and student outcomes, invented the principle of "the greater the academic library resources, the higher the gains in students learning outcomes". The diagram below, from Van House (1989:270) and customized to fit this study, illustrates how important the intertwining of input-outcome-processes is, to a study with a multi-theoretical framework.

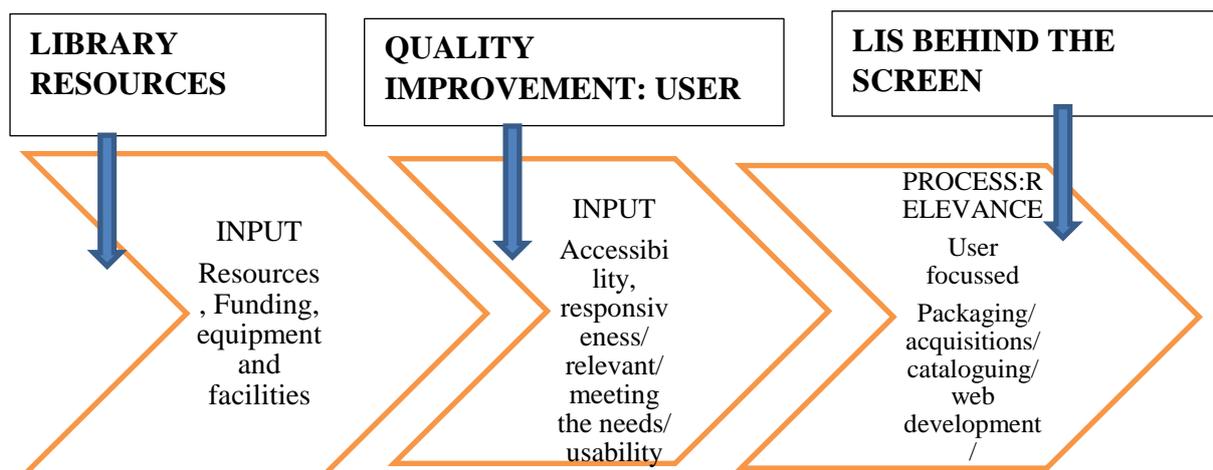


Diagram 3: Input-Output-Process: Van House (1989:270)

The diagram above reflects an ideal approach to how librarians would put resources and systems in place with their users playing a part in ensuring that these resources are effectively used to benefit their teaching or learning outcomes. The process, according to Parasuraman, Berry and Zeithaml (1991), is situated on the triangulation that ought to be beneficial in studies where librarians' opinions of their services are analysed and compared to their library users' opinions. The adoption of TQM and the gap analysis and CKMC looked at each framework's component gap and deemed them fit to address the principle of input that seems well placed with TQM, output - that will be addressed by gap analysis with assumptions that gaps could give birth to a holistic view of measurement relevance. On the other hand, gap analysis works much better by assessing the outcomes of library services using customer knowledge (the CKMC model). This tripartite alliance with quality management frameworks was and is still, as outlined by Cullen and Calvert (1996:11) still considered one of the best methods of matching library service provision to user expectations. Some benefits of these frameworks are discussed in the next section.

2.7.3 Total quality management

The application of TQM in higher education as stated by Deming (1986:4) is more than an academic exercise and takes an integrative approach for assuring quality in an organization following the following four principles: delight the customer, communication, management by fact, and people-based management.

TQM, as defined by Cooper, Leung, and Matthews (1996:1), is a management philosophy driven by customer needs and organizational commitment to the continuous improvement of quality. According to Sherr (1991:1), the key fundamental principles of TQM evolve around customer focus; customer satisfaction implies that the more attention is given to their involvement in framing internal processes, the better the outcome in accomplishing common goals - the involvement of internal customers, as was considered relevant to this study, as the surveying of them was informed by this principle. Millson-Martula and Menon (1995:33) advocate for academic libraries to develop programmes and services that meet and exceed their university teaching and learning needs. That will provide a guarantee of their survival and relevance of their quality. The overarching goal for doing so should be to satisfy the needs of their users. Osburn (1984:315) did research using TQM, and his study took a new direction that perceived users' involvement as seriously overstepping the libraries' compliance with their professional norms and standards – an element that painted a negative picture, especially when the quality measurement was addressed. Osburn's study disregarded the user-centred approach that is encouraged through the customer focus in TQM.

The claim that TQM was established for for-profit businesses is now history, as its application to non-profit organizations such as higher education libraries has discernible positive outcomes. Research conducted on the adoption of TQM in libraries includes work by Gaspen, Hampton and Schmitt (1993:15), with Wang and Shieh (2006:193) describing how TQM is applied to libraries. TQM as a management philosophy as outlined by Gaspen, Hampton and Schmitt (1993:15) embraces all activities that are credible to the needs of the users and the community, as long as the objective of an organization is met in a cost-effective way. Wang's, (2006) latest study asserts that TQM is a system for continuous improvement that employs a prescriptive management-centred approach to the needs of the customers and contradicts Osburn's (1984) view. The researchers could attest to some element of progress and positive thinking on how TQM was conceived. While the definition of TQM by Wang (2006:606) contradicts that of Gaspen, Hampton and Schmitt (1993:16), and Osburn, (1984:315) by excluding a customer-centred approach in his TQM definition. Wang (2006) describes TQM as a system that can be worked out as pieces of the puzzle to create a whole piece to claim its totality. The decentralization of the processes in Wang's definition infers in practical terms that, each department in a university would have to manage its quality based on services prescribed by the university than looking at the quality in terms of user needs and wants.

This research did take cognizance of the developments in the adoption of TQM in studies looking at designing quality measurement indicators for libraries. The principle introduced by Gaspen, Hampton and Schmitt (1993:18) imply that any organization that is traditionally divided into different sections or departments, such as a university library, should work with others to ensure the totality of the quality. One department would compromise quality if the university's quality were singled out according to its performance instead of reviewing it as a whole. This study asserts that the relevance of library quality should be viewed in concert with how interrelated library operations are to the users to give a holistic approach. Considering how information technology affects library operations, these interrelationships could extend from only faculties to departments to complete the teaching, learning, and research principles.

The totality in terms of quality management puts more emphasis on the importance of consciousness of the whole working process, with each unit doing its things very well in its ways. The most important foundations or success stories of TQM are clearly outlined by Mullen (1993:91) through five commonly advanced themes that would need to be applied to higher education libraries. These themes are customer focus, systematic improvement of operations, developing human resources, long-term thinking, and commitment to quality. In the researcher's opinion, Shrader's (1995:26) assertion does align with what the study aimed to achieve, quality to subscribe to the TQM principles, should be defined in terms of the customer, not internally preordained objectives.

2.7.4 Adoption of TQM by libraries

Deming's theory of TQM (1986:1) is premised on the belief and principle that quality ought to be what the user expects to inspect. Deming emphasizes the importance of measuring and testing to predict typical results. The figure below visually describes how the key constructs of TQM link to one another to create a holistic view.

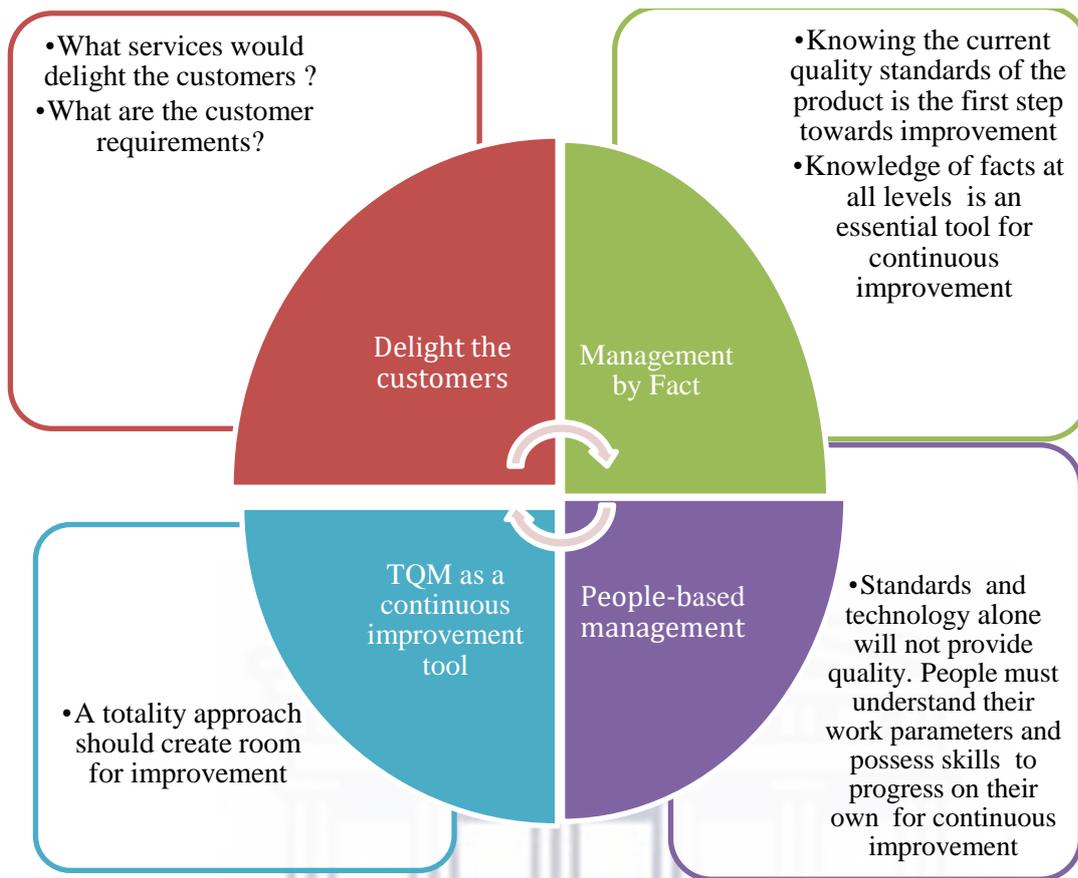


Diagram 4: TQM, Deming (1986:1)

TQM is one of the quality measurements tools that went some way in business but ended up being seen as valuable for higher education libraries because it measured money saved or productivity gains in using services and resources as cost-benefit analysis to guarantee the totality of the quality loop. The study by Hackett and Sasser (1997:6) argue that there are methods for evaluating services that attempt to put a dollar value on the tangible and intangible benefits of service. These are borrowed from businesses and the corporate environment and have applicability in evaluating customer service and service quality that can also fit the library environment. TQM adoption has been popular in developed countries such as Japan, the United Kingdom, and the United States. Its adoption in these countries started receiving attention in libraries as far back as the 1990s Groenewegen and Lim (1995:6). Theoretical explorations and experimentation of this theory in libraries resulted in a widespread understanding of libraries as the fast-growing and changing entity in society. In terms of the rapid development of technology, the literature and practice on this aspect have seen both favourable and opposite arguments. TQM amongst library professionals is assumed to have the potential of bringing

not only a conceptual challenge to the conventional wisdom of library management but a broader scope of libraries as businesses.

As stated by Shrader (1995:26), TQM, with its good and bad attributes, epitomizes what would take libraries from doing business as usual to the implementation of what library customers want and expect from them. TQM, with its new focus on what library customers want and expect from the library, could have been disruptive, while there has been a flux of research on library quality management and performance measurement. Librarians in the views of Osburn, (1984:315) are still very comfortable in assessing their impact rather than gaining library users' opinions on what their needs and expectations of the libraries are. The adoption of TQM for this study was mindful of the gap in the subject; a conclusion was drawn that the adoption of TQM in designing an instrument for the measurement of quality in higher education libraries would add value to the library and information service field and higher education studies. Progressive research conducted by a South African researcher, Sayo (2006:45), assessed the impact of LIBQUAL, which is an online tool designed for evaluating libraries using library customers' views, although the study is rather silent on TQM and its adoption in the field. De Jager (2006:109), who is considered one of the founding members of the measures for quality adopted by CHELSA, also wrote on the adoption of the ACRL quality measurement instrument that looked at collecting data for the benchmarking of libraries.

The study De Jager (2006:110) conducted added a great deal of value to quality management approaches in South Africa and informed the direction this research took. De Jager's study on library quality measurement also does not include accounts of academics' and students' perspectives invalidating the CHELSA measures for the quality she designed. This research, therefore, builds on what she started in guiding higher education libraries to developing the existing measures for quality. The difference between her study and this research is that the development of quality measurement guidelines in her study focussed on library managers' views, while this study has modified that approach by involving academics and students. Hers was, however, a noble approach, as it managed to guide the HEQC to introduce library quality guidelines that are currently used for library accreditation. Based on the number of developments that took place ever since the guidelines were developed, so much has changed in higher education and libraries that it warrants their review.

The research by Shrader-Bogen, Kjellberg, McPherson and Murray (1997:1978) assert that the relevance of quality measurement indicators for libraries should be guided by the involvement

of university stakeholders and the development of quality standards and criteria for evaluation. Although the thinking of Deming (1986:1), who is one of the founders of TQM, focussed on business, his discourse was coined from understanding the system of working with products, services, people, and profits. Deming uses service industries when describing the relationship between customers and services. Good service and happy customers as by Deming (1986:2) are the measures for business success and quality; an unhappy customer may bring loss to a business. About libraries, the negative whirl brought by unhappy customers could be associated with a decline in its credibility to users. Methods for assessing library quality as stated by Poll (2008), have been evolving over several decades, with a special emphasis on user orientation, speed, accuracy, reliability, cost, and effectiveness. In approaching this study, the researcher saw the importance of exploring other case studies conducted on library performance, as 'quality measurement' and 'performance measurement' seem to mean the same thing in library quality studies. Shrader's (1995:27) TQM approach looked specifically at leadership, which is one of the most important elements to promote the diffusion of authority rather than the relevance of the instrument in the opinion of its users. Gaspen, Hampton and Schmitt (1993:17) also paint a very clear picture of TQM by unpacking organizational quality into customer perceptions/expectations and satisfaction.

What is missing in these studies, however, is how this process can be applied in the higher education library environment and how it could address the holistic approach in which the voices of library stakeholders can be instilled into the management of the library. Even though Gaspen, Hampton and Schmitt' study further asserts the importance of cultural and organizational transformation, customer identification, and the student's role, the most significant part of the study only addresses library leadership, while ignoring the relevant, effective, and efficient part that would be discovered through service evaluation. The third aspect, which deals with customer identification, makes the entire study more complicated, especially when it starts putting a series of role players such as administrators, faculty, and students into the same basket as primary role players in ensuring library quality. It is quite evident that, in this study, the tensions are between faculty and administrative staff with whether students qualify to be called customers or not. This is in contrast to business organizations, where 'customers' implies one group of people (i.e., consumers of a product on sale). In contrast, in higher education, the use of the term 'customer' to refer to students is argued against due to the understanding that teaching and learning are not similar to business transactions.

The above gaps in the literature consulted on this subject mooted the pursuance of this study. With higher education gaining funding subsidy through institutional growth in terms of the student population, and research output and institutional reputation in terms of student success rate, arguments against the implementation of TQM in higher education could be invalidated. Reasons for nullifying it would include the notion that the greater the number of students, the more sustainable the institution becomes. In contrast, if we look at institutional growth by taking cognizance of the quality of the teaching and learning outcomes of that institution, we would be missing a point as far as quality and efficiency are concerned. It is quite impressive, despite critiques of TQM implementation in higher education, to see the study conducted by Shrader (1995:26) regarding this topic giving some positive accounts of TQM implementation in higher education. Schrader's study followed a quantitative approach and focussed on examining different views on the applicability of TQM in higher education. The findings resolved the following issues: students in a higher education environment do act as internal customers and labourers in the learning process. The reason for calling them labourers in the learning cycle is due to the dual role they play in the receiving and construction of knowledge. It was against this background that their views are considered important.

Through these arguments, it became quite evident to see how the integration of the library into learning affects student success. A study conducted by Everest and Payne (2001:18) draws its sets of conclusions on how the library affects learning, teaching, and research. This study mentioned that libraries are operating in an ever-changing environment in which people, services, and needs are constantly evolving, so how they plan to measure the quality of their services should follow a user-centred approach.

It also emphasizes the importance of research conducted by libraries and how it would add value if they could start looking at the assessment of the impact of the library, rather than just measurement. TQM, as stated by Groenewegen and Lim (1995:6), is not just a system of quality assurance, but a system of management that revolves around the application of the administrative cycle time reduction methodology to library processes to ensure their relevance and meeting the expectations of users. This was pursued in concert with the notion that users do not have time to wait for library services; any time spent waiting for services affects library quality. Measures of student engagement that are covered in the TQM loop outlined by Deming (1986:3) are currently being recognized as 'quality indicators' for higher education systems. The engagement system that has been applied to students, academics, and librarians brings a

holistic view to this study. One of the benefits of TQM is that it supports user education and training, sufficiency, and the convenience of the physical and virtual infrastructure of the library. Although its scope of coverage when it comes to addressing important elements that make an organization effective is sound, TQM also comes in with some criticism for its failure to address some of the critical components of quality, the researcher will not dwell on them. This could lead an organization into a disaster, such as the misinterpretation of the goodwill of library services. Before setting expectations for libraries, it is very critical for institutions to have a holistic picture of what their funding, space, and staffing complements are, as these elements might be limited to achieving quality in their totality. The adoption of TQM as suggested by McGregor (2008:17) can be traced back to the 1990s, with its original inception in business organizations. Its strong evolution across the globe started spreading through service companies and eventually to non-profit organizations such as government and higher education. TQM is a quality model for higher education that addresses critical issues that are the guiding force for any organizational success. These are customer focus, employee involvement, and training, and continuous improvement tools.

To locate those elements in library practice, the importance of customer focus to the library and information services is asserted by Millson-Martula and Menon (1995:33) as services that have a superior quality from the users' perspectives. The library environment from the users' understanding of it involves services with built-in interrelated elements, such as user expectations, library performance, and user satisfaction. While higher education libraries need to meet customer expectations, this usually involves no more than the mere provision of the right product for the right user at the right time.

Although understandably, higher education institutions are home to learning and knowledge creation that is fulfilled through research, it is ironic that the implementation of TQM has not been specific on how library quality can be measured and assessed in these areas. Arguments that provoked questions on how TQM implementation in library services was delayed in its implementation in higher education libraries need to be interrogated further to rationalize the reason behind these questions. Wang's (2006) study on TQM implementation in Japan, asserts that the literature on the adoption of TQM in higher education, and specifically in libraries, has been torn between favourable and negative perspectives. The positive elements commend the value TQM adds to users and the importance of their voice and opinions on service quality.

On the other hand, the negative part condemns its association of user benefits with financial gains. TQM in libraries, as stated by Sherr (1991:1), is of significant value because of its ability to look at the library quality in totality rather than single-handedly. This totality does complement the holistic approach that the study is taking. Academics are the masterminds of teaching and research in higher education, while learning is core to students' interests, as are librarians in facilitating library support. TQM is anchored on the principle that libraries that take cognizance of customer satisfaction and place customer requirements for their products ineffective management systems that condone continuous improvement while placing people first stand a chance of being awarded unconditional accreditation during quality evaluation.

2.8 Gap analysis theory

Gap analysis defines service quality in terms of the gap between the services the library should according to Boulding, Karla, Staelin and Zeithaml (1993:7) provide customers' perception of what those services should be. GAT assumes that a smaller gap in the quality of service in higher education implies the minimum standards of what ought to be for an institution to run effectively. According to Boulding et al. (1993:8), the notion of a gap in terms of customer satisfaction can be defined as the "post-consumption customer satisfaction/dissatisfaction (CS/D) can be defined as the consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption. In other words, to identify the gap between the users' expectations and the current perceived status of library service can consider the theory's importance as a basis. Further developments took place as attempts either to review the gap between the library user's expectations and perceptions and the findings affirm despite a positive rating of certain library services these gaps between what the user's expectations and perceives still suffice, an element that suggests according to Neshat and Dehghani (2013:45) the way the library organization is framed. Library users are not trained librarians but service recipients their understanding of the library and what it ought to do their expectations of a given service as stated by Mukuvi (2014:2) are always influenced by what they heard or read about on the library advertisement of service and mostly their previous experience of that service. The study by Kekana and Kheswa (2020) affirms on their recent study investigating the gaps between post graduate students' expectations and perceptions of library quality service, that these gaps persist and librarians still need to find ways to mitigate them.

The analysis of these gaps is much easier than other quantitative methods, which tend to ignore users' views. In an attempt to rationalize this theory for this study, there is a direct connection between meeting customer satisfaction, the communication of set objectives for the task to be performed and achieving quality and excellence in any service to be performed. Quality measurement is pursued continuous improvement in a library. However, GAT has a negative reputation for bias in assuming that quality reviews are done when problems and anomalies occur in an organization. In higher education libraries, where the beneficiaries of such services define the quality of service, gap theory analysis is used specifically to create an understanding of areas of concern that must not be taken for granted to improve service quality. This study's use of these major two stakeholders who are to determine indicators of service excellence (quality) in libraries was aimed at bringing a holistic view on developing criteria for assessing library quality. The measurement of library quality should consider service evaluations, user satisfaction, and opinions about the importance of each service. As quality is all about delivery, effective and efficient service is of vital importance for consistency to measure and evaluate the services rendered.

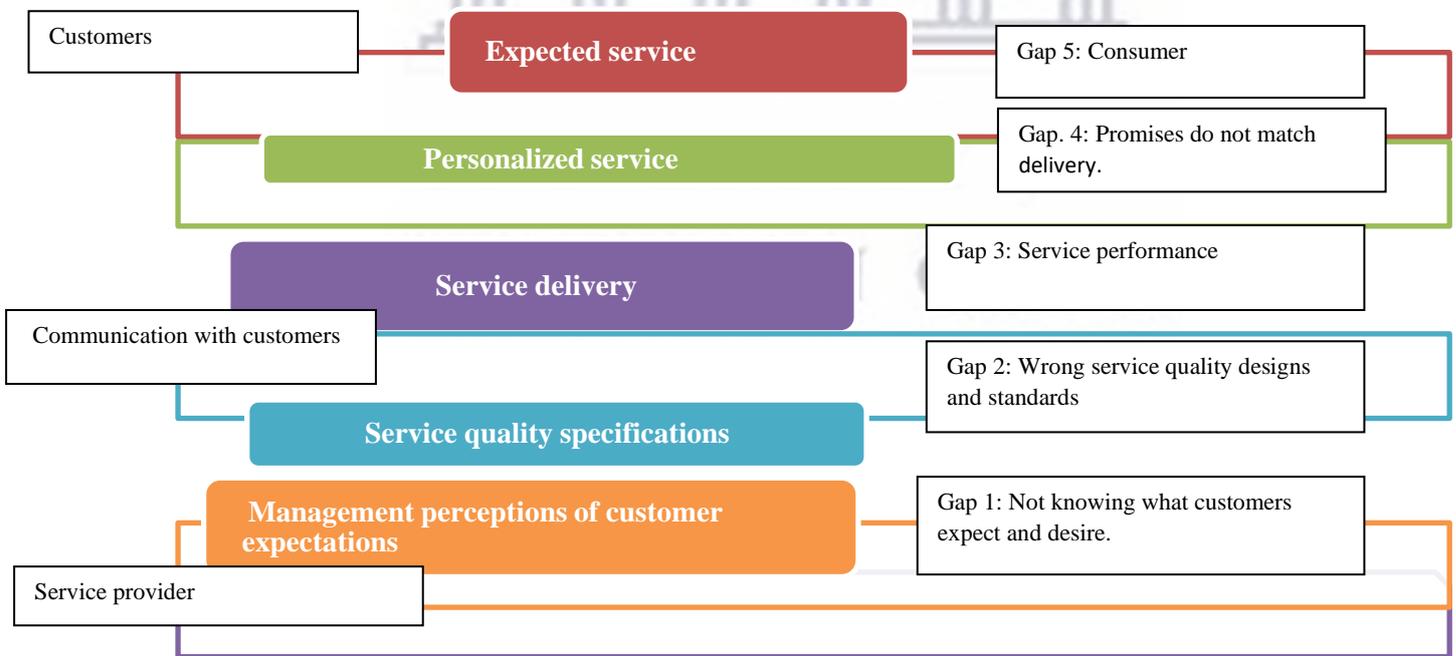


Diagram 5: Gap Analysis Model Theory by Zeithaml, Parasuraman and Berry (1991)

In an overview of the history of gap analysis, Zeithaml, Parasuraman and Berry (1991) traced it back as a theory that was designed based on the assumption that the lack of customers'

knowledge of what to expect from the library service can result in either the underscoring of library quality or the development of irrelevant quality measurement indicators by librarians. In a nutshell, this theory implies the following:

- Gap 1: Highlights the case where libraries fail to understand what customers expect from a service and which feature are needed to deliver high quality service.
- Gap 2: Libraries' perceptions vs. service quality specifications.
- Gap 3: When libraries know what the customers want but are unable to develop systems that deliver the needed service.
- Gap 4: When libraries' service specifications have been designed incorrectly, thus causing the librarians to deliver inappropriate services; and
- Gap 5: Libraries' service delivery vs. external communication- when inaccurate or incomplete information is given to customers and expectations are too high to be met.

The study by Nitecki (1996:181) used this GAT and applied it as another dimension in evaluating and measuring library services using a diagnostic tool called SERVQUAL. Before that, Parasuraman, Zeithaml and Berry (1985:41) proposed another service quality model that looked at gap analysis and identified the most five critical components of service quality that focussed on service: tangibility, reliability, responsiveness, assurance, and empathy. Nitecki (1996:190), on the other hand, identified the gaps in service quality of the service organization, which describe five gaps during the service expectation until the actual service delivery is accomplished or complete. His study also looked at SERVQUAL and how its application as a library quality measurement would contribute to an improvement in service. Quality, as seen by Nitecki (1996:189), becomes meaningful only if its application is aligned with the entire governance of an organization. Briefly, Nitecki affirms that, as libraries do not operate in a vacuum, any quality measurement matrix they adopt must receive the blessings of the service recipients to be effective. In other words, what they do and the services they provide should add value to the intended constituents. The most significant part of Nitecki's study is that he feels it is important to trace the library through its traditional role, which its collection, size, and breadth of subject coverage. His findings show that the collection sizes and breadth of subject coverage were considered relevant as quality measurement tools or indicators. His study also showed that collection relevance was considered more relevant than size.

Issues such as these make a lot of sense, especially if this quality measurement matrix can be applied in South African higher education libraries whose funding formula is uneven and

uncertain. Identifying new ways of selecting library quality measures and monitoring its attainment in the views of Nitecki (1996:182) is part of the current challenges faced by libraries; hence, this study was pursued. In a critical analysis of the literature written on quality measurement indicators for libraries, the researcher came across a series of studies on the measuring and assessment of libraries for customer satisfaction and library effectiveness, with a void in library relevance or investigating the relevance of quality measurement indicators based on the views of academic staff, librarians, and students.

2.8.1 Adoption of GAT by libraries

The adoption and critical analysis of gap analysis by Nitecki (1996:188) used a set of five attributes that are focussed on using service organizations linked to customer perspectives, and it was that dimension of his study that made it more for this study. Nitecki's study gave substance to why this framework was viewed as relevant to inform my research. What was found revitalizing in Nitecki's study was the fact that its adoption in New Zealand took place three years before Zeithaml, Parasuraman and Berry (1991) designed it into the table that was used to guide this study. The influence of Nitecki's study resulted in the adoption of some components of his study in the South African higher education setting. The framing of the questions on the questionnaire and the context of the services offered by the library were adopted from the customized questionnaire used in Nitecki's New Zealand study. The third statement outlined by Nitecki (1996:182) relates to "balancing customers' expectations and perceptions while closing the gap between them as an essential element that helps organizations aiming at providing high quality service".

2.8.2 Customer Knowledge Cycle Model

The CKC Model, according to Parirrok and Fattah (2009), has two major components that are most important in the development of a quality measurement matrix or indicator for libraries, and those components are the views and experiences of library users. A study by Daneshgar and Parirrok (2012:7) on the adoption of CKCM by academic libraries is aimed at bringing to the library, user's perspective or knowledge gained through using the library's, therefore, is a generic, integrated model for managing knowledge, which is in higher education library could be associated with an integrated planning process that takes cognizance of the library users' input when services are still crafted. The constructs or concepts outlined on the multi-theoretical approach give this study a holistic view of the issues, such as input-process-output,

which can be simplified by questions such as, what has to be in place for quality measurement indicators to be developed? To try and address this question Minna and Aino (2005:2) asserted that the easier way to differentiate between customer knowledge, customer data, and customer information in databases is to determine whether knowledge that is disseminated and shared delivers profitable relationships between the service providers and consumers. In this study, CKC Model is viewed as an investment that the library makes by exposing its services to customer evaluation.

The study by Xu and Walton (2005:1) discovered that using customer knowledge management enables organizations such as libraries to improve customer satisfaction, retain existing customers, improve lifetime value, provide better strategic information to sales and marketing to attract new customers and save costs. These concepts are explored further in the discussion of the key constructs of this study in the sections on data collection and analysis. This was pursued to create a powerful line of inquiry that will make a greater contribution to the understanding of the structures and processes of effective quality measurement systems for higher education libraries. Expectations are further claimed by Parasuraman, Berry and Zeithaml (1991:39) to be formed with the aid of different sources of information, which include prior exposure to service, word of mouth, expert opinion, publicity, and communication. The description of the sequence of events that leads to customer satisfaction relates to various activities performed by the library and information services. The library customers' expectations of the library service are always framed by the prior need for the service or resource.

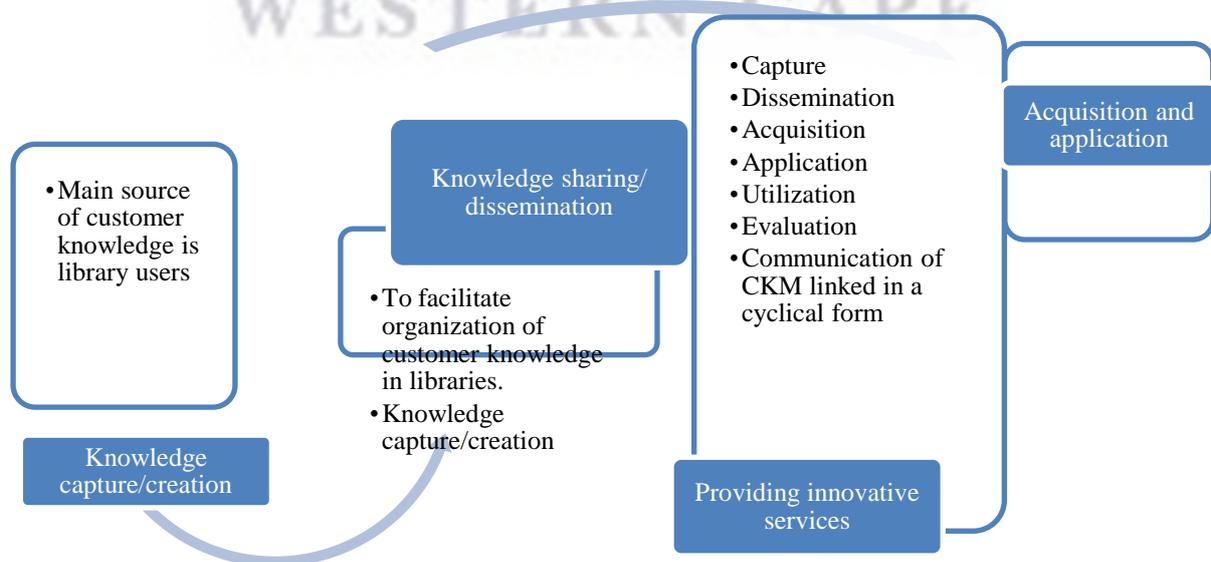


Diagram 6: Customer knowledge cycle model by Parirrok et. Al. (2009:2)

Some of the benefits of choosing the CKC Model for adoption in this study include its unique components that complement gap analysis and TQM. They include emphasizing the importance of recognition of previous experience in understanding the activities of higher education libraries.

Regarding the investigation of quality measurement indicators by academics, librarians, and students, their knowledge and experience of using the library should provide enough evidence for its performance. The CKC Model provides the required flexibility to accommodate additional knowledge acquired through interacting with library resources, staff, and facilities. It also provides an opportunity for library users to recommend innovative services and activities that contribute to quality measurement and development. To justify the choice of these three theoretical approaches in examining the relevance of existing higher education library quality measurement, a study by the CHELSA (2006:17) argues for the importance of the library critical success factors that are considered key to the library evaluative stages of inputs → processes → outputs or outcomes. The same route was followed using the three theoretical approaches/frameworks to determine how they are still considered relevant by the university stakeholders. Gap analysis does address 'input' and the expectations that are set by the university stakeholder on the role the library should play in the fulfilment of the higher education mission of teaching, learning, and research. Elements covered in the gap analysis framework are typically outside the scope of a library, but through a relevant quality management instrument, they could be addressed. The intermarriage between this theoretical framework and the four pillars that are rooted in the TQM principle share the same sentiments that any organization that believes in quality management does subscribe to continuous improvement. The same organization must also satisfy its customers by determining what quality standards are to be set to ensure continuous improvement. Gauging such a fact requires them to optimize the knowledge and skills of the consumers of the product or services. While the TQM approach represents library service delivery, GAT looks at the process namely how that process and its affects the customer. The CKCM addresses the customer component, which means the importance of the person who prescribes services for improvement. In examining or investigating the relevance of services that can affect library quality, a careful selection of the study population using the customer knowledge cycle is very important. A study of this nature would be easily compromised through the wrong selection of the study instruments and population.

To ensure the achievement of a holistic view in determining the relevant quality measurement indicators for higher education libraries, an assumption that academic staff, postgraduate students, and librarians would include preconceived ideas about what an effective and efficient library should have and do was adopted. The expert opinion, according to this study, is that of librarians, who are the mediators between the library resources and the users. Based on their subject discipline knowledge, academics play a role in the development of library resources, while students are mainly the consumers of the services and resources. Students pursuing their careers towards specialization in their fields are assumed to have insight into the value of the library in accomplishing their assignments, which in this case will be their first degrees. In terms of quality measurement indicators, library activities and/or services and resources that met the respondents' expectations were identified as relevant indicators. The approach used in this study followed the route of comparing library users' expectations of what quality measurement indicators for higher education libraries should be. Understanding library users' expectations of the services when referring to library quality is according to Poll (2008:44) the best approach to get effective responses on library quality. An expectation met by a service in the library is similarly viewed as value added to or quality achieved in that service.

2.8.3 Adoption of CKC Model by libraries

There appear to be no explicit studies conducted using this CKC Model, although there are claims of studies conducted by Somaratna, Peiris and Jayasundara (2010:1) on the importance of library users' perspectives in determining quality for libraries. The centrality of library users in the development of the library's traditional quality measures, such as its collection size, and how services and products are delivered personally to library customers, has been witnessed in various studies conducted by librarians across the globe. All these studies such as Cullen and Calvert (1993:143); Poll (2012:121 and Sayo (2006:44) also confirm that library customers are not considered outsiders in the effective running of libraries, but as part of the academic communities that should take part in their quality measurement. To find facts and evidence on customer knowledge, Hernon and Altman (1998:54) suggest library user satisfaction studies as an effective tool. Their knowledge and experience of using libraries are important for the quality and continuous improvement of libraries. Customer knowledge is also found in studies by Hernon and Calvert (1996:388), where users of the libraries were invited to determine how their future needs would be used to shape library services for the new age. The CKCM was merged with TQM and GAT in this study to address the misconceptions between librarians,

academics, and students on how the alignment of libraries with their institutions can improve the quality of teaching, learning, and research.

According to Phipps (2001:638), the intermarriage between this theoretical framework and the four pillars that are rooted in the TQM principle that subscribes to the principle that an organization that trusts the principle of continuous improvement, customer satisfaction, empowered with understanding quality standards to be measured tend to succeed in a quality mission, especially if experiences and knowledge of consumers are valued. The researcher's line of inquiry tested how existing library quality measurement indicators can be framed by engaging the users in the process. It also looked at how the library world has researched the subject, which frameworks were used, and why they were found to be relevant, as higher education library roles are developed based on their support for their university mission and objectives. Issues such as the relevance of the library are to support teaching and learning and student success were argued at length the collection development role of librarians does is a contributing factor in ensuring an improvement in student learning outcomes. Although higher education libraries have successfully navigated a paradigm shift away from information repositories to learning enterprises by embedding innovative library education, teaching, and learning resources in services aimed at supporting teaching and learning, the impact of these services on institutional success and academic outputs is not always clear.

In this student paradigm, librarians emphasize information proficiency in addition to information access, while Bundy (2004:3), on the other hand, embraces a fully engaged educator role, instead of limiting the librarian's role to a support service or resource model. The contribution of librarians to a student learning outcomes are quite evident in 'information literacy', which, according to the ACRL (2012:534), is the ability to identify a need for information and then locate, evaluate, and use information ethically and responsibly to meet that need. To be ready for academic study, life and work, students must become critical consumers and users of information. In mirroring the academy's shift in the last decade, library assessment efforts have similarly evolved to focus on student learning outcomes. The keystone to the effectiveness of teaching activities is for academic librarians to routinely state-specific instructional goals, explain rationales for teaching methods, and identify ways they expect students to be able to navigate and effectively use information. It is through their unique role in serving the entire university academy, with its diverse needs, that assistance and guidance

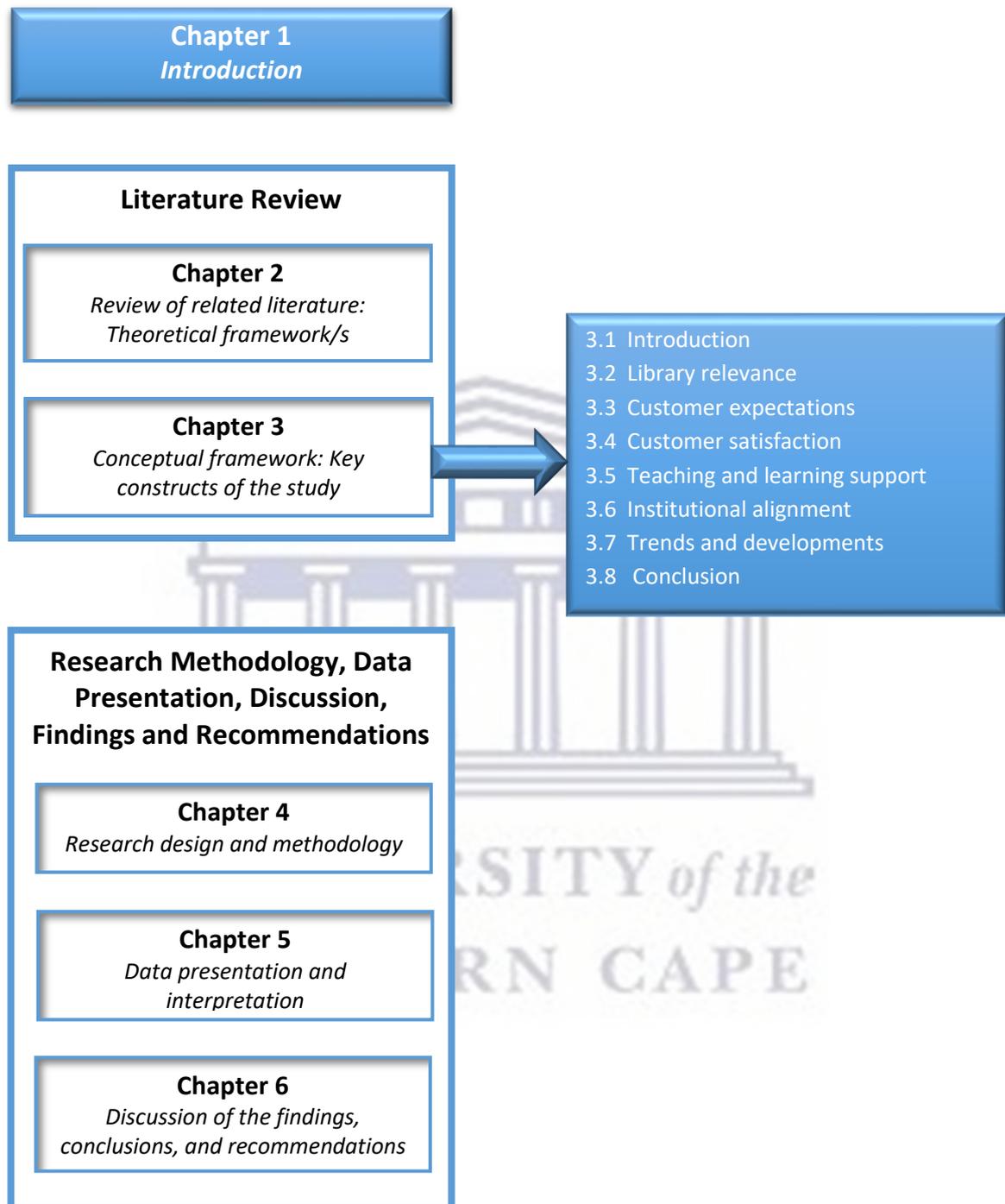
on what impact their role has in contributing to shaping students' learning outcomes are important for library plans.

2.9 Conclusion

Chapter 2 unpacked the key elements that have an impact on library quality, measurement, and credibility among users. Even though the studies conducted on library quality concur with my research on the involvement of library users' opinions in framing relevant quality measurement indicators, there has been insufficient research on the development of library quality measurement indicators, tools, and instruments using the opinions of library users. In most of the models examined as Nitecki (1996:181; Hernon and Altman (1998:53; Bundy (2004:1)., librarians do play a pivotal role in the design of the quality measurement instruments, users of the library are only involved when these quality measurement instruments are to be used for library evaluation. Based on these studies, there is a potential to use multiple theoretical frameworks to tap into library user wisdom to frame library quality and service relevance than involving them in the instrument design.



CHAPTER 3: CONCEPTUAL FRAMEWORK: KEY CONSTRUCTS OF THE STUDY



3.1 Introduction

While Chapter 2 discussed the theoretical frameworks adopted for the study, Chapter 3 focuses on the key constructs that guided the elements that informed the study. Library service elements, such as relevance to user needs, ideal ways of managing customers' expectations and perceptions, and how the library support teaching, learning, and research. To determine the body of knowledge written about the topic and the extent of the arguments on the literature related to this research, certain quality measurement constructs were unpacked, defined, and described. The terms such as quality management, assurance, and evaluation were broadly explored in line with how they relate to the three theoretical frameworks used.

Managing library customer expectations is another indicator that seems to become strong in academic libraries. However, the emerging quality measurement instruments place this phenomenon higher than resolving customer problems. According to Nitecki (1996:181), although philosophical, that was discussed to determine how it addresses user needs in comparison to what librarians expect. Higher education is changing drastically as technology changes; however, teaching and learning still require a relevant, responsive, and efficient library. Regarding the relevance of the existing quality measures for South African higher education libraries, the literature on how quality measurement indicators were developed is only limited to identification of funding allocation by HEQC, library director's involvement, and silence on user involvement. This research is therefore mindful of the research gap in South Africa around user involvement in the development of quality measurement indicators for libraries.

The study, therefore, looked at what the other literature published elsewhere says on library relevance and implications for quality measurement and indicators. In instances where those studies were conducted, I approached them in such a way that they guide this study on how comparable they are and what their outcomes were in terms of designing a relevant quality measurement instrument. Furthermore, they were weighed against the process followed by CHELSA, when developing the existing quality measures.

3.2 Customer expectations

Several studies have looked at measuring and managing library service quality by integrating customer expectations. These looked at the threefold objectives that focussed on quality

reviewing through customer integration; studying the service expectation concept regarding quality measurement, and lastly determining whether a new-era quality measurement matrix was needed or not. The studies by Harvey (1995:123), Begum (2003:1), Robledo (2001:22), and McGregor (2008), who wrote about library performance indicators at Wollongong University, based his quality measurement guidelines on the broad goals of customer expectations. The use of customer expectations as a measure for quality in this study is premised on the extent to which the library leadership proves that information service needs are met cost-efficiently than on user opinions of the service. To determine that, the study gathered data through surveys and focus groups. The study findings reveal that customer expectation cannot be just leadership opinion on their performance, but rather through soliciting their feedback on the service.

The quality assessment and management based on Robledo (2001:22) depend on customer expectations; however, any library that wants to guarantee the quality, relevance, and efficiency of its services should strive to monitor and manage user expectations. The conceptual background of those studies is based on their views of two contradicting principles that relate to two paradigms (expectations disconfirmation and perception paradigm). The study by Robledo (2001:23) asserts that the "disconfirmation paradigm" is a model that describes a service approach that allows library customers to evaluate the services of the library by comparing their perceptions to their expectations. The second principle, "perception paradigm", is viewed as a paradigm that disregards expectations, and weighed less important and misleading, especially when the quality of a service is to be measured in the user's opinions. The paradigms (expectations, disconfirmation paradigm, and perceptions) generated many debates and arguments, especially when determining the ideal method for measuring service quality. One of the reasons for their popularity is the fact that expectations are easy to measure when services rendered are not compliant. Both paradigms are merged with a quality measurement assignment, mindful of how academics and students use their experience of using libraries to frame their expectations and perceptions of an effective library. To confirm the arguments, Harvey (1995:123) saw an alignment of this process with a transformation agenda. Transformation is all about consultation and empowerment for the improvement of whatever the service or product is that the users of the library expect. The empowerment of library users has been corroborated to this study by user involvement in the selection of relevant quality measurement indicators for libraries. The involvement of users would lead to an expectation of

the quality of the service continuously being improved. According to Begum (2003:1), the use of users' opinions leads to customer satisfaction in products or services.

The customers or consumers of library services in higher education libraries are the users. In trying to define 'quality measurement' regarding the vague call for accountability to student and faculty achievements, libraries are beginning to measure their impact through library collection growth, library use, and the number of times the services of the library are used. At this point, although it is known that quality measurements would encompass many more attributes or characteristics than just conformance to study or learning requirements, based on Cullen (2001:662) the relevance of such to the library users needs further investigation. Arguments such as those that libraries can exist without an institution but an institution cannot exist without a library offer more reasoning for libraries to see themselves as valuable assets that could compromise the success of a university.

The studies conducted by Khan (2012:72) Meznick (2007:561), Bennett (2009:181), Dale (1999:4) and Oakland (1993:1) confirms that defining quality is a difficult task due to its generic nature; however, when aligned with meeting customer expectations, needs, and satisfaction, its meaning is simplified. The justification of these attributes is not quantifiable but could be confirmed through user surveys/feedback and direct communication with users. According to Snoj and Petermanec (2001:314), this poses a problem when libraries attempt to measure and quantify qualitative attributes, such as excellence, expectations, perceptions, and satisfaction because the measurement of such aspects quite often is very subjective. With these arguments in mind, the researcher strived to carefully select literature that addresses quality measurement and evaluation and that determines whether the relevance of the library is worth being included in the quality measurement matrix or not. In an attempt to address this concern,

Wong and Webb (2011:361) looked at the customers' role and importance in the formation of quality expectations and revealed that library customers' role does act as a mediator in the process of forming expectations. This confirms that, when library users participate in framing the services of the library, chances are that positive expectations are instilled. On the other hand, Boulding, Karla, Staelin, &Zeithaml (1993:7) observed that customers update expectations whenever they receive information about the library service. This argument, therefore, suggests correlations between communication about the service and positive expectations of such a service. The more the library communicates its services, the higher the expectations users have of the library.

3.3 Library relevance

The role of higher education libraries is to support the teaching, learning, and research provided by their universities with relevant resources and services. To ensure the relevance and quality of what they do, their goals must be aligned with those of their institutions. Libraries from different parts of the world strive to ensure the relevance and efficiency of their services. Relevance theory, according to Sperber and Wilson (1985:153), is a potential asset, not only of utterances and other observable phenomena but also of thoughts, memories, and conclusions or inferences. According to relevance theory, utterances may be relevant to an individual at some time. To library and information services, what is of core relevance for this study is the efficiency and effectiveness of library resources and services based on user assessment. Based on these study findings, the relevance of quality measurement indicators for libraries should imply the resources, services, facilities of the library are in accord with teaching, learning, and research and thereby understood by academics, and staff in the same way librarians do.

The question is how do libraries know whether they are providing relevant, high quality services that are meeting the expectations of their users? In addressing this question, according to Bundy (2004:3), the relevance of library services in support of teaching and learning as a quality measurement indicator should not only be viewed in the lenses of librarians, but rather in the lenses of those who benefit from the services. To close the loop, students' opinions should also be viewed as important in selecting the relevant measures for quality. These assumptions are made were on the basis that, if only quality measurement indicators are developed and understood by library users, libraries stand a good chance of meeting the users' expectations. While considering all these issues, it is of the utmost importance to adopt a clear definition of what quality and relevant quality measurement mean to library users and library practitioners. The study by Kadjan (2007:147) asserts that to align quality and its business definition, it is a phenomenon that is seen as a percentage of conformity, functionality, aesthetics, relevance, and excellence of the service that the library provides in meeting the user needs. While there are various arguments on the complexity of the application of relevance in quality service, Garvin (1988:4) sees it as a process and a product that is interdependent of how well it fits patterns of consumer preferences and expectations – in the case of higher education the consumers are referring to academics and students.

The existing quality measures for libraries, as developed without users' views, Herson and Altman (2001:224), and their relevance in fulfilling the library users' needs is questionable. Statistical data and the growth of library resources, which largely informs what academic libraries in South Africa are using for benchmarking, do not make any significant sense in terms of quality and user satisfaction. The statistics only serve as a management tool to guide library managers to assess their resource growth pattern than assessing quality and library in the fulfilment of the library mission. The use of statistics alone, according to Lilburn (2017:107) do not describe library performance or indicate whether the quantified resources are relevant in meeting the needs and expectations of users but do reflect only the number of instances that service has been used. Despite the limited resources allocated to higher education libraries, as stated by Calvert (1998:3), the importance of quality resulted in the intermarriage between "quality to relevance/fitness for purpose and accountability" and "quality to transformation. This study, mindful of all the above-mentioned limitations, adopted a user-centred approach to identify the relevant measures aimed at filling the void and/or research gap in South African quality measurement studies.

3.4 Customer satisfaction

According to Mallon and Webb (2000:269), little consideration is given to the role that customers play in the development of relevant quality service indicators. A need, therefore, exists to identify and define how library customers define quality standards and parameters for evaluation. Other studies conducted on the prediction of customer satisfaction to service have focussed on examining the expectations and/or perceptions of library customers and are partial in scope. Mallon and Webb's (2000:271) understanding of the customer role and its importance in the formation of service quality expectations is as good as selecting relevant indicators for quality. They further argue that librarians determine customer expectations; while the customers themselves should determine their expectations of services to satisfy them. Studies conducted also reveal that, for years, librarians have lamented their inability to depict library services as vital to the academic community. According to Herson and Altman (1998:9), there is no magic key and measure either to indicate the impact of the library or to recognize its input on the campus. As such, the customer satisfaction phenomenon remains the least researched subject area open to intense research. Issues such as user surveys of library resources, client training, and communication systems are topics that are commonly researched. These research reports largely have demonstrated a positive bias to library effectiveness or quality.

In contrast, what remains unchanged in these studies is that to be satisfied with library services, library users do not want something else, nor something similar to what they want, but what they want when they want it. The study by Herson and Altman (1998:54) has written extensively on quality in academic libraries and their studies show that most academic libraries collect extensive statistics and generate reports on the number of times users visit their libraries. These statistics look at the number of interactions by librarians with library users, book circulation, and lending reports, and fail to mention either quality or reflect upon how many of those services satisfy library users. As much as transaction counts can be used to create an indubitable impression that the library is effective, in the true sense they reveal nothing about how the library service meets or does not meet user expectations. The study by Zeithaml, Parasuraman and Berry (1991) argue on the issue of user expectations that the qualification of customer expectations is difficult to specify. One of the slightly closer descriptions is their involvement in the service production process. The concepts 'expectations' and 'satisfaction' complement each other in a way, as libraries that tend to meet user expectations tend to satisfy them as well. Customer satisfaction, according to Sirkin (1993:71), is defined based on elements that describe what it does, namely repeat customers, other customer referrals, meeting or exceeding customer expectations, and the creation of a service-oriented environment.

When it comes to the problems that libraries have, based on Sirkin (1993) librarians lack techniques for detecting what services and resources satisfy users the most. This observation was confirmed in this study by the gap between what librarians perceive relevant quality measures, as outlined in Chapter 6. Even though studies on customer satisfaction that connect libraries to quality of service are, available, in CHELSA (2006:3) specific assertions predicting the same in higher education libraries of South Africa are very rare to find. Customer satisfaction due to service quality has been widely researched in the academic world by scholars such as Sayo (2006:66), and in South Africa, with a series of studies conducted surveys on how much library customers are satisfied with the services on offer. The approach on which the existing quality measures for South African higher education libraries were developed followed a similar route in selecting services librarians think to meet and satisfy users.

It is the same approach to quality that is depicted by Herson and Altman (1998:10) as having no meaningful sense in the quality of service rendered. Their study also suggests that, if libraries are aiming at positioning themselves to justify their existence, only their customers have the authenticity to select the relevant services that satisfy their needs.

In this research, new measures that include the library's contribution to teaching and research are suggested as measures for quality that should guide and inform the library reports. Herson and Altman further asserted that the more libraries focus on the customer-centred approach, the better able libraries would be to satisfy their customers. It is important to comprehend that most higher education libraries across the globe use the following terms: readers, users, patrons, borrowers, and clients. Because of the South African economic situation and the turbulent international publishing market, which affects the growth of library resources, it becomes essential to determine how many libraries provide services that meet the needs of the users especially academics and students. According to Basheer and Razzaq (2012:15), a good library that is adequately staffed, with well-balanced stock and stable funding, has all the attributes to meet quality and user expectations. A study by Bogue and Saunders (1992:95), argue that academics and students are well placed to prescribe what their university libraries should look like from the service receiver's perspective.

Bogue and Saunders's study valued what students think about the programmes and services offered by the libraries. Their perceptions, views, and thoughts were considered useful in improving the educational support role of the libraries. Rani (2018:15443) discovered that students could only attest to their satisfaction when they succeed in their learning using library resources. Critical to their learning outcomes are the library and free access to books. On the other hand, the research conducted by Basheer and Razzaq (2012:16) concluded that libraries satisfy and support the students by providing them with resources that help them complete their studies. In contrast, Shapiro and Long (1994:285) maintain that most academic librarians find it very difficult to place people (users) central to their activities, especially students who come to the library as customers. These claims indicate that traditional librarians have reservations about placing the value of the library on the library customers rather than on their judgement.

These arguments acknowledge how this study direction will add new knowledge to the field of library and information studies. The fact that the study adopted a user-centred approach in identifying relevant quality measurement indicators for libraries confirms the emergence of a new, user-centric quality measurement instrument. Regarding the importance of customer satisfaction, the students' expectations, and their importance to the quality and relevance of the library, this study observed that there is still a gap in research aligning these phenomena, especially in the South African context.

However, there is an increase in literature on the subject focussing on assessing students' expectations of and their satisfaction with academic libraries. The studies affirm the importance of library use in students' success, so as Harwood and Bydder (1998:161) who also affirm how students' needs are met and satisfied. The fact that studies such as the one by Harwood and Bydder (1998:162) were conducted in America showing that students have low expectations of the library, also indicates a clear need to repeat a similar study in the South African context. While gap analysis is valuable, it is only useful when it manages to bring to the library a balanced, informed, and professional decision-making process. Where their perceptions were invited, participants were asked to determine which services were of relevance and importance to library quality, as well as indicate areas for improvement in the entire library.

Questions on library management and governance were not addressed as it was assumed that the users might not relate them to library quality, services, and products. The library activities were divided into themes that talk to the roles that are understood by service recipients. The aim was to make libraries easily understood by academics and students. Issues such as libraries' relevance and alignment with their institutions, which can only be understood by those who manage the libraries, were simplified into sub-activities that prove the alignment. The second related to managing expectations, with questions around on what the library should do or not do to support academics in their teaching students in their learning, with librarians rendering an effective support role.

The third topic related to libraries and student learning support, with the library articulating what it ought to be, academics' role, and with students taking ownership of their learning. Issues such as creating independent thinking while taking ownership of their learning are not visible in studies on effective teaching and learning, and the quality of the education system. I looked forward to determining what the students' take would be on these arguments, and this research contributed to this void. It was quite evident that to understand and frame how library quality measurement indicators can involve learning and student development theories, responses to the following questions had to be addressed: questions about academics and student's view on what services should be assessed during the evaluation of libraries were found valuable in this study. To this effect, the study results show that services that are regarded as 'basic' from the librarians' points of view are considered relevant and valuable in the users' opinions. These services are library provision of information sources in various formats, their accessibility anywhere and anytime, with training conducted on how to use them. In the adoption of a

holistic view and in analysing and assessing the importance of libraries, the aims are used to gauge academics and students' expectations of the services. This according to Rust and Oliver (1994:1), could be based on previous use of the product and/or experience of searching for it in the library.

3.5 Teaching and learning support

Teaching and learning in a higher education environment are related to issues such as learning and student development theories that to a larger extent inform and guide the roles of the academic staff, librarians, and students. It is on this note that this study would lose its strategic directions if these theories are not placed into perspective, especially if the role of higher education must be unpacked. The teaching and learning role of the library was framed through a Higher Education Quality Framework, which along with teaching and learning theories, coupled with what informs students to learn and the alignment of that with student development theories. To easily frame how academics' and students' needs can be managed and met in the higher education environment, understanding what teaching, and learning and library support are all about is of importance. Traditionally, teaching has too often been based on the passive, lecture-centred model; the dependence on an expert teacher who funnels knowledge into the somewhat retentive minds of students. The learning theory by Smart, Witt, and Scott (2012:392) suggests a different role for teachers as facilitators who must focus on how people learn and demonstrate the importance of a student-centred approach.

At the core of the changes attempted in the student-centred model, constructivists advocate for learners to actively construct their knowledge, rather than passively receive information transmitted to them from teachers and textbooks. From a constructivist's perspective based on the study by Stage and Muller (1998:35), knowledge cannot simply be given to students; they must construct their meanings. According to scholars such as Bain (2004:26) when we encounter new knowledge through reading new material, we try to comprehend it in terms of something, we already know. This discourse pushes us to a better understanding and assessment of students' existing paradigms and mental models, taking what they already know inductively and indirectly moving them to construct new concepts and ideas. In deciphering this based on academics' and students' understanding of the effectiveness and quality of an academic library, it is through the positive experience of library use that library customers can determine whether a service is worth being a quality measurement indicator for a library or not.

An inductive approach as stated by Prince and Felder (2006:123) starts with observations and experiential data, from which students analyse, generalize, and find ways to apply the conclusions in solving real problems. In contrast, learning theory by Bain (2004:11) argues that questions asked by students in the library or the classroom are crucial to the process of learning and modifying their mental models. Using these questions in the classroom helps learners construct new knowledge, index, and retrieve information. In aligning this process with the activities offered by the library, such as library instruction, information literacy classes, and database training, it is quite important to note that the one-way approach in teaching does not seem to yield positive outcomes. Some form of interactive student engagement must be fostered in the learning process. This model as stated by Bain (2004:12) has a proven record of accomplishment in providing opportunities for richer discussions on aspects of communication as depicted in the model. This study is pursued while mindful of the constructivists' arguments, which say that the situation in which individuals perceive, interpret, and explain the same object differently is informed and influenced by constructivists thought.

The constructivists are observers observing reality that is informed by daily life experiences and science. Jones and Arajel (2002) built upon these approaches by introducing a new notion of learning through observations and perceptions. Through these revelations, it is assumed that learners construct their knowledge, individually and collectively through learning, observations, and perceptions, each learner has a toolkit of concepts and skills with which she must construct knowledge to solve problems presented by the environment. Drawing from the arguments by Jones and Arajel (2002:1), on education constructivism, real education is achieved via experience, and not all experience that learners/readers acquire is equally educational. Even though the experience may not be considered educational, experiences that prevent the acquisition of alternative experiences are considered counterproductive. This situation like this limits the possibility of acquiring richer experiences in the future. The learning acquired using a library and its learning resources do not fall outside the status quo.

The skills in using library materials of library users, who consult library resources, whether online or physically, only occasionally will diminish. One can presume that, because most of the time the use of library skills and the library takes place voluntarily, this learning might not be taken seriously, as it would in a formal learning environment like the classroom. Some of the most important elements in adult education (which in this study refers to students) over the past four years have seen a transition in the way adults learn.

This transition presented itself through self-directed learning, which is defined by Lorenzen, (2001:20) as a process in which individuals take the lead in diagnosing their learning needs, formulating learning goals, choosing, and implementing appropriate strategies, and evaluating their learning outcomes. From the foregoing literature on the learner-centred approach that needs to be taken into consideration when library training is conducted, it is evident that libraries are expected to develop client-centred mission statements and visions. An issue of concern is how much time and effort students allocate to this principle, which is called 'time on task'.

Time on task, according to Chickering and Gamson (1999:75), implies that students who do not spend enough time on learning something will not learn it. This student learning theory, when examined based on its application to library and information services, means that when students do not spend adequate time using the library, they stand a chance of becoming less satisfied with its services and their perceptions of it would be negative. The relationship between efforts placed made by librarians and marks attained is not always straightforward or associated with any contribution made by the library. According to Kember, Jamieson, Pomfret and Wong (1995:329), students' perceptions of their effort depends on their motivation, more than on the number of hours they allocated to studying and library use, and students can put many hours in their learning (in the library) without being productive. In the context of this study, this implies that the frequency of library use can be associated with library service relevance, quality, and effectiveness. According to Kember et al. (1995:329), some kinds of assessment in teaching and learning are also not consistent, as students spend long hours of ineffective memorization rather than studying with understanding. To create some sensible arguments and thoughts on student development and student learning theories, Gibbs, and Simpson (2004:4) focussed on the evaluation of assessment agreements and the way they affect student learning outside the classroom.

The study was approached on the assumption that assessment as a process has an overwhelming influence on what and how much students study and learn. This analysis resonates very well with my study, as some of the questions in my study's questionnaire investigated how students perceive the importance of library use for their benefit, rather than trying to fulfil study obligations. The assumption is that student use and positive perceptions of the library are dependent on how much they are pushed towards using library material. Gibbs and Simpson (2004:3) advance their argument for the importance placed on evaluation by stating that, when

teaching in higher education hits the headlines, it is nearly always about assessment. He referred to examples such as supposedly failing standards, plagiarism, unreliable marking or rogue external examiners, errors in examination papers, and so on, which lead to a review of institutional processes. In the recent approaches of the quality agency, in which it aims to improve the quality of education and its focus on how learning outcomes can be based on specific standards, adherence to quality minimum standards is always an expectation.

Although Gibbs and Simpson's study is not about quality measurement, the importance of aligning quality assurance and measurement indicators with teaching and learning strategies is always rated high. The arguments that arose from the study indicated that many students are perfectly capable of distinguishing between what assessment requires them to pay attention to, and what results tied to valuable learning are supposed to be. This, when simplified by Gibbs and Simpson (2004:4), means that students devote their time to the passing course to a greater extent, rather than wasting time on less significant course aspects not tied to their curriculum, which become less significant. While learning styles affirm the need for instructors and training to recognize the importance of individual learning differences and to use methods that help create a climate that increases potential learning for all trainees; human concepts and human knowledge are a result of cooperation and communication. The research cycle and knowledge production cycle are informed by a series of ongoing cyclic activities involving repetitive planning, searching, and evaluating learning. Dunn's learning and Gardner's multiple bits of intelligence theories as depicted in Wilson (2012:36) are two distinct areas for my research, much as they oppose each other when combined, they can be used to improve learning. The teaching method directed towards reaching students' different cognitive levels revolves around sequences of learning strategies that are either used as experimental tools that help students apply, analyse, synthesize, and evaluate information. Those strategies should also be matched with how students should learn and how learning should occur. These strategies require a combination of a series of learning strategies to accommodate the diverse needs of learners. The impact of information technology upon libraries has resulted in renewed interests in teaching and learning for reference services. According to Henseley (1991:203), the library reference and information services staff have become acutely aware of instructional issues as they cope with users of online catalogues, CD ROM systems, and locally uploaded electronic databases. Over the past few decades, a fundamental shift has occurred in how students perceive and utilize libraries.

While libraries as stated by Gibbs and Simpson (2004:3) are viewed to be traditional warehouses for books with new trends and developments in teaching and learning styles, they have started being interactive spaces providing opportunities for collaborative study, individual learning, and group discussion. Henseley (1991:204) argues that the evolving role of libraries has a profound effect on the role of the librarian. To learn about this evolution, he advocates for the new roles of libraries to revolve around social learning spaces; providing an environment that supports the librarian and optimizing the performance of informal spaces within the library. Issues that need to be taken into consideration are the plan for adjacencies, where diverse learning spaces need to include the library users' individual needs, coupled with improved awareness of and access to library resources.

, learning, and research in a higher education environment can be determined by a series of institutional factors that are framed by issues that argue that learning as a process takes place through participation in socially situated practices, called communities of practice. In taking a closer look at these theories, with learning taking place in libraries largely, there seemed to be more relevance in how libraries are perceived and how their effectiveness and efficiency can be determined. Henseley argues for three important elements in learning that revolve around the importance of engagement in the management of the teaching and learning process, services, and staff. It is quite evident that to understand how library quality measurement indicators can involve learning and student development theories, responses to the following questions must be addressed: What are these learning theories, referred to here, about how learning takes place in libraries? Also, what role academics, librarians, and students must play in the learning process? According to Yilmaz (2011:204), familiarity with the subject matter is not enough for academics to engage in effective, pedagogical, and meaningful practices.

For teaching professionalism to be complete and effective in a classroom setting it should revolve around a combination of the professional subject knowledge and understanding of learning theories and their application to the classroom environment. There is a plethora of labels used to describe a variety of learning theories; however, the typology of learning theories can be classified into two main domains: behaviourism, constructivism. According to Brooks and Brooks (1999:24), "constructivism is not a theory about teaching but a theory about knowledge and learning, the theory defines knowledge as temporary, developmental, socially and culturally mediated, and thus, non-objective." The central principles of this approach are that learners can only make sense of new situations in terms of their existing understanding.

Learning in this case as based on Naylor and Keogh (1993:93) involves an active process in which learners construct meaning by linking new ideas with their existing knowledge. Learning theories are commonly consulted in the instructional design process in many traditional educational settings but can often be overlooked when planning for library instruction. Based on the above, learning theories have provided librarians with potential when focussed on planning instruction on information literacy. They also provide insight into the learning process of students. Making use of the basic principle of learning theories to create information literacy plans can bridge the gap between the in-person and online learning environment.

In practice, it is quite uncommon for librarians to design, prepare and deliver information literacy based on their understanding of what the lesson content should entail, but they rather align it with learning theories. Several developments have taken place in higher education institutions since the 1980s. One of them is the financial pressure put on universities that have compelled them to take in and teach more students using fewer resources, such as staff and learning materials. This period has been characterized by increasing attention given to universities' teaching functions, fostering a greater range of learning outcomes, with steep learning outcomes and assessment methods. These issues based on Harvey (1995:123) have not only been confined to a particular country, but have occurred in various countries across the globe, either under an umbrella theme of transformation or new reform in teaching and learning processes. While learning style theory is gaining momentum in the library field, not much is clear on how well librarians and academics have assimilated it and how consciously they are incorporating its facets in their day-to-day engagement/teaching of students. For quality teaching and learning to occur, there must be an effective library with staff trained to address and resolve the information resource needs of both academics and students.

Two distinctive elements of transformative quality must be applied in education, which involves participants empowered enough to take control of their learning. In that environment, there must be value-added processes where a learner is not only exposed to new knowledge but also able to acquire the skills and abilities needed to produce new knowledge. In aligning these arguments with libraries, the term 'quality' ideally, as in many other non-profit organizations, must be defined in terms of the richness and relevance of the collection and services offered by the library. When it comes to using quality for continuous improvement, on the other hand, Hernon and Calvert (1996:382) see it as the process that meets or exceeds customer expectations.

Preceding these deductions and judgements, libraries ought to know what their customers expect and how to use a quality measurement tool to assess and measure their expectations. It seems that questions about quality and services start becoming important when people start to evaluate what they are doing, why they are doing what they do, and the effects thereof. Examples of these are institutions examining the extent to which a set of goals is achieved to attain "quality as excellence, fitness for purpose, customer satisfaction or effectiveness," and quality definitions that focus on processes, for example, institutions examining the activities that lead to desired outcomes, such as governance processes, decision making or administrative process. Quality as a process is thus associated with values, internal processes, and effectiveness. To determine relevant quality measurement indicators for higher education libraries, the working and dominant definition for quality would be customer satisfaction (focus on outputs), replacing the understanding of quality as a degree of conformance with a standard or focus on processes. To simplify these arguments, the views, and expectations of the customer, regarding academics and students in this study, should be considered valuable in guiding the process of identification of relevant quality measurement indicators for libraries.

3.6 Institutional alignment

Libraries are significant cost centres for their universities, and in the current climate of economic pressure, and quality and outcomes assessment, they cannot rely on a general perception that they are doing well without hearing the views of their users. According to Chiware (2014); Harland, Stewart, and Bruce (2019), Carral and Jolly (2019: 113) placing the library strategic direction central to the institutional plans does not only elevate its role as a 'heart of the university' but it enables university leaders to place it in the fore front when funds are distributed. An element that acts more towards the library benefit and thereby contributes to the user favour. While there are a series of quality management and quality assurance models that have been developed and applied by higher education libraries across the globe, most of them either follow the quantitative route of planning, implementation, reporting, analysing trends, cross-institutional benchmarking and reviewing, or follow a qualitative process of benchmarking client satisfaction surveys and internal staff perceptions. Methods for assessing library quality, as stated by Poll (2008:127), developed over several decades, did put special emphasis on user orientation, speed, accuracy, and reliability or cost-effectiveness. The demand for quality, as outlined by Osinulu and Amusa (2010:1), led to the establishment of standard organizations, both locally and internationally. Quality standards/ measurement

indicators that were adopted into manufacturing, health care, education, services, and government. In recent years, they are commonly used in higher education libraries. In contrast, Rodriguez (2011:3) notes that libraries define, develop and measure outcomes that contribute to institutional effectiveness and apply findings for continuous improvement. The indicator of the above statement refers to:

"Libraries articulate how they contribute to student learning, collect evidence, document successes, share results, and make improvements. While libraries have made significant progress in user-oriented evaluation in recent decades, they still lack effective methods for demonstrating library contributions to student learning. Unless adequate instruments are developed (and generate compelling evidence), libraries are still left out of the campus conversation." Rodriguez (2011:1) closes his arguments by introducing "the understanding of library impacts protocol" as a new suite of instruments designed to fill the gap in the library assessment toolbox.

This argument substantiates the significance of this study. It also provides clearly articulated concepts that raise many concerns that cautioned the researcher, to avoid designing a library quality measurement instrument not aligned to teaching and learning outcomes. The underlying challenge in aligning the library quality indicators with student learning is the lack of understanding and difficulties in connecting library use to students' achievements. This has been observed by Powell (1992:245) from the lack of literature writing about that from both the academic's and librarians' perspectives. Several authors have suggested outcomes that tie in with how the library contributes to teaching and learning, with issues such as student retention, grade point average, and information literacy outcomes).

The term retention is a measure of the percentage of college students who continue with their studies and do not drop out. The student retention strategy is quite strong in higher education institutional goals; however, a handful of studies have strived to investigate the role libraries play and the relationship they have with student retention. Kracker and Pollio (2003:1115) found a positive relationship between library use and persistent students. About this study, the findings revealed that both academics and students do consider the library a valuable resource in the students learning. A study by Rodriguez (2011:6) reveals critical ways to connect library users in all its forms to learning outcomes that are important to faculty, students, and university throughput rates. Doing so does not only bring the role of the library closer to the mission of the institution or campus-wide conversation but also closer to students' learning outcomes.

Drawing from Rodriguez's conclusion, it is quite evident that demonstrating value requires evidence based on data collection and analysis, with reporting on the impact and value of the library that derives from that purpose. Amongst the quality measurement indicators that are found relevant in meeting the needs of students was: access to relevant print and electronic resources; effective training on how to use those resources and library delivering promised services at a time needed. Regarding the impact of the library impact on students, what matters most becomes 'what is measured, rather than an approach that queries 'what is measurable'. This study indicates that a new direction is needed in terms of the alignment of the quality measures of the library with teaching, learning, and research. This study strived to move away from the library-centric ways of analysing library quality to an institutionally based approach. In Rodriguez's (2011:3) way of stating this gap and challenges, he argues that positioning libraries as central to their institutions and keeping them focussed on what matters become a challenge for library management, as this requires staff buy-in to ensure that the positioning aspect becomes key and is aligned with the library strategy and long-term decision making.

More than a decade ago, Everest and Payne (2001:18) became defenders of a mission-driven strategy for determining library value and impact. Their motivation for suggesting the use of the mission-driven approach in assessing the impact of the library was backed by the challenge and concerns they saw in the way libraries operate. Libraries, by their services, operate in a changing environment where it is difficult to create a structured system as an evaluation measurement because the systems that inform the library's strategic direction are constantly changing.

The two categories of library service consumers (academics and students) undergo similar transitions as their interests in what libraries should do for them are also evolving. This implies, in summary, that any research conducted on this subject will inevitably provide a snapshot of what is happening at a particular point in time. While a call for research looking at the impact and value of the library is encouraged, it is difficult to prove actions taken on how libraries contributed to the improvements in teaching, learning, and research, and this calls for another research dimension. This study direction is considered very important, especially in addressing the question that looks at the extent of the integration of library resources with services, teaching, learning, and research as quality measurement indicators, rather than specific issues regarding the value they add. Many studies have been conducted across the globe on library quality measurement and performance measurement and processes. Each study brings a wealth

of knowledge that can be useful in the formulation of the quality measurement matrix for South African higher education libraries. The study conducted in New Zealand by Hernon and Calvert (1996:387) explored alternative ways of measuring quality in academic libraries using data collection instruments and a framework originally designed by Parasuraman, Berry and Zeithaml (1991:39). Although the study followed an exploratory research design rather than the mixed-method approach adopted for this study, the approach used in the development of quality measurement indicators was quite like the one used in this study.

The differences that were observed relate to how the data collection instrument was designed; the data collection instrument translated the theoretical framework into statements that better defined the library service and its meaning in a simplified fashion. This approach offered respondents more options to choose statements that represented their expectations of what the library should have, do, and refine to satisfy the quality measurement norms. Parasuraman, Berry and Zeithaml (1991:39) study attempted to design a tool to guide a couple of academic libraries in New Zealand. The statements whose relevance was ranked highly were earmarked for use in guiding the strategic planning and resource allocation for libraries. This research investigated the relevance of the existing quality measurement instrument to see if there were any amendments needed or aspects of the quality measurement guidelines that would translate into a quality measurement tool that would play a dual role in benchmarking higher education libraries and their quality evaluation, and for the accreditation of libraries. To record the benefits of this study to my research, it is of the utmost importance to highlight that the multi-theoretical framework approach that was adopted for this study took a similar route to that of using the opinions of academic staff, librarians, and students to validate the relevance of the quality measurement indicators. What makes, Hernon and Calvert's, (1996:388) study relevant to this work is the creation of an instrument that is centrally used as a quality measurement tool by all libraries to examine the services that the libraries provide within their context. Hernon's study, although limited to services rendered by South African higher education libraries, provides almost half of the service statements that were in the questionnaire, which covered aspects of new services, bearing in mind that the South African quality measurement guidelines were developed only ten years ago. This work looked largely at services that matter the most to academic staff, librarians, and students when it comes to library resources and frontline support. While Hernon and Calvert (1996:388) were looking at ways to improve the quality of libraries, this study addressed the multiple challenges South African libraries are facing concerning quality assurance and library accreditation.

With recent developments in the South African higher education system, the mandate for the higher education system is becoming much clearer than before. Universities are expected to produce university graduates who exit the system as effective lifelong learners. The role of the library and the quality of its services is getting recognition, especially in areas such as guidance and student support during the learning process. The study, conducted by Calvert (1998:4) in polytechnic libraries in Singapore, followed a similar approach to the New Zealand model studied by Hernon and Calvert (1996:388). The study by Calvert (1998:5) serves as an affirmation that one does not have to reinvent the wheel, as far as library quality management is concerned. What was quite clear in Calvert's study was the endorsement of the IFLA benchmarking norms that resulted in a critical comparison between the studies conducted in Singapore and New Zealand. Hernon and Calvert's (1996:389) New Zealand study surveyed academic staff, librarians, and post- and undergraduate students, whereas Calvert's (1998:5) Singapore model studied the same population group with the focus on technical issues of the library. Issues such as virtual accessibility of library material and traditional services library hours and frequency of library visits came quite strong as measures for quality in New Zealand. The indicators that were ranked relevant in this study by local students are like those stated in New Zealand and Singapore study.

What makes both studies relevant to this study is the growing concern for accessibility of online resources. What made Calvert's study in Singapore unique is the adoption and customization of the quality measurement instrument in various languages other than English, as well as the focus on technology, with less consideration of the physical presence of the library. While the New Zealand study and the current investigation in the South African context still consider library visitation and collaboration between academics and librarians in teaching students' skills for effective use of library resources, the Singaporean model looked at issues such as the book self-issuing system. By unpacking broader concepts such as 'mission-driven library' and 'integration of the library into the institutional mission, however, the study's findings have to a larger extent largely addressed how the library adds value to teaching and learning success. To understand the new service demands, such as value-adding service indicators, evidence-based librarianship, and an integrated, library-driven approach, research in this study direction should be pursued so that issues such as adding these into quality measurement indicators can be addressed.

3.7. Trends and developments in Libraries

With the infusion of technology into the library and the information environment, library managers and librarians emphasize the need for users to critically evaluate and effectively use library and information resources. Given the ubiquity of online and digital information content located in higher education libraries, coupled with increasing entry points to access them, it has become necessary for libraries to move beyond assuming that resources are accessible and that the services they provide are relevant and quality. Information Technology has brought about varieties of forms of libraries and modes of information disseminating platforms. These as based on Ramesh (2006:234). are easily accessible and available, with such libraries categorized as both virtual, digital, and web-based library and information systems based

The services offered by the library for the enhancement of access to information include the establishment of institutional repositories and platforms for electronic theses and dissertations. Although they may not be considered 'core library and information services, they add value and several benefits associated with seamless access to locally published resources. The ACRL (2012:535) astutely articulates these trends and developments as the top ten trends for higher education libraries and research libraries, covering new developments that took place in the library and information practice in the 21st century.

As the pace of change in the 21st century continues to increase, the world of learning is becoming more interconnected and complex, and the knowledge economy is creating more intellectual property. According to Reeves (2006), the success of any learning is determined by the degree to which there is adequate alignment between the eight critical factors, namely goals, content, instructional design, learner tasks, instructor roles, student roles, technological advances, and assessment. In looking at these, a very important factor one could deduce is that libraries could form part of the learning content, student roles, or technological advances.

In trying to justify the centrality of higher education libraries in the higher education core business, the interests in measuring the quality and effectiveness of the library has moved beyond individual libraries to the International Federation of Library Associations as confirmed by Rapp (2007), a world congress of library and information practitioners across the globe. Authors such as Poll (2008) have been following developments to performance measurement indicators for libraries. Although most of her studies focus on higher education library performance measurement, her earlier publication co-authored with Poll and Boekhorst

(2008:41), started by including indicators for other sectors, such as public libraries. Amongst the indicators that they aligned with new trends are the following: the demand for cost-effectiveness that has derived from the fact that libraries in recent years are experiencing budget cuts, despite general knowledge that an inadequately funded library would never be in a position to fulfil its library users resource needs yet there are still no clear indicators aligning costs to quality. One of the most important roles of higher education institutions based on Poll and Boekhorst (2008:41), which have been pushed to the fore due to its alignment with funding and credibility, is research production and innovation. The value of the library's support for research based on new measures, outlined by Nitecki and Franklin (1999:484), is based on its collection size, budget expenditure, and staff competencies in meeting the needs of researchers. This once again justifies the notion that, if libraries could be judged in isolation from their parent organizations and on their merit, all they do would be guaranteed excellent; however, this study wanted to equalize the importance of librarians and users of the services.

3.8 Conclusion

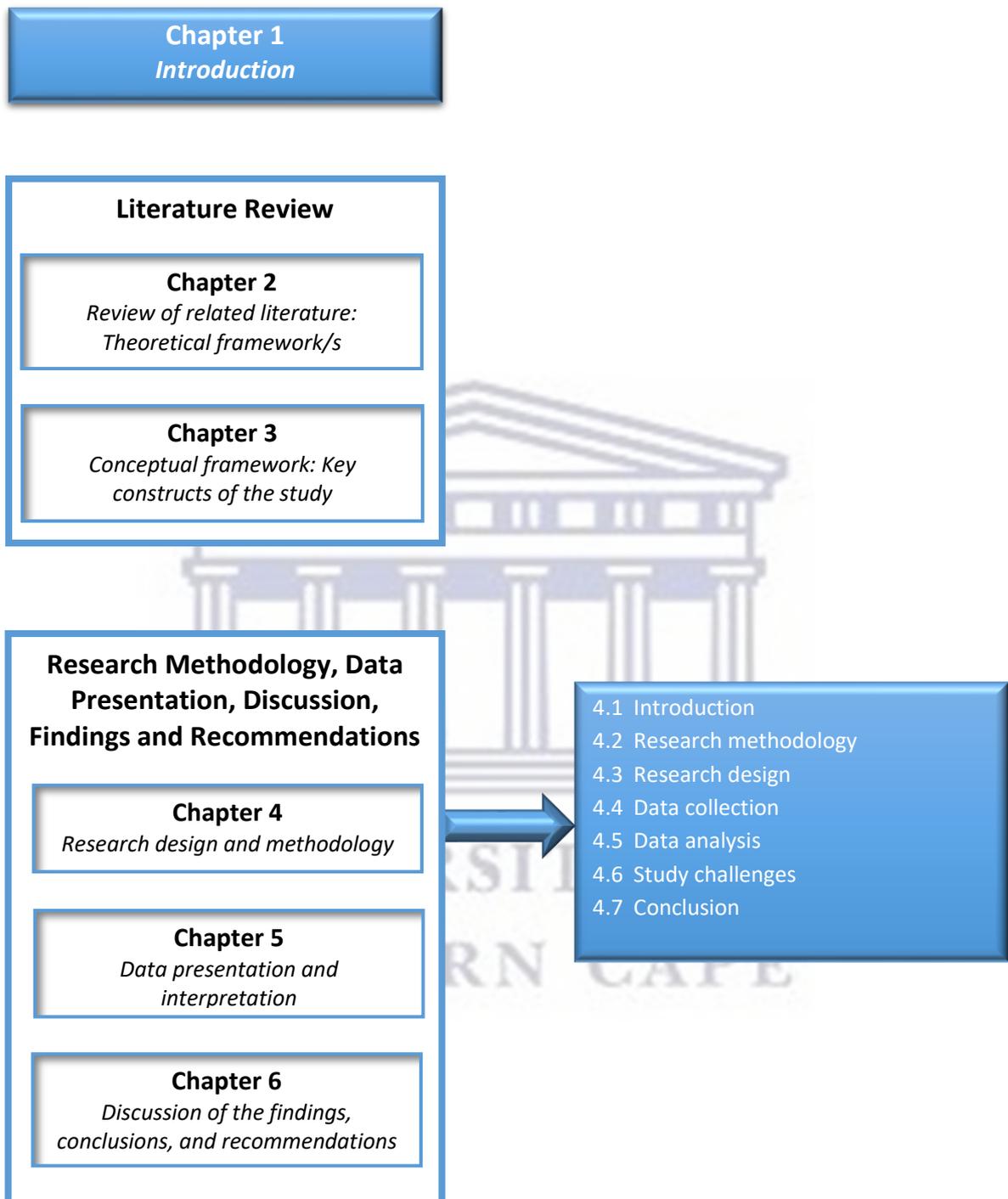
In conclusion, there are various approaches to measuring quality in libraries, choosing the relevant quality measurement indicators for South African higher education libraries seemed to be possible. Having said that, studies conducted across the globe, with the approaches used to determine library quality, relevance, and value, it was quite evident that librarians are quite convinced about the services and activities that add value to their role. Based on these studies, it was found that the relevance of any service conducted by higher education libraries is considered legitimate only if it matches the expectations of library users or customers and guarantees their satisfaction. In moving forward with this study, one of the observations from reviewing the related literature was that quality assurance, quality management, and quality measurement or the performance measurement of libraries has drawn a lot of attention in the library and information sector across the globe. This was evident from reviewing studies conducted in the following parts of the world: Europe, the United States of America, the United Kingdom, the Middle East, Africa, and South Africa. De Jager, (2006:19); Hernon and Calvert, (1996:387); Groenewegen and Lim (1995:6) Nitecki (1996:181); Sayo (2006:44) and Osinulu and Amusa (2010:1). All these instruments are popular matrices for measuring library quality, but no matter how good they are, there is still silence on the involvement of library academics and students in determining the relevance of an instrument. In closing this gap and in adding

another dimension of knowledge in library quality measurement, the researcher deliberately used a combination of quantitative and qualitative research designs.

The use of a mixed-method research design was aimed at soliciting a collaborative view of what academic staff, librarians and students perceive to be relevant quality measurement indicators for libraries. The scope of what was covered on the questionnaire incorporated the key critical success factors for South African higher education libraries that currently are outlined in quality guidelines and added a few components of activities covered on the trends in library and information services and already implemented by most higher education libraries. These critical success factors are alignment with /integration into the university, the relevance of resources and services, managing customer expectations, student learning support, and trends in information access and discovery, research support, and innovations in the library's role in teaching and learning. Through these key focus areas that inform the role of higher education libraries, the selected research design and methodology were able to obtain some valuable input to guide higher education libraries in determining activities that are found to be adding value to the library customers (academics and students). Chapter 4 discusses how the research design and methodology were selected and applied, along with their sub-components of the conceptual framework with features that represent the quality of library resources and services.



CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY



4.1 Introduction

Chapters 2 and 3 reviewed previous studies and discussed the significant level of quality management and its adoption in various libraries across the globe. Quality measurement and the design thereof constitute a wide range of activities, varying from user surveys and customer satisfaction to the validation of existing instruments using the views of library users. This chapter gives an account of the theoretical framework that forms the basis of the study, the research methodology, and the design used to test the theories presented in Chapters 2 and 3. The five purposes of this chapter are to (1) examine research methodology, (2) explain the conceptual framework and how it was adopted for the data collection plan, (3) describe the research design with all its facets, (4) outline how the data was collected and analysed, and (5) show how the sense of the results.

The chapter also describes the study's philosophical underpinnings that informed data collection. Further, the chapter outlines how the study sites were sampled, and a brief overview of how the South African higher education library setting is framed in aligning it to quality measurement guidelines and norms.

4.2 Research methodology

The research methodology as stated by Emery (1993:1), Boyce, Meadow and Craft (1994:1), and Powell (1999:1) is the mapping of an approach to solving a research problem. A mixed-method approach was employed for this study. Upon examining available library and information science literature, the mixed methodological approach was not very popular from the writings of the following library researchers. A recent study conducted by Granikov, Hong, Crist and Pluye (2020:1) reveals that mixed-method research started gaining popularity between 2017 and 2018 with their study conducted on 65 articles indexed and analysed that showed the integration of quantitative and qualitative research methods even though not reported as "mixed". Their study results, therefore, indicate that more efforts are needed in raising awareness on mixed-method research in library and information studies.

4.2.1 Mixed-method research

According to Gamlen (2012:319), any research that involves a deliberate mixture of quantitative and qualitative methods is called mixed-method research. Although mixed-method

research is according to Tashakkori and Creswell (2007:3); Crist and Berman (2016:1) relatively new, there are ongoing debates on their precise definition. According to Carter (2011:2), some scholars adopt the method that combines writing styles and contrasting theoretical frameworks. These approaches stimulate arguments on how much the mixing of methods requires comprehensive integration, and what that integration means during the data analysis process. Questions such as whether mixed methods require the collection and analysis of two forms of data in a single project always remain unanswered.

The premises used in this study charted the route of collecting and analysing data observed on the study by Tashakkori and Creswell (2007:4), integrating the findings, and drawing inferences using both quantitative and qualitative approaches in a single study. As argued by Creswell (2003:1), Creswell and Creswell (2019:3), Huyler and McGill (2019:2), mixed methods are inclined to three factors, which were considered during the approach to the study. These factors are timing, mixing, and theorizing. Mixing both quantitative and qualitative methods can be timed either sequentially or concurrently. However, based on this study, for which both quantitative and qualitative data were collected using a single questionnaire instrument, a concurrent approach was adopted. This approach was adopted to ensure that the volume of each type of data and factors such as the researcher's philosophical approach (inductive and deductive), interests, aims, and the audience were not affected by timing, which may have an impact on quantitative and qualitative methods.

However, in this case, mixing took place during data collection, analysis, and interpretation. Issues such as the data collection and data analysis phases, followed by the timing of data collection and determining whether the quantitative data and qualitative data phases take place concurrently or sequentially, must be stated or addressed clearly, failing which the justification of mixed methods would be unclear. In this study, qualitative data was integrated into the quantitative data findings, a process that, according to Tashakkori and Teddlie (2003:26), is known as quantitating. Quantitating has been devised to describe the process of transforming coded qualitative data. In applying mixed methods in this study, the researcher found a variety of classificatory metrics by which mixed-method research designs could be described. According to Johnson and Christensen (2004), and Tashakkori and Teddlie (2003:37), mixed methods have been differentiated by the level of prioritization of one form of data over the other, and by the combination of data forms in the research process.

While some recent studies have explored the principle of research that integrates qualitative and quantitative data, there remains a need for systematic information on how to carry out such transformative analytic designs. One transformative mixed method, called relatively simple design, was followed in this study to allow qualitative and quantitative data to be collected concurrently a second approach, which is classified as complex sequential design, was not considered as an approach due to time constraints. The relatively simple data collection strategy as stated by Creswell (2003:13) has several advantages for mixed-method applications. The first advantage is its fair intuition for participants and its support for the adoption of a web-based closed questionnaire with open-ended questions that allow the respondents unlimited opportunity to take advantage of the resource to post extensive comments. Concurrent data collection designs may preclude follow-up on interesting or confusing responses; however, since the study was piloted and participants could take part in the design of the survey, a need for follow-up was not considered necessary.

From examining the literature on library and information science, the mixed methodological approach was found to be missing in the writings of prominent library researchers. According to Fidel (2008:265), only Gorman and Clayton (2005:1) introduced mixed-method research in their book, albeit in quite a short section. Coming to the applicability of this research methodology to library and information science research, Powell (1999:17) asserts that, although there is evidence of increasing studies that cover multiple methods in library science research, most of those studies investigate human information behaviour. Despite these study findings, none of the articles mentioned mixed-method research by name, even though there seemed to be a prevalence of the method gaining popularity in the field of library and information science. As with all other research methods, this method is subject to criticism; its maturity is still being questioned, as it emerged as a third research design after qualitative and quantitative approaches were introduced.

Tashakkori and Teddlie (2003:38) also spotted inconsistencies in defining mixed methods, let alone the implications of such for data validity. Regarding the application of the mixed method to this study, 16 questions in the students' questionnaire were structured questions that were quantitative, while the academics and librarians responded to 25 quantitative questions, with all the respondents exposed to the four open-ended questions that encompassed qualitative data that would guide the design of the new quality measurement indicators.

Even though some of the respondents duplicated items covered in the structured questions, their motive and use of their simplified terminology on what they understand to be the library's role were motivating. To sum, all the respondents could reflect on the questions, which covered the following:

- reflecting on aspects of the library that add value to quality but are not covered in the questionnaire,
- their perceptions of library services about servicing students,
- the importance of faculty relationships concerning either student support, teaching, learning, and research and, lastly,
- their perceptions of these quality measurement questions and whether they think they had the potential to improve the quality of library services.

Yin (1994:1) argues that, when using multiple methods, researchers may select methods from a single approach or both qualitative and quantitative methods. One of the reasons for following this route is because some mixed-method studies may use a combination of various instruments and procedures – such as observations, interviews, and analysis of texts written by the participants – that would be submitted to either qualitative or quantitative analysis. In the sample for this study, quantitative studies and qualitative studies used multiple methods to the same degree, and this dual type of data collection was infused into one questionnaire. As mixed-method research requires that quantitative and qualitative approaches be integrated, not all multi-approach articles belonged to this category. According to Zainab and Johari (2007:35), performance measurement is an essential component of a quality-oriented organizational culture in which consumers become more critical of the quality of services they receive and would complain when they are not satisfied. Libraries based on Cronin and Taylor, (1992:55) approach the assessment of quality in different ways. Since some studies maintain that perception scores alone could not explain service quality performance, as ratings of expected services that are based on memory may be biased by actual services received and may not measure performance correctly. The study, using a mixed-method (qualitative and quantitative) data collection approach, considered this when the survey instrument was designed. Some of the added advantages of employing concurrent mixed methods for data collection as stated by Creswell and Clark (2007:1) in a study included the validation of the

quantitative data to transform the data to find associations and differences in the respondents' opinions to address different types of questions. The survey instrument allowed all participants an opportunity to provide both qualitative and quantitative data so that the data could be compared easily.

4.2.2 Research philosophy

Research philosophy is a belief about how data about a phenomenon should be gathered, analysed, and used. A key dispute in epistemology when mixed methods are applied based on Castle (1997:55) is between positivists, who claim that there is an objective world outside us as observers and constructivists - who believe that meanings are constructed and interpreted and constantly reconstructed by people in their perceptions and social interactions.

Based on these arguments, constructivist and positivist epistemologies were adopted for this study. Castle, (1997:55) argues that positivists believe that there is a single objective truth or reality that can be found in studying social institutions or practices. He further argues that the French sociologist Emile Durkheim, who advocates that social fact should be characterized as ways of acting, thinking, and feeling that are external to the individual, frames positivists ideologies (Castle, 1997:56). Central to these arguments is that social and cultural knowledge is always conditioned through evaluative ideas. In aligning the arguments with mixed methods based on Fidel (2008:266), qualitative data gives room to the thinking of people in society who perceive social phenomena as a reality that is independent of their own volition; even though human beings construct these phenomena, they can also change them.

While much of contemporary quantitative methods in social research as argued in Foster and Wood (1997:1).are tacitly or implicitly characterized by positivists, qualitative methods have largely embraced another trend Beneficial to this study is the fact that, with a constructive approach, the qualitative data collection strategy can assume that academic staff, students, and librarians have the potential to identify, from a composite of library quality measurements, indicators relevant for higher education libraries. The study participants using Richardson's perspective (2005:673) were encouraged to examine, assess, and question the services offered by libraries to validate their relevance in meeting quality measurement norms.

According to Gorman and Clayton (2005:1), and Fidel (2008:265), few authors on research methodology (including those who attempted mixed-method research) cited the use of mixed

methods, providing only a short description. Coming to the applicability of this research methodology to library and information science research, Powell (1999:56) contends that, although there is evidence of an increase in studies covering multiple methods in library science research, most of these studies have investigated human information behaviour. Tashakkori and Teddlie (2003:29) conducted a study in which 247 articles were reviewed and analysed to determine the methodology used, and the result showed that 55% of the studies used multiple methods. None of the articles in Tashakkori and Teddlie's study declared the use of mixed methods. The assessment of the method seems to be gaining popularity in the field of library and information science. Their study also marked inconsistencies in defining the mixed-method approach, regardless of the implications for data validity. Yin (1994:1) argues that, when using multiple methods, researchers may select methods from a single approach or both qualitative and quantitative methods. One of the reasons for following this route is that some mixed-method studies may use a combination of various instruments and procedures – such as observations, interviews, and analysis of texts written by the participants – that would submit to either qualitative or quantitative analysis.

Yin (1994:14) also argues that both qualitative data collection and analysis methods are concerned with words and meanings, while quantitative data collection methods are concerned with numbers and measurements. Both techniques may be used to examine phenomena in their natural context. Mixed-method research (MMR) requires that quantitative and qualitative approaches be integrated, so not all multi-approach articles belonged to this category. The researcher reviewed several MMR articles to examine their methodological applicability and found that 22 (56%) of 39 two-approach articles viewed to determine whether the methods were mixed could be classified as MMR, while 17 (44%), although classified as MMR, only followed a single quantitative route in terms of their data analysis. According to Zainab and Johari (2007:35), performance measurement is an essential component of a quality-oriented organizational culture in which the consumers become more critical of the quality of services received and would complain when they are not satisfied. Different libraries approach quality assessment in different ways. Some libraries prefer to use perception scores, although these do not explain service quality performance holistically, since ratings of expected services – which are based on memory – may be biased by actual services received. Memory as stated by Cronin and Taylor (1992:57). may also lack realistic performance scores based on facts and evidence that may be collected quantitatively This study, which used a mixed method to collect data,

takes cognizance of the importance of clarifying the philosophical underpinnings that frame the study, and the research philosophy is unpacked and addressed in the section to follow.

4.2.3 Theoretical framework for the study

The gap analysis model originating from Zeithaml, Parasuraman and Berry (1991) was adopted for this study. The model identifies links between the identified strategic groups of people that are directly affected by library quality. These links have some critical points that can be identified as gaps. Section 2.8 in Chapter 2 provides an outline of the gaps relevant to this study.

Thus, briefly, the gaps are the: knowledge gap, perception gap, communication gap, and the gap between promises and unmet expectations. Serving as a reminder, that gap analysis regards the users' opinions is essential in determining the quality and/or efficiency gaps in libraries. These critical points or gaps are related to organizational deficiencies: if these gaps as stated by Cullen (2001:662) are monitored, it is possible to implement adequate measures to correct these critical points and improve service quality. The transformative approach to investigating library measures for quality in Richardson's views (2005:674) forms part of the process of making the library meet the needs and expectations of its users. The next section addresses the research design to give a clear account of the processes followed in this research journey.

4.3 Research design

Babbie and Mouton (2001:74) provide a very good picture of research design as clearly quantified to be a "blueprint of how a researcher intends to conduct research." Concerning research design, a multi-case study approach was employed. A case study as argued by Yin (1994:1) and Yin (2020) is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and its context are not altogether evident because it relies on multiple sources of evidence. Case studies, therefore, combine data collection techniques such as interviews, observations, questionnaires, and document and text analysis. When a case as stated by Creswell (2009:15) contains more than one sub-unit of analysis, it is regarded as an "embedded" case study.

Studies in library and information science such as Hancock and Algozzine (2017) and Thompson and Muir (2019:685) confirms that case study enables a researcher to explore dynamics of phenomena within a library setting and thereby bring an in-depth understanding of situations and their meaning to those involved. Case study research is used to achieve various research aims, such as to provide descriptions of phenomena (which in this study are the library quality measurement indicators). Surveys were used to collect data from individuals about themselves. Sample surveys are an important tool for collecting and analysing data from selected individuals. The survey design approach as stated by Creswell (2009:16) is widely accepted as a key tool for conducting and applying basic social science research. The data collection instrument was tested in a pilot test to ensure the validity and reliability of the data collected. Piloting as part of the study research design is discussed further below.

4.3.1 Piloting

Designing a research instrument can be a complicated process, as it involves a large variety of methods and requires substantial planning. The first part of the study involved piloting the instrument with 15 respondents at the researcher's home institution. The main objective for piloting the questionnaire was to determine the accessibility of the instrument, its eligibility, and the time it takes to complete it. The purpose of surveying academics and postgraduate students in this study was to determine how many of the respondent's views concur or differ from those of librarians. The comparison of results to determine similarities and differences would guide the researcher in determining relevant quality measurement indicators for higher education libraries. The indicators that were voted out by the study populations would be considered for exclusion from the library quality measurement matrix. The librarians and academics who were surveyed would contribute a client perspective to the study. The online survey was piloted to the librarians of the researcher's home institution, who in turn distributed the same questionnaire to one academic per faculty and one postgraduate student from each faculty. The aim was to pilot this study to 15 study participants, comprising of five academic staff members, five librarians, and five students. The purpose of piloting the study to 15 participants was to test the questionnaire's clarity, brevity, length, and ambiguity of questions. Testing of the instrument through piloting resulted in three instruments: one for academics, one for librarians, and the other for students. The five sub-components of the questionnaire covered nine sub-sections relating to elements that gauge how well the respondents understand the library, and its role concerning its relevance to the institution, managing expectations, student

learning support, information access and discovery, research support and innovations, funding, and conduciveness of library spaces. Only 11 respondents participated in the survey during the pilot phase. Their comments on the questionnaire included the refinement of questions, length, certain duplicate questions, and the editing of typographical errors in the questionnaire. Although the original research plan consisted of conducting focus groups, piloting allowed the researcher to review the questioning style and include open-ended questions that addressed the qualitative aspect of the study. Only 11 participants out of 15 responded to the questionnaire during the first round of pilots. Six 46% of the respondents were librarians, three respondents 23% were students, two respondents 15% were academic staff, and two respondents 15% were other respondents. As the online questionnaire was distributed on the university community group email, other respondents might have been administrative staff whose portfolios were not described in the study population demography.

There were challenges in completing the questionnaire, as ten out of the 50 questions were unanswered. The results of the pilot proved that the questionnaire was very long, and some questions were too long, ambiguous, and complex, as they used librarianship jargon. The respondents' suggestions were considered and the questionnaire was revised, shortened, and divided into three sets to accommodate academic-specific, student-specific, and librarian-specific questions and question styles that would encourage questionnaire completion. As each higher education institution has a large population of academics, librarians, and postgraduate students, this study was limited to five higher education institutions. The aim was to collect data from 225 participants across all five study sites. The method used to draw that sample is discussed in the next section.

4.3.2 Sampling and population size

The process of defining a representative sub-population to study is called sampling. Huysamen (1994:38) defines a population as the total collection of all members, cases, or elements from which a researcher wishes to conclude. When embarking on a research journey, there are only two sampling routes one would take, namely probability or non-probability.

Probability sampling is characterized by Tashakkori and Teddlie (2003:1) as the technique that gives a researcher liberty to select study subjects randomly during a process called random sampling or randomization, while non-probability sampling selection should be specific and target-oriented, carefully selecting study subjects because they have certain attributes that

would fully represent a large-scale population not studied. For the benefit of this study, purposive sampling was employed because of its efficiency when one needs to study a certain cultural domain with experts.

A sizeable population sample of 225 study participants was drawn from five higher education institutions in South Africa, with five faculties from each institution studied. This sampling strategy implies that 45 responses were expected from each institution. These responses would represent the views of 20 academics, 20 postgraduate students, and five librarians, per institution. Academics (who are also referred to as faculty staff in this study) have their perspectives on how library quality can be measured to ensure relevance in meeting their teaching and research needs. University students also have different sets of expectations from the library, while librarians, as the custodians of the library, have their ways of looking at relevant quality measurement indicators for libraries. The most important element of collecting data for this research study was the diversity of views on library quality measurement indicators, rather than replicated data. Amongst these five universities, each represented a certain category of the South African higher education political dispensation: white English, historically white Afrikaans, coloured, black and Indian communities. The sampling frame, therefore, consisted of 100, 100 postgraduate students, and 25 librarians, whose role is to provide services in support of faculty teaching, learning, and research. The five universities that were studied are the Durban University of Technology, the University of Fort Hare, the University of the Free State, Wits University, and the University of the Western Cape.

Although the researcher aimed at targeting 225 study respondents, more responses were received than expected, which placed the study at an advantage. Secondly, since higher education libraries' missions, objectives, and roles are similar, it was essential to obtain the views of academics, librarians, and students in the study to compare institutional responses. The motive of generating a sample of study results that address research questions was achieved, despite the difficulties in accessing academics and students. This pattern affected the response rate; hence, librarians doubled the number of academics. The details on how purposive sampling was employed are outlined below.

4.3.3 Purposive sampling

Purposive sampling revolves around the deliberate choice of study participants based on the qualities they possess that would add value to the study. One can easily deduce that selecting a

study population sample is a non-random approach. Tongco (2007:150) indicates that studies on purposive sampling do not justify the choice of technique, but for the benefit of this study, purposive sampling does provide more scope to decide what to declare or not. Another research advantage to using purposive sampling is its flexibility in using both qualitative and quantitative methods of data collection. Tongco (2007:151) outlines seven steps to ensure the effectiveness of purposive sampling, which include the following: Decide on the research problem, determine the type of information needed, and define the qualities that the study population should or should not have. The selection of the population to be studied should be guided by certain defined qualities that the population possesses to ensure the reliability of the data gathered. Secondly, while techniques of gathering data should be reliable and competent, data analysis and methods of interpreting the results should be carefully selected to prevent a biased view.

The data collection methods used in purposive sampling must be documented with each step taken. Purposive sampling is widely known for seven criteria that are depicted in the table below:

Table 2: Mind-mapping data collection processes

Research Problem	Research Methods and Analysis	Sample Selection	Site Selection	Understanding of Relevant Quality Measurement Indicators
Relevance of quality measurement indicators for libraries	Quantitative method: Structured questionnaires Percentages were used for analysis	University academic teaching staff (30), Librarians (40), Postgraduate students (80) 150 per institution	Five (5) sites: historically, white English university, historically white Afrikaans university, historically coloured university, historically black university,	Comparing knowledge gaps: Academics and students: They have experience of using the library's resources and services for teaching, learning and research

			and historically Indian university	
Services of important value to quality	Quantitative method: Structured questionnaires Percentages were used for analysis	A clear understanding of the library's role in support of teaching, learning and research	The missions of all these university libraries are to support teaching, learning and research	How well do users understand the services of the library? More than three years of experience in the higher education sector. They can attest to the effective and ineffective service of the library. Librarians, by virtue of their being library custodians and their experience in serving the needs of their clients, would be well placed to assess service relevance and irrelevance
Users' / librarians' perceptions of libraries meeting user expectations and satisfaction	An open-ended question, Thematic analysis was used to analyse themes emerging out of qualitative data and comments from respondents.			Comparing perception gaps within each category and later across the respondent's categories.

In the case of purposive sampling adopted in a study that uses questionnaires for data collection, the questions that were ranked as open-ended, closed, and frequency questions were given an opportunity for cross-tabulation. This was framed by ideas from researchers such as, Babbie and Mouton (2001:17) who assert that making of the data requires formulating a story that can be addressed by both closed and open-ended questions. The use of purposive sampling, especially during the design phase of the three questionnaires, also provided the researcher with the skill of careful and efficient questioning in a way that is easily understood by the respondents.

One of the most significant advantages of using purposive sampling is the involvement of a small proportion of the study participants because this is time-effective, cost-effective, and potentially accurate when maintaining control over a small population. However, in disseminating the findings, the researcher had to make fully transparent the criteria upon which the sampling process was based, as outlined in the table above. One of the cautious steps in using purposive sampling was ensuring that there is enough representation in the study population. The limitation of not knowing when all academics, librarians, and students were surveyed per study site meant that the ease of ensuring that the questionnaire reached its target audience was questionable. The fact that all three categories of the study populations selected, either in large or small numbers, had the potential of contributing unique perspectives representative of a larger audience was beneficial to the process. Purposive sampling, according to Suri (2011:63), is a sample that conforms to two major fundamental principles regarding judgemental and quota sampling, informed decisions about sampling are critical to improving the quality of research synthesis. These fundamental principles were important in investigating the relevance of the quality measurement indicators for the five selected South African university libraries using the ideas of the clients. The section below gives an overview of the South African higher education library setting, how libraries are dispersed, and the extent to which the post-apartheid system affected them in terms of resource provision and the impact on quality.

4.3.4 Access to study sites

Research integrity embodies a range of good research practices and conduct, which can include intellectual honesty, accuracy, fairness, intellectual property, and protection of human and animal subjects involved in the conduct of research. The responsibility for research integrity is shared by individual researchers and the institution and is always subjected to further

development at various universities, including the drafting of ‘Codes of Conduct’ during 2010. To ensure approval for the questionnaire/instrument data collection, ethical clearance was sought from the various study sites. Consent forms and a letter introducing the study aims and objectives formed part of the documentation distributed to the five universities. The section below discusses the ethical clearance procedures followed.

4.3.5 Ethics clearance

Any researcher’s journey, according to Dolgin (2014:418), must be accompanied by ethical clearance for the involvement of human subjects in one’s research. This ethics statement forms part of the first step that should be taken before any research work being undertaken and must be included in the documentation sent to the respondents. Most research grant organisations as stated by Dolgin (2014:419) require completion of ethical clearance from one’s organization and/or completion of the institutional ethical clearance form that gets approved by either the Research Committee or the University study board”. Collaborative research projects involving other research institutions often require the ethical clearance of all participating institutions, which can be quite time-consuming.

Similar processes for each institution were followed for this study. However, due to the timelines set, one institution was excluded and replaced by another due to the lengthy processes of ethical clearance in the excluded institution. Access to the five universities followed a triangular route: the first route being the librarians, secondly the university registrars, and thirdly research officers. Each institution’s responses to these options differ based on institutional governance and preference. At some universities, the library route was very helpful, as some library directors and librarians were instrumental in ensuring that the researcher gained access to the respondents. At other institutions, library directors separated themselves from the process and somehow delegated the task to other role players, who were either more or less helpful. Access to the five study sites was one of the researcher’s major challenges which affected the timelines and obtaining of the envisaged data.

As previously mentioned, the 36 South African public higher education institutions inherited from the past were reduced to 23 higher education systems, which were divided into five categories in this study. These five categories were used to determine which study site to select to be representative of the following: historically, white universities serving Afrikaans and English students (the University of the Free State and Wits University), a historically Indian

university represented by the Durban University of Technology, a historically coloured university represented by the University of the Western Cape, and a historically black university represented by the University of Fort Hare. Even though the institutional histories might be different, each study site selected had a rich and unique history. This was evident in the diverse nature of the responses received and seen as an advantage to ensure diversification of the tool. The assortment of the quality measurement tool for higher education libraries was also seen as an advantage for this study. The fact that the uptake of quality by these institutions was framed by the Higher Education Quality Framework appeased librarians and motivated them to assist the researcher in finding ways to access their institutions. The section below gives an account of each study site and how each institution approaches quality.

4.3.6 Overview of the study sites

This section looks at how each university library subscribes to quality management and the status of its commitment to quality. The researcher looked at the university library website and screened papers presented by the libraries on the quality management topic to address this part of the study. In cases where there was minimal information on a library, data on the institutional commitment to quality was used. As the global history of these universities had no meaningful benefit to this research, information on their history is only used to frame the institutional adoption of quality and service excellence. What is common to all these institutions is their membership of CHELSA, which implies that their practices are based on the current measures for quality.

4.3.6.1 Durban University of Technology

The Durban University of Technology (DUT) as stated by Matsiliza (2007:5) was conceived in 2002 from a merger of two Technikons (a former historically white Technikon, called Technikon Natal, and a former Indian Technikon, called M. L. Sultan Technikon. In pursuit of its vision, the library is committed to being a student-centred library that enhances learning, teaching and research through the provision of information services, access policies and instruction programmes in line with the objectives of the university. It is quite evident that DUT Library ensures quality and relevance to its institution, values a student-centred approach, and applies excellence in ensuring the university gets value for money in library services. The library had recently adopted LIBQUAL, which subsequently was followed by institutional quality audits in 2007.

4.3.6.2 University of Fort Hare

Framed by its powerful vision and mission, the University of Fort Hare (UFH) is a public university in Alice in the Eastern Cape, one of the poorest and most underdeveloped provinces in South Africa. Its mission is to provide high quality education of international standards contributing to the advancement of knowledge that is socially and ethically relevant, and applying that knowledge to the scientific, technological, and social-economic development of our nation and the wider world. This mission is therefore supported by a stronghold of two strategic objectives, committing the university to high quality education, achieving international standards, and establishing a wider currency of qualifications in a new global economy. It is these powerful objectives that make this university one of the ideal and relevant to this study. A strong university always has a well-managed library, run with creativity. The mission and objectives of the library are like other universities regarding providing the university community with access to quality information services and resources in a variety of formats and delivery systems that support the teaching, learning, and research and service mission of the university.

“The objectives of the library are, to provide access to information resources that support the university’s teaching, learning and research needs; which assumes an active role in the achievement of academic excellence and developing lifelong learners; present the physical and virtual information hub of choice; and to deliver excellent, equitable and innovative library and information services, supported by professional and competent staff who are governed by the values of the university” (<http://library.ufh.ac.za/content.asp>, 2012).

4.3.6.3 University of the Free State

The University of the Free State (UFS) was established in 1899 in the Orange River Colony, which was then one of the provinces in South Africa. UFS aspires to be a university globally recognized for excellence in academic achievement and human reconciliation (<http://www.ufs.ac.za/content.aspx>: 2014). One of the two strategic initiatives related to the study that is outlined in the University of the Free State strategic objectives are the following aspirations: “Setting the highest standards for undergraduate and postgraduate education and advancing excellence in the scholarship of research, teaching and public service and demonstrating in everyday practice the value of human togetherness and solidarity across social and historical divides” (UFS strategic plan, 2012).

4.3.6.4 University of the Western Cape

The University of the Western Cape (UWC) was founded in 1960 as a public university based in the northern suburbs of Cape Town. The university's vision is to be "a place of quality, a place to grow from hope to action". The library also developed a mission that aligns with the university vision. The library vision is to "provide quality, innovative client-centred information services" (<http://www.uwc.ac.za>). It is quite clear from both the university and the library's visions that quality management is central to university governance. The library vision is a clear indication that the library is accustomed to satisfying and meeting the expectations of its users (<http://www.uwc.ac.za>). It is through this vision that the library undertook the LIBQUAL assessment tool in 2006 and subsequently subjected itself to quality review in 2012. In looking at the key activities whose relevance for quality measurement were assessed in this study, themes such as accessibility, relevance, effectiveness, and knowledge of staff were aspects that derived from the HEQC framework and were used by the university when its operating plan was developed.

4.3.6.5 University of the Witwatersrand

The University of the Witwatersrand (Wits) is classified as one of the South African comprehensive universities, with a distinctive capacity to contribute to the reconstruction and development of the country through research and the production of skilled, critical, and adaptable graduates. As a research-intensive university, Wits is committed to providing quality training for postgraduate students as one means of ensuring a continuous supply of active and motivated researchers. The Wits Library, as part of its aspirations, keeps abreast of the new technology, linked by a network to other libraries throughout the country, and via the internet to global information resources. The library prides itself on valuing its role in teaching students how to access and utilize electronic information as an important function of the library (University Librarian, 2013).

With reference to its uptake of quality assurance, quality management and evaluation, the Wits Library is one of the few South African university libraries that have developed an easily accessible library framework (on its website) for quality assurance since 2007. The Wits University library is one of the libraries that also adopted LIBQUAL, a platform that allows library users to assess the library.

4.4 Data collection

As data gathering is crucial when conducting any type of research, as argued by Bernard, Pelto, Werner, Boster, Romney, Johnson, and Kasakoff (1986:382), it becomes imperative that selecting the manner of obtaining data be done with sound judgement; Since there is no amount of analysis that can compensate for improperly collected data. The study employed an online survey and sampling technique, with data collected for six months. The final revised questionnaire was distributed for a period of five months from January to May 2014. The questionnaire sample, consent letter and ethical clearance letter are attached in Appendixes A, B and C, respectively. The online questionnaire, with instructions on how to complete each section, was distributed via electronic mail. Three weeks following the replacement of a universal questionnaire by the three subsets of questionnaires, a follow-up letter and an update of each study site's response rate was distributed to the contacts at each study site's library and to the other institutions' research offices to remind participants to complete the questionnaires. According to Suskie (1992:111), the timetable used when conducting research serves as a means of reminding recipients to complete the survey without going to great expense. This also contributed to doubling the librarians and students' response rate at the researcher's home institution. The reminder was misinterpreted to be another request for questionnaire distribution, hence the questionnaire ended up being accessed by a larger percentage of postgraduate students in the researcher's home institution.

4.5 Data analysis

This section is an account of how the data was analysed using two software programs, SPSS for the quantitative data and Atlas.ti for the qualitative data. The processes followed in interpreting the raw data are explained in this section. The quantitative and qualitative data collected on the related issues were mixed to give direction and meaning to the study. The Likert scale formed part of the questionnaire rating system and was used to analyse ordinal data collected quantitatively, while qualitative data were analysed using Atlas.ti software to determine the following: coding, thematic analysis, the emerging themes in various categories, and the relationships between the categories. To analyse the descriptive data, the statistics were verified using inferential statistics to determine response associations and differences. The differences and associations were further analysed using non-parametric tests, the reason being that they are nominal and ordinal data.

4.5.1 Quantitative data

The quantitative data was captured through an online software called Google Drive. Google Drive collates quantitative data into either tables or charts to give your study a numerical understanding of the respondents' responses to each question. The system assists researchers to pull together all responses and tracing and track the response rate. When conducting statistical analysis, it is necessary to be familiar with the data setting to examine it. SPSS presents an opportunity for a study to choose between four types of data (nominal, ordinal, interval, or ratio). Nominal data classifies some attributes that are coded as numbers with no meaning, while ordinal data has numerical meaning beyond order. Interval data, although numerical, gives a study variance between numbers. There must be intervals that allow for comparison, such as in ratios, where numerical data calculated for distances between the data and zero has a meaning. The quantitative data was coded into ten themes that were used to guide the direction of the study.

4.5.2 Descriptive analysis

Descriptive analysis was used in analysing the data, to allow for the classification and summarizing of the response rates and frequency of those ratings, while comparing them with the other respondents' categories.

Descriptive analysis as defined by Sekaran and Bougie (2016:1) includes the analysis of data using frequencies, dispersions of dependent and independent variables and the measure of central tendency. Furthermore, the results of the biographical data were used in the frequencies to determine percentages obtained based on sample characteristics. Thus, descriptive statistics was deemed necessary to summarize and merge data into qualitative findings as part of the mixed-method approach.

4.5.3 Frequency statistics

Frequency statistics were used to determine the number of times a variable was ranked by the respondents. As the study aimed at validating the services of the library that are worthy of being part of the quality measurement instrument for libraries, the more people who rank an item highly, the more relevant and important the service is assumed to be. Frequency statistics were also used to validate the themes that emerged from the qualitative data.

4.5.4 Qualitative data

Qualitative data were collected through open-ended questions that were designed and distributed using Google -drive and analysed using Atlas.ti software. Atlas.ti uses a hybrid strategy that, according to Hwang, Cho, and Park (2009:85), fuses codes from the software and translate them into sensible and meaningful stories. The stories generated from the qualitative data were used to determine how much academics concur or contradict each other on selecting relevant quality measurement indicators for libraries. The comparing of quantitative and qualitative was used to test the validity of the GAT, which confirms that the smaller the gap the more relevant the quality of that library is to its constituents. This testing of GAT was performed by cross-tabulating qualitative data to quantitative data. Each code was reanalysed to determine how much it links to other codes that might have related meanings. The codes were revisited to determine the number of quotations attached to them and to understand what conclusions could be drawn from the quotes. One of the benefits of qualitative data is its suppleness in generating rich data, with valid details and processes that contribute to the understanding of the context. In this study, each code was linked to the quotation or comments that explain the respondents' answers on that theme in detail.

4.5.5 Thematic analysis

Phenomenology (the study of human experiences) resonates with this research. There were five open-ended questions in this research requesting the perceptions of the academic staff, students, and librarians of their experience of library use, which can be termed 'library user experience'. The term used as stated by Sadeh (2007:7) describes the process of soliciting user perspective in an empirical study called phenomenology.

Phenomenology as outlined by Kracker and Pollio (2003:1104) has a radical and empirical approach that contributed a (library user experience) to this study, namely an assessment of whether its services add value to quality without relying on theories and assumptions. Thematic analysis guides a study to see how well respondents understand the process, its value, and what it means concerning service The study by Denzin (2012:80) broadly defines triangulation as the combination of methodologies used to analyse data. The triangulation metaphors use multiple reference points to locate an object's exact position.

The researcher merged all the data from the open-ended responses collected qualitatively to the quantitative data to determine which themes ranked highly in the qualitative themes, and which ranked highly on the Likert scale to the quantitative data. Atlas.ti generated lists of themes or codes that were not covered by the quantitative data collection instrument with comments that contained contradictory statements, from which the researcher had to determine where that information could be used in the study results to make sense. The researcher loaded the primary data into the platform while coding the data using Atlas.ti. The coding and transcription process was pursued in consideration of the study objectives of collecting the views and opinions of academic staff, librarians, and students regarding library services that have implications for quality. The system was instructed to group the codes (themes) in hierarchical order, with the assumption that the higher the number of comments and quotations on the theme, the more important the phenomenon. As the study followed a mixed-method approach, the major components of data that would inform the study findings were quantitative data. Qualitative data were coded to achieve the two following main objectives:

- To determine how many themes emerged from the qualitative data that were related to themes that were ranked highly in the quantitative data. This would in practical terms refer to services of the library whose relevance or importance was highly ranked on the Likert scale; and
- To determine whether there were emerging themes that were generated through the stories told by the respondents about the study phenomenon.

In addressing these objectives, thematic data analysis was used. Thematic analysis is defined by Braun and Clarke (2006:79) as a data analysis method used for identifying, analysing, and reporting patterns (themes) within data.

4.5.6 Mixing qualitative data with quantitative data

MMR requires an emergent strategy in at least the QUAL component of the design because of the nature of the design. Emergent designs in the views of Lincoln and Guba (1985:1) and Patton (2002:261) may evolve into other forms as QUAL data collection and analysis occur. The combination of the two designs in MMR derives benefits through triangulation and complementarity. Triangulation and complementarity are not design issues but are relevant to interpreting the meaning of the study results. In testing GAT, the quantitative data collection instrument validated the relevance of 22 SERVQUAL library service gaps that were adopted

from the study conducted by Calvert and Herson (1997), who evaluated academic libraries in New Zealand.

4.6 Study challenges

Expecting academics to find time to complete this study questionnaire while carrying a vast load of teaching and research expectations was one of the challenges of the study. The survey was ultimately shortened and the scope of coverage looked at elements of library services that are viewed as being important for teaching, learning, and research. The difficulty in finding studies of this nature may be assumed to have contributed to the low response by academics. This assumption is not impractical if viewed in the context of how the academics of these five institutions took time to complete the questionnaire. Another factor that also influenced the slow responses was the institutional information communication technology infrastructure. Even though Google Drive might seem to be user-friendly, bandwidth problems and prioritization in some institutions are still a matter of concern. In the researcher's home university, 75% of the responses received were obtained through three trials of survey distribution, even though not all the academics completed the survey.

4.6.1 Survey design and administration

Survey design is a process that includes how research questions are formulated, how a theoretical framework is designed, and data collected and analysed (Creswell, 2009:7). As the study was empirical, it was intended to answer descriptive and exploratory questions. Descriptive studies, as outlined by Marshall and Rossman (1995:79), answer questions of what, how, when, and where, and how many, while exploratory studies answer questions such as why. This approach is supported by Babbie (2002:1), who states that exploratory research answers questions such as “what events, attitudes and beliefs” are framing a phenomenon. The purpose of the exploratory part of the study was to determine elements of library services that would affect quality when compromised. The questionnaire design exposed respondents to open-ended questions that provided an opportunity to reflect on library quality and performance in meeting their expectations. While the rest of the questions revolved around collecting quantitative data that was ranked using a rating of library services using a Likert scale.

Qualitative methods based on Creswell and Clark (2007:12) are derived from the interpretive paradigm, with emphasis on the exploration of meaning and understanding the context in which events occur. Views on the impact of service towards the fulfilment of its task warrant the use of a quantitative research method, especially if more than one constituent is to be studied. The questionnaire was designed using one of the popular data collection tools that are commonly used at the researcher's home institution. The Google Docs platform is used to draft surveys and ensure completion by participants, without tampering with the survey originality. It also allows the researcher to share the platform link with respondents, who would not have the rights to change the questionnaire. As all processes were automated, all transactions between the researcher and the respondents were managed electronically. The platform automatically collects data, analyses it, and generates statistical data that can be used to determine data collection progress. It is through using the effective and efficient data collection tool that the researcher could deduce anomalies in response rate and track the respondents' inputs on the questionnaire.

4.6.2 Instrumentation

The survey questionnaires distributed to the academic staff, librarians and students addressed three purposes. The first purpose was to examine the importance of library services; secondly, to gauge service relevance in meeting quality standards; and thirdly, to assess the respondents' perceptions and expectations of and satisfaction with the services offered by libraries. The questionnaire was designed, adopted, and customized from work by the ACRL(2010a:1). Survey questionnaires were used simply because of the following distinct advantages: and based on Hinkin (1998:104), questionnaires are less expensive and easier to do than personal interviews, they lead themselves to group administration and they allow confidentiality and easy distribution and analysis. The structured questionnaires were developed by the researcher. A covering letter with a brief description of the study purpose was attached to the questionnaire. The respondents were assured of their anonymity and freedom to decide whether to participate in the study or not (see Annexure 1: Covering letter attached to the questionnaires. This study adopted a structured approach in which various phases of testing the instrument with the universal questionnaire were developed for academics, students, and librarians. To ensure that qualitative and quantitative data were collected, 16 questions in the postgraduate students' questionnaire were structured, and a further four open-ended questions, which encompassed

much valuable information that would guide the design of the new quality measurement indicators.

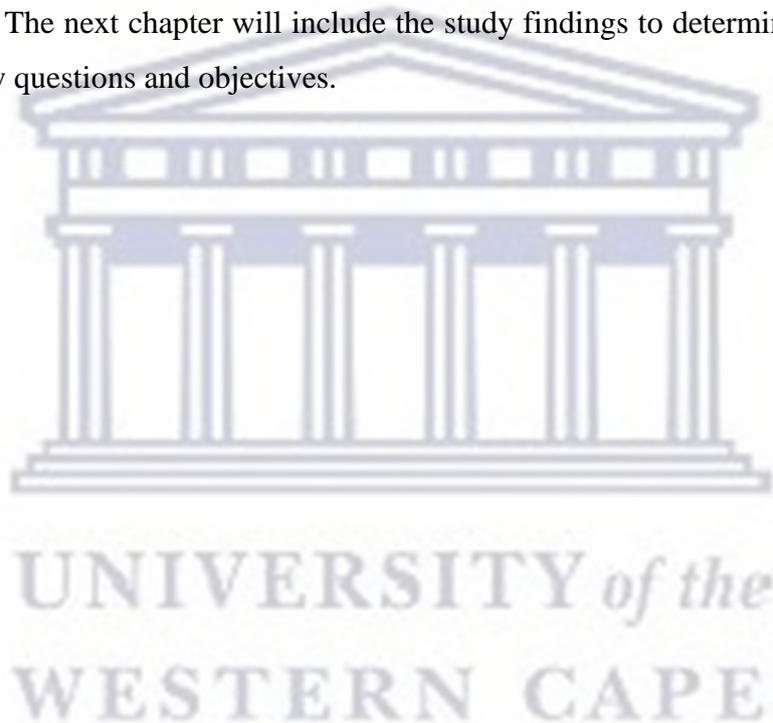
Even though some of the respondents duplicated items covered in the structured questions, the motive and use of their simplified terminology on what they understood as being the library's role were motivating. In summary, all the respondents were allowed to reflect on questions that covered the following: aspects of the library that add value to quality but were not covered in the questionnaire, their perceptions of library services in relation to servicing postgraduate students, the importance of faculty relationships in relation to either postgraduate support, teaching, learning and research and, lastly their perceptions of these quality measurement questions and whether they thought they had the potential of improving the quality of library services. The questionnaires were divided into different sections to facilitate the processing of data using key themes that would make it easier for the coding of the data collected. These themes were covered in all three questionnaires, with the questioning style tailor-made for each constituent. These areas included demographic information, quality measurement indicators for higher education libraries, and a third section which included the open-ended questions.

The question in Section 1 was regarding gender, portfolio at university, number of years as a student, institutional representation. The aim of obtaining this information was to enable the researcher to determine whether there would be a relationship between responses in the same category of this multi-case study. In the second section, academics were expected to use relevance ranking to determine how valuable the services of the library that support teaching and learning can be considered as quality measurement indicators for higher education libraries. The main themes covered in this section were teaching and learning support, learning materials, curriculum-embedded information literacy and faculty/library collaboration. The qualitative questions that were covered in Section 3 included: postgraduate support, aspects of the library that add value to the quality of services offered to support teaching and learning, and the most critical services of the library that need major improvement.

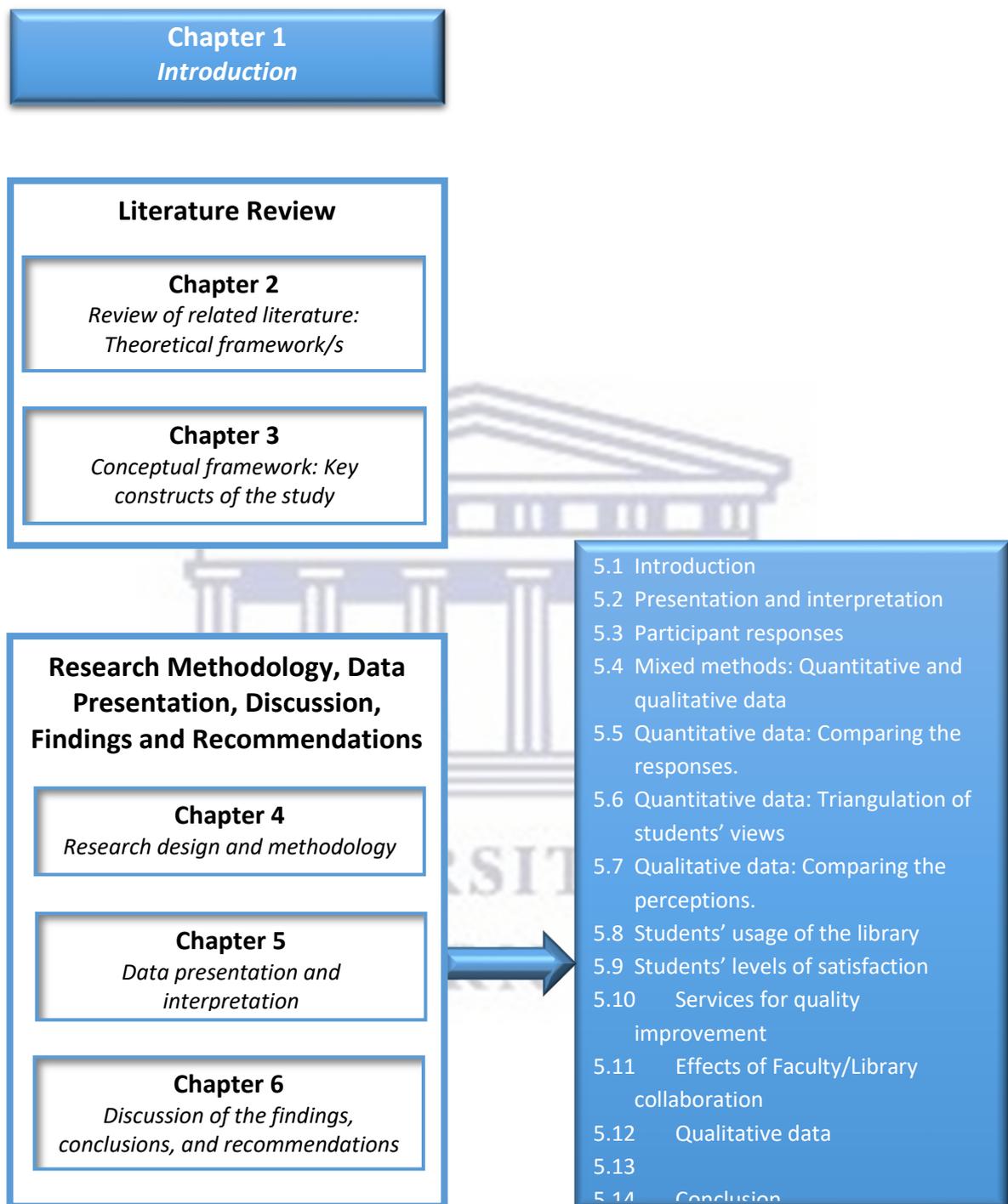
4.7 Conclusion

In conclusion, conducting research using a mixed-method approach seemed appropriate for conducting a library study.

However, the fact that the methodology has not yet been explored much in the library and information science field does not mean that it is impossible to obtain positive results. Higher education libraries have been surveying library users for years to determine their levels of satisfaction with the services on offer, and from that, it is quite evident that users can inform the process of designing an instrument for quality measurement. Despite the challenges faced by the researcher in obtaining responses from academics and students across the institutions, the fact that there was enough representation of academics and students made it possible to achieve the study's objectives. The focal point was not responses across the university but getting responses from the various stakeholders. While conducting a multi-case study would have to the multi-campus view, the fact that it was not achieved does not disadvantage the study outcomes. The next chapter will include the study findings to determine how well they address the study questions and objectives.



CHAPTER 5: DATA PRESENTATION AND INTERPRETATION



5.1 Introduction

While Chapter 4 presented the study design, methodology, and how the data were collected, this chapter presents the results of the study. It reveals the meanings academics, librarians, and students attach to quality measurement indicators for at the selected South African higher education institutions. The collected data were analysed and interpreted in response to the three study questions and objectives set out in Chapter 1 of the dissertation, along with the new indicators that emerged from the qualitative data. This chapter is subdivided into five sections:

- The first part presents the quality measurement indicators for higher education libraries as suggested by the academics, librarians, and students at the five selected universities. The quantitative and qualitative results are analysed and interpreted in this section.
- The second part compares the views of academics and librarians on ranking library quality measurement indicators based on the quantitative data. The section examines what librarians do in support of academic teaching and what academics are expected to do in turn to create this partnership.
- The third part compares the views of academics, librarians, and students based on the quantitative data. Each group ranked the relevance of the existing quality measurement indicators for libraries.
- The fourth part assesses the extent to which academics and students related to the following quality activities of the library: library use by students, students' satisfaction levels, and faculty/library collaboration. The qualitative data on the perceptions of the academics, librarians, and students are analysed and compared among the groups to determine which perceptions should be translated into services to inform the development of new quality measures.
- The fifth section discusses qualitative views by grouping them into themes that are used to frame indicators that should be included in the revised quality measurement instrument.

Some of the new indicators that emerge from this research are not present in the existing guidelines, making them worth considering in the revised quality measurement framework.

To maintain the anonymity of the respondents, the five universities studied are not mentioned by name. The letters A, B, C, D, and E represent them. The study findings, in conjunction with the literature consulted, reveal that as much as some of the existing CHELSA measures are still relevant, libraries have to take drastic steps to improve user involvement and communication in the design of their quality service plans. The study also shows that academics are not completely aware of the efforts of libraries to maintain and improve service quality, while students are quite aware of what is happening in the library. This signals poor communication between the library and academics. Hill (1995:10) is of the opinion that students, as the primary consumers of the services in higher education, must prescribe what is to be quality measured, librarians, according to Hernon and Altman (2010), also have to develop new ways of looking at quality by addressing stakeholders' interests in their design. The views of academics, as university stakeholders who form part of the panel to review the quality of libraries, are quite critical for the design of quality measurement indicators for libraries. The conclusions drawn from the data, in conjunction with the reviewed literature, indicate the need for a review of the existing quality measurement indicators for higher education libraries. The responses were critically analysed to identify common patterns, discrepancies, and unusual patterns that emerged. The responses are summarized in the figures in the sections below.

5.2 Presentation and interpretation

The data gathered with the questionnaire were subjected to frequency counts. In other words, the responses of each group were added together to find the highest frequency of occurrence (i.e., the number of times a particular response occurs). The responses to the questions were quantified and are presented as percentages. The use of a multi-site approach enabled the researcher to gain a holistic view of how academics, librarians, and students understand library quality measurement indicators at the various universities. The data were found to be profitable for addressing the research problem. This became quite evident as the quantitative results were confirmed by the comments from the respondents in the qualitative data. The figures and tables below depict the number of times respondents chose a specific answer to a question.

5.3 Participant responses

Three-hundred and seventy online questionnaires were distributed to five higher education institutions for completion by 20 academics, 20 librarians, and 20 students per university.

Out of these, 300 questionnaires were returned. Figure 1 reveals that out of the 300 responses, 66% were students, 19% were librarians and 15% were academics. The distribution of links to the questionnaire was affected by the following problems: there was no direct access to academic and student group emails due to the differing information communication infrastructure of the various universities. Access to librarians was obtained either via the library directors or through group emails available on the library websites. The fact that more student responses were received as stated by Becker, Hartle and Mhlauli (2017:1) is an indication that universities' primary stakeholders are students, and when any department of the university compromises the quality of services offered, the whole ecosystem of student learning is directly affected.

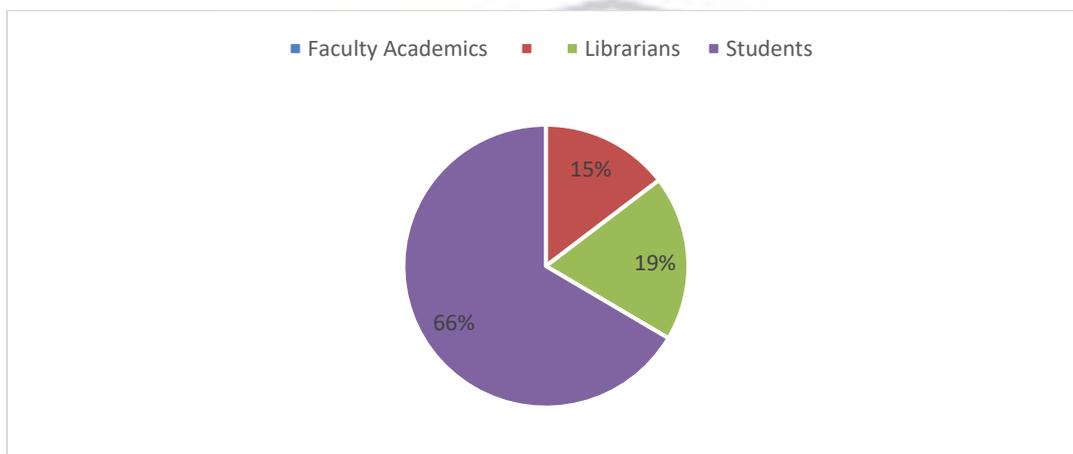


Figure 1: Respondents per user category

5.4 Mixed methods: Quantitative and qualitative data

The results of the quantitative research using closed-ended questions on the survey questionnaire were analysed and correlated with the qualitative data from the comments and perceptions of the respondents. The diverse nature of the study participants compelled the researcher to do comparative analysis within each group rather than comparing across groups. Academics, students, and librarians form three unique stakeholders of the library, therefore their needs expectations, though important in informing the selection of relevant quality measurement indicators for higher education libraries, cannot be compared with each other. Results of this exercise are presented below.

5.5. Respondents' ranking of library quality measurement indicators

The qualitative research component of this study served to identifying emerging indicators that do not form part of the CHELSA measures for quality. The aim was to determine which respondents favoured which indicator and what their reasons were for doing so. This was then compared to the CHELSA measures for quality and the information from the literature review conducted on this subject.

Q. 1 Acquisition of printed and electronic resources as a measure of quality

The process of acquiring printed and electronic resources is twofold as books are recommended for library acquisition by academics. Through national bargaining, librarians then acquire electronic resource packages and consortium deals organized by higher education and research libraries. The term 'acquisition' in the context of this study, refers to the process of acquiring such materials in various formats, whether as gifts, exchanges, or purchases. The quality of this service is affected by issues such as the turnaround time for acquiring books, adding data to library catalogues for user access, and libraries not giving feedback on resources received during the acquisition process. Failure to advise academics when book orders arrive or on the status of their acquisition's lists, compromises access to such materials and disadvantages library quality as accessibility is one of the critical success factors of a library prescribed by CHELSA (2006). When academics are forced to start teaching without having consulted a book they ordered for their preparation is frustrating from the lecturers' perspective.

Figure 2 illustrates the number of respondents within each group (academics, librarians, and students) and how they ranked the process of acquiring print and electronic resources by the library as a measure quality.

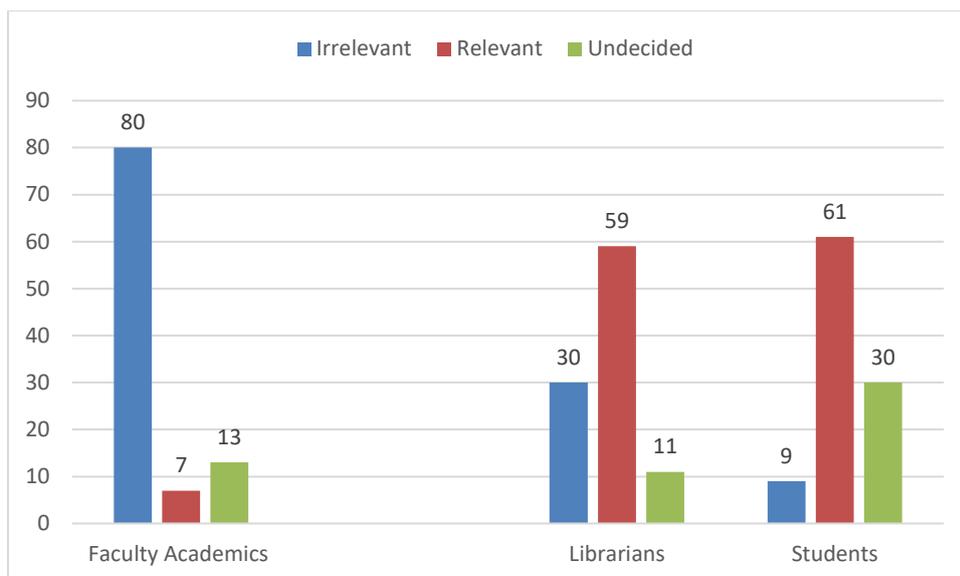


Figure 2: Acquiring print and electronic resources

Q. 1.1 Faculty academics' views

Eighty per cent of the academic staff considered the acquisition process as irrelevant as a quality indicator, while 7% said it was relevant and 13% of the academics were undecided. Even though quite a large portion of academics considered the process of acquiring print and electronic resources an irrelevant measure of quality, two academics raised concerns about the time it takes to acquire resources, the irrelevance of the materials, and the poor feedback from the library on the status of materials ordered and received.

Academic A*: “Books that are purchased by our library are irrelevant, and the process takes too long for academics to derive benefits in the same year.”

Academic C*: “The process of acquiring books and journals leaves so much to be desired, we do not get feedback on orders received, let alone materials out of print.”

An academic from university C* is not happy with how librarians do not give feedback on the status of books they ordered through their library.

The fact that academics ranked this indicator as low in relevance signals their level of satisfaction with the quality of the process of acquiring print and electronic resources at their academic libraries. Two issues emerged from the comments, namely the irrelevance of books in the library stock, and the length of the acquisition process. According to Siddiqui (2003:352),

the library should establish direct communication with academics who have placed book orders. In doing so, the academics are empowered with information that can guide their teaching schedule. The issue of the turnaround time of the delivery of books ordered by the library has been addressed by Ward (2002:95) as an element that hampers the quality of the library. The CHELSA (2006) measures for quality suggest that libraries should ensure that books and electronic resources are ordered and made available for users any time they need them.

Q. 1.2 Librarians' views

Fifty-nine per cent of librarians consider the indicator as relevant, with 30% saying it is irrelevant, while 11% were undecided. While it is quite understandable that many of the librarians ranked the indicator as relevant, this indicator also forms part of the existing CHELSA measures of quality that are known to librarians. A comment received from one librarian signalled either a lack of understanding of what the study was all about or what the question was:

Librarian A*: "The questionnaire could have asked us about Web 2.0. and other developments taking place that could enhance the library acquiring of resources."

While it is assumed that the librarian misread the question, there are various ways in which Web 2.0 can be used to improve communication between librarians and academics. According to Partridge, Lee, and Munro (2010:315), one of the benefits of using Web 2.0 that could be aligned to the process of acquiring printed and electronic resources is improved communication. Web 2.0 would not only provide improved communication between the library and academics, but also would encourage the online participation academics/librarians and vendors towards informed decisions when selecting electronic resources for subject disciplines. This system, although it was not clearly stated in the librarians' comments, does have the potential of breaking down the barrier of time while waiting for feedback on order arrival, as the Web 2.0 platform creates an environment for all parties to keep track of the ordering process.

Q. 1.3 Students' views

A large component of students (61%) ranked this indicator relevant, while only 9% ranked it irrelevant and 30% were undecided. Although the students ranked this indicator as relevant,

one could detect how their understanding of the process relates to their experience of using library resources rather than an understanding of the process itself. Their comments signal a need to improve the selection process, as the libraries at times do not have resources that match their needs. This also suggests the importance of considering students' voices in the establishment of resource recommendation lists.

Student A*: "More recent books are needed; we cannot study in these conditions and books are not organized."

Student C*: "Libraries as institutions of information communication should dispatch information on books acquired by the library."

The available research indicates that the existing quality measures for South African higher education libraries as outlined in CHELSA (2006:1) have, as one of the measures of quality for libraries, the process of acquiring printed and electronic resources. The study by Kyrillidou (2002:42) shows that the process of acquiring library resources is directly affected by queries and concerns about the size and the number of resources acquired.

On the other hand, the study by Choukhande and Kumar (2004:23), which assessed the user needs and problems associated with the acquisition of resources by the library, discovered that as much as users expect libraries to acquire electronic resources, academics and students still regard printed books as equally important. To ensure the quality and effectiveness of resource acquisition processes, librarians, according to Poll (2008) must constantly give academics feedback on the status of their acquisition requests. The fact that only academics ranked this indicator low should not undermine the relevance of the process of acquiring printed and electronic resources as a relevant measure of quality. This could be aligned with the fact that CHELSA (2006:3) considers this indicator to be one of the quality service indicators that frames the importance of libraries in supporting academic endeavours. In conclusion, the process of acquiring print and electronic resources is considered a service that defines any library in a higher education environment. As the process of acquiring library resources is a response to a request for more resources on the side of academics, libraries and librarians are compelled to account for the quality of this service in meeting the needs of the users. With that in mind, despite the low ranking of the indicator by academics, the fact that, CHELSA (2006:2) considers this indicator a measure of quality warrants its retention in the quality measurement tool.

The studies conducted in New Zealand and America by Herson and Calvert (1996:387) and Herson and Altman (2010) suggests that the process of acquiring library materials does affect the quality and role of a library.

Q. 2 The library’s provision of resources that are relevant and up to date to add value to teaching, learning and research

One of the roles of higher education libraries links with their mission to provide their users with resources that are up to date and relevant to the university’s teaching and learning enterprise. To ensure relevance and up-to-date resources, libraries must constantly evaluate their resources. The aim of resource evaluation is to determine which resources are heavily used so that additional copies can be acquired or placed in sections such as short loans where users will be given equal benefits in their access. Resources are also evaluated to determine the extent of use so that in cases where a decline is experienced, academics can be advised before a resource is cancelled by the library.

Figure 3 reveals the number of respondents in each group (academics, librarians, and students) and how they ranked the library’s ability to provide relevant resources that are up to date and add value to teaching, learning and research.

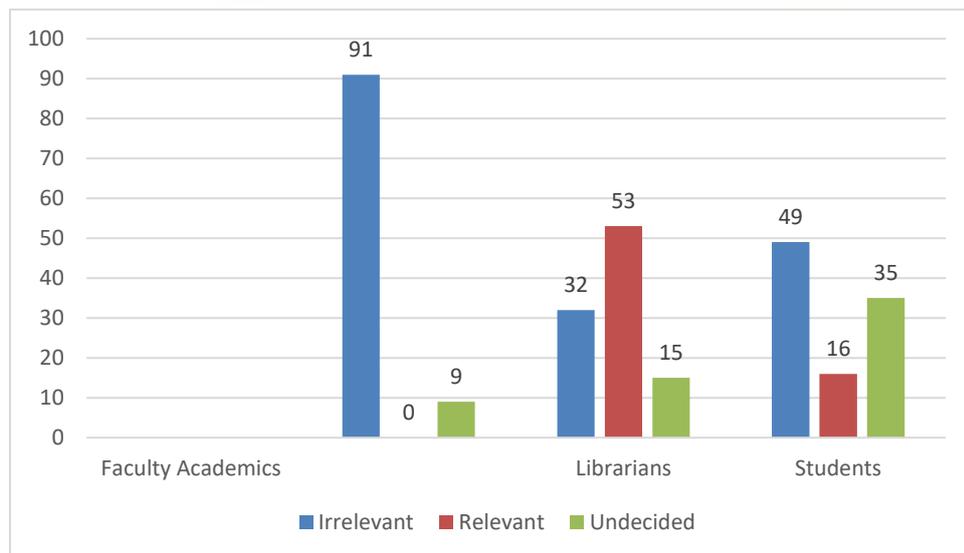


Figure 3: The library's ability to provide relevant resources that are up to date to add value to teaching, learning and research

Q. 2.1 Faculty academics' views

While 91% academics do not agree with the relevance of this indicator as a measure for quality, only 9% were undecided with none ranked the indicator relevant, which signals their dissatisfaction with how libraries provide resources. There was a very small proportion of academics that ranked the indicator as relevant, and no comments were made on why this indicator was considered relevant.

The ranking of this quite important indicator as irrelevant signals dissatisfaction with the service. Among the issues cited by the large proportion of academics who considered this indicator as irrelevant was the accessibility of research publications and the inadequacy of library resources related to the curriculum. The comments below indicate areas that should be addressed to ensure quality improvement:

Academic A*: "Online access to research publications."

Academic C*: "Most faculties have minimum library resources to support the curriculum, information dissemination and access are problematic."

While it is quite clear from the existing, CHELSA quality measures that the library must provide resources that are relevant, up to date, and add value to teaching, learning and research, these guidelines are silent on how libraries should pursue their role to guarantee them. In contrast, libraries are confronted with a general demand for transparency as to their worthiness and the value they add to the university's teaching, learning and research outcomes. This demand should be addressed by putting systems in place to assess resource relevance in meeting the needs of academics.

Q. 2.2 Librarians' views

Of the librarians, 53% ranked the provision of up-to-date resources as relevant, there's only 32% that ranked the phenomenon irrelevant with 15% undecided. It should be noted that quite a substantial number of librarians ranked the indicator as irrelevant, as depicted in Figure 3 above. Only two librarians mentioned reasons for not ranking this indicator relevant. This measure of quality is associated with the funding of libraries and resource provisioning, which hampers their role in meeting the teaching, learning and research needs of their university. These librarians believed library budget cuts have a direct effect on libraries' capability to provide more resources that cover subject disciplines with a broader scope.

Librarian A*: “Most definitely library funding must be increased to enable it to effectively support teaching and learning needs of its university.” Librarian B*: “More books, more journals and subject-based databases.”

Librarian A*: “No budget cuts should target the library.”

While the CHELSA (2006) measures of quality indicate the importance of the provision of relevant resources that are up to date and value-adding to teaching, learning and research, adequate funding resources must be put in place by the executive management for libraries to perform at this level. The existing CHELSA quality measures do take cognisance of funding constraints that sometimes hamper libraries’ ability to provide relevant and up-to-date material that adds value to teaching, learning and research. However, other than a partnership between librarians and academics, there is no means to ensure the relevance of resources.

Q. 2.3 Students’ views

With reference to students’ responses, only 16% ranked the indicator relevant, with 49% considering it irrelevant and 35% remaining undecided. The majority of students (49%) ranked the indicator as irrelevant because, in their view, libraries are not very efficient in ensuring that the resources in their libraries are relevant, up to date and add value to teaching, learning and research. Students were quite aware of alternative models that libraries could use to provide relevant resources, but in their view, that did not justify the relevance of this indicator. Students see open-access and open educational resources as smarter ways to improve libraries’ resources, especially in times of financial crisis. Open educational resources are peer-reviewed textbooks and articles that are published online using an open-access route that makes them publicly available for free to any user interested in them. The students also felt they should be included in submitting recommendation lists for resources needed for their subjects.

Student A*: “Librarians must download free open-access online books that are useful for students.”

Student C*: Availability of e-resources needs attention.”

Student A*: “I am suggesting other alternative books instead of prescribed books to students.”

Student D: “Using electronic journals without having to come to the library is value-adding.”

CHELSEA (2006) confirms the importance of the library providing relevant and up-to-date resources that add value to teaching, learning and research as a measure of quality. According to Snoj and Petermanec (2001:314), it is evident that librarians do not use their knowledge or highlight the value their library resources add to teaching, learning and research. This study also acknowledges that value is a complicated concept that is very difficult to understand and manage without understanding where it comes from. Academics and students’ perspectives of value are derived from their experience of using library resources. Librarians according to Oakleaf (2010) should get to know users’ understanding of the phenomenon by surveying them on the impact of library resources on teaching, learning and research. Service impact as stated by the ACRL (2010:1) is viewed as the fourth definition of library value. This suggests a move towards linking the value of the library to resources as an effective system when focussed on resource relevance, age, and alignment with teaching, learning and research. According to Gilchrist and Oakleaf (2012:2), as libraries are becoming smarter by integrating Google Scholar into their online resource platforms, the impression created for users suggests that the internet as a navigation tool can point them directly to research articles wherever they are. The findings of Gilchrist and Oakleaf (2012:3), on the power of the internet reveal that perceptions about the role libraries play regarding resource relevance is still not clear, hence the need for permeation into academic spaces. According to Nawe (1993:52), the marketing of library services raises many questions, such as what libraries are doing to fulfil academics and students’ resource needs and to close information gaps. These questions can be addressed easily if libraries bring valuable information that closes user quality gaps.

Leisner (1989:157) asserts that marketing is a necessary quality component that can address key critical issues, such as the achievement of high-level user satisfaction, and the enhancement of the perceived value added by library resources in support of teaching, learning and research. He further concludes that although the marketing of library services has never been associated with quality, when its elements are aligned with the availability of resources and the visibility of services and resources, it automatically qualifies as a relevant quality measurement indicator. Considering the number of librarians who ranked the indicator as irrelevant and how many years these indicators have been in existence in the higher education library sector, one could also deduce that few librarians understand or are aware of the existence of the CHELSEA measures of quality.

Some librarians might have been employed long after these quality measurement guidelines were set. Libraries have to improve their marketing strategies for library resources. It becomes quite evident from the academics and students' rankings that the library's value for teaching, learning and research is still lacking in the South African higher education library agenda. Higher education librarians should therefore incorporate the component of embedding library resources into teaching and learning plans.

Q. 3 Assessment of the accessibility of electronic resources

To ensure the accessibility of electronic resources, higher education libraries develop web-based platforms that either place them alphabetically or package them according to subject disciplines to enhance their accessibility. There are various instances where access to these electronic resources is compromised. One of these instances is when an electronic database package is upgraded and access to certain electronic data is revoked as some publishers remove themselves from the aggregator's deal and sell their journals either independently or switch to other publishers. The most unfortunate part of these transitions is that librarians are informed only after a transition has taken place. While the system catches librarians off guard as they do not have control over all the decisions behind the process, the pain is double for academics and students. It is on this note that the assessment of the accessibility of electronic resources is considered one of the critical success factors of library quality.

Figure 4 shows the number of respondents in each group (academics, librarians, and students) and how they ranked the process of the assessment of the accessibility of electronic resources as a relevant measure of quality.

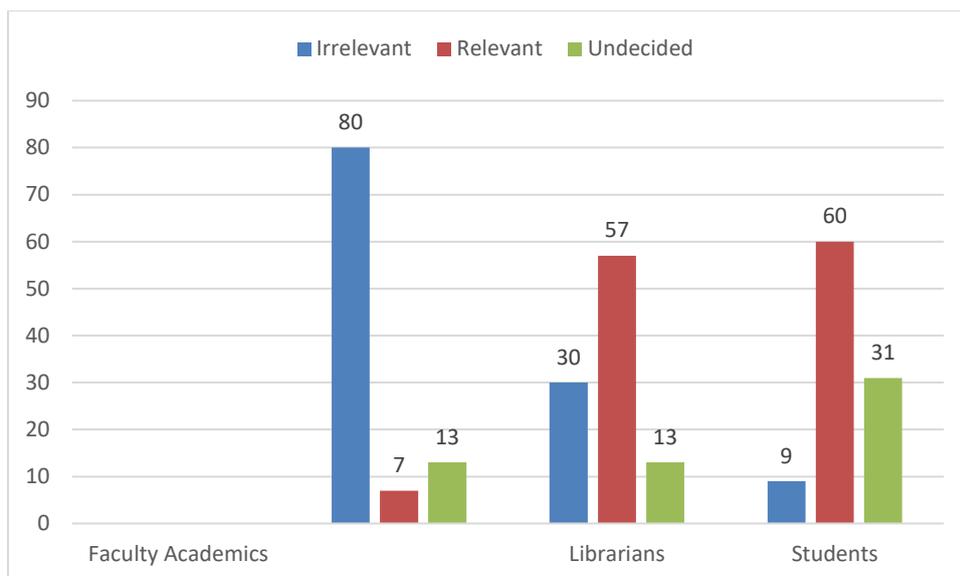


Figure 4: Assessment of the accessibility of electronic resources

Q. 3.1 Faculty academics' views

Eighty per cent of the academics ranked accessibility as an irrelevant quality indicator, with only 7% ranking it as relevant and 13% remaining undecided. As outlined in Figure 4, most academics ranked the assessment of the accessibility of electronic resources an irrelevant indicator of library quality. One of the causes for the low ranking of this aspect by academics is that access to electronic resources does not meet their expectations, especially when it comes to off-campus access. This, according to McGregor (2008:17), is supported by the argument that the techniques for evaluating library activities or services require a degree of skill one cannot acquire through formal education, but only through continuous learning or the use of previous knowledge and experience of library use. This is evident from the comments of some academics:

Academic A*: "Off-campus access to online library resources is very poor."

Academic A*: "Accessibility of the library resources online on campus and off campus is becoming one of the value library-adding services to us academics with our busy schedule."

It is necessary to assess what difficulties library users experience in terms of access to electronic resources to ensure effective quality management. There were also discrepancies in the academics' comments, as one academic emphasized his/her understanding of the value added by Google Scholar as an electronic resource-accessing platform.

Academic B*: “In my discipline, I encourage students to use “Google Scholar”.

According to Calvert (2001:732), library managers should extend this profitable way of using academics and students’ views to assess library service quality in meeting the teaching, learning and research needs of the university.

Q. 3.2 Librarians’ views

With reference to the librarians, 57% ranked the indicator as relevant, with 30% considering it irrelevant and 13% remaining undecided. While a significant proportion of librarians considered the indicator relevant, their ranking could be premised on an understanding of the CHELSA measures of quality. Given the age of the existing quality measurement indicators, there have been many changes that have taken place in the profession due to the mobility of librarians from one sector to the other. This transitioning that took place in the librarian’s movement was assumed to have impact on how librarians ranked the indicator.

Librarian A*: “Students expect too much from the library, for example, they have expectations that it is the librarian’s responsibility to search for them.”

The comment from Librarian A* above signals librarians’ reluctance and non-committal to guide and help students who need their assistance while searching for information. According to Hernon, Nitecki and Altman (1999:9), librarians expect users (students) to be self-sufficient in terms of library skills; in contrast, students require services when they need them, rather than being pointed to training opportunities.

For example, a course on information searching skills offered by libraries is for use when students are not under pressure to study. Librarians as stated by Calvert (2001:732) should not view it as a replacement of their help to students. One of the major roles of librarians at a university is to guide students and save them time during or when searching for relevant learning materials. The ranking of this indicator as irrelevant by some librarians should perhaps be viewed in light of Hernon, Nitecki and Altman (1999:9) as one of the librarians’ misconceptions about their roles. This concern among librarians about students’ reluctance to search electronic resources independently shows that students lack the skills to search for these resources, and therefore librarians should take charge of this gap by providing them with the relevant training. None of the librarians alluded to value-adding like the academics and students did.

According to CHELSA (2006), as much as the accessibility of resources is one of the critical success factors for an effective library, what is not explicit is a constant review of their accessibility. Drawing on a recent study by Rodriguez (2011:6), libraries should define, develop, and measure outcomes that contribute to institutional effectiveness and apply the findings for quality and continuous improvement.

Q. 3.3 Students' views

Sixty per cent of students consider the assessment of the accessibility of electronic resources a relevant indicator for quality with only 9% ranking it irrelevant and 31% remaining undecided. Based on the qualitative data, it seems that the students who were undecided when ranking this indicator and those who ranked the phenomenon as irrelevant still see their libraries as lacking in resources relevant to their study courses.

In terms of the comments made by the students, the lack of accessibility is assumed to be caused not by platform/internet or technological issues, but by the inadequacy of resources. From the students' points of view, the libraries do not cater for prescribed books and there are gaps in the prescribed book collections.

Student D*: "There are not enough relevant articles for my course, the library should strike the balance between the online resources and prescribed books to cater to undergraduate students' needs."

Student A* "E-access does help us as students not to have an excuse when the library is closed as e-resources do not only require the library to be open."

According to CHELSA (2006), the accessibility of electronic library resources is core to the success and efficiency of a library. In CHELSA's view, accessibility is equally conceived as efficiency. The existing quality measures suggest that libraries should constantly assess the accessibility and reliability of platforms for electronic resources. The accessibility of electronic resources forms part of the existing measures of quality and activities that libraries should put in place to facilitate library benchmarking. The study conducted by Herson and Calvert (1996:387) in New Zealand confirms that quality measurement indicators, as determined by users, should include the virtual accessibility of library materials and an effective reporting system that can monitor access.

The studies by Rowley (2005:508), Herson and Nitecki (2001:5) assert that online access to resources, interactive websites and computers in the library are of vital importance if librarians' physical presence and support of users are to be maintained. Thompson (2005:7) predicted that the whole paradigm of managing academic libraries and acquiring scientific scholarly works would have been changed by now as an influx of resources is published in digital form. The study conducted by Sarti and Juntunen (2013:167) affirms that the digital era is here and that a new set of quality measurement indicators should be set, including the accessibility of e-book titles and electronic journals in digital form. More than ever before, librarians must assess and guarantee the accessibility of resources instead of just acquiring them. Hinchliffe (2011:11) states that, "libraries should clearly articulate how they contribute to academic success using electronic resources, collect evidence, document successes, assess accessibility, share results and make improvements". It is quite evident that demonstrating value requires evidence based on data collection and analysis and reporting systems on library impact and value.

According to Hinchliffe, it is quite important to highlight quality service statements that suggest a new direction in terms of the alignment of the quality measures of the library with what academics understand (accessibility of electronic resources from home) and value (teaching, learning and research). This element suggests another way of assessing the accessibility of electronic resources by surveying academics and students.

Q. 4 Sharing new books purchased for courses offered

Higher education libraries are allocated a budget to buy books relevant to the curriculum and courses offered by their universities. These books are aimed at supporting academics and students with teaching and learning materials. On buying these books, libraries are expected to send lists of newly acquired books to academics by means of faculty librarians. To further speed up resource accessibility for academics and students, some libraries draw up a list of new books acquired by the library and post that list on the library website. There are instances when these books land on the shelves without academics and students having been advised of their arrival at the library. These mishaps result in users being unaware of the books received by the library. When the quality of the library is reviewed, these users would confidently assume that the library does not buy new resources.

Figure 5 shows the number of respondents in each group (academics, librarians, and students) and how they ranked the process of sharing the titles of new books acquired for courses offered as a measure for quality.

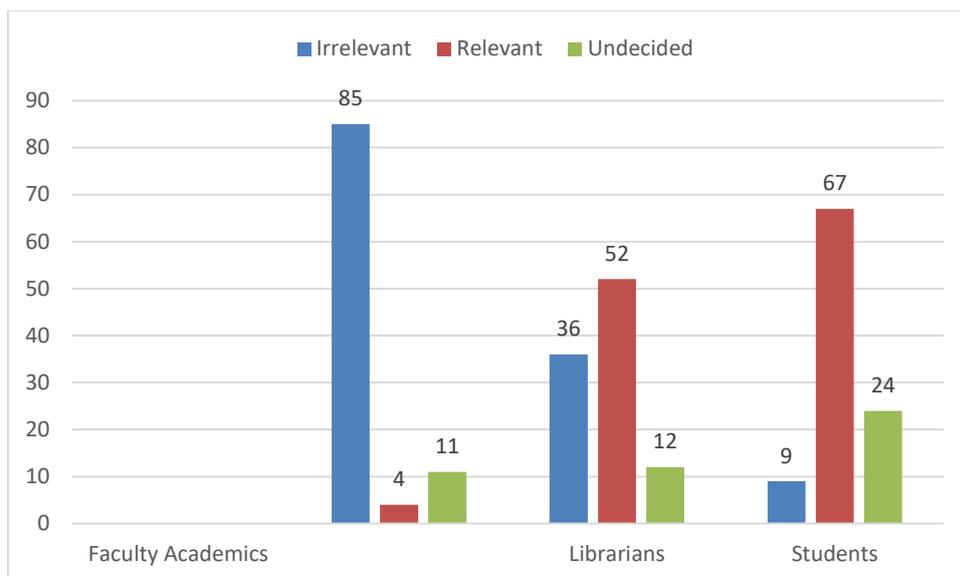


Figure 5: Sharing new books acquired for courses offered

Q. 4.1 Faculty academics' views

A large majority of academics (85%) ranked this indicator as irrelevant, with only 4% considering it relevant and 11% remaining undecided. The assumptions drawn from the ranking and comments below are that academics are not alerted to the arrival of the books they recommended to the library for purchasing.

Academic A*: "The library does not advise me about newly purchased books; instead, when my budget remains unspent, I lose it to other departments."

Academic B*: "New book lists that are dispatched to the library website are not always updated."

Academic D*: "I always find my own books through searching the library catalogue than getting alert from the library."

CHELSEA (2006) asserts that effective communication with library users constitutes one of the quality service indicators. The ranking of this indicator as low by the academics reveals that librarians are not sharing newly acquired books with academics so that they can easily plan their curriculum using these resources. The studies by Nitecki (1996:181), Pritchard (1996:572) and Rowley (2005:508) all argue that librarians tend to see the concept of quality through dual lenses – firstly, as the "goodness" of the services they offer and, secondly, as the extent to which that service affects library users.

Q. 4.2 Librarians' views

Fifty-two per cent of the librarians ranked the indicator as relevant, with 36% saying it is irrelevant and 12% remaining undecided. The few that ranked the indicator as irrelevant perhaps find it difficult to approach academics to talk about library services.

Librarian A*: “Some academics are not friendly, despite efforts we made to get their attention to talk or present to them activities such as new books acquired in their field, they ignore us.”

While this librarian struggled to get the attention of academics, one of the questions that come to the fore is to what extent alternative means of communication, such as emails, are used to advise or alert academics of important services. The quality of the library could be affected by a breakdown in communication and by poor relationships between the librarians and academics.

The comments by the librarian, even though they do not justify the irrelevance of the process of sharing new additions to the library's book stock with academics and students, nevertheless indicates some negligence on his/her part in assuming that the only effective way to communicate library value to users is through verbal communication.

Q. 4.3 Students' views

Sixty-seven per cent of students ranked the indicator as relevant, with only 9% ranking it irrelevant and 24% remaining undecided. Given the large majority of students who ranked this indicator as relevant and the fact that no comments were made about this indicator, one can assume that the students are either satisfied with the service or do not understand much of these processes as they do not involve them directly. Edwards and Browne (1995:163) point out that one unhappy experience by academics may cause them to overlook a series of positive library services. There seems to be a correlation between what the literature is saying about frustration leading to low satisfaction/low ranking of an indicator when it comes to user experiences of poor services.

Goldstein, et. al. (2002:121) confirm that, regardless of how a library defines its service and its effectiveness in terms of quality, its relevance should be framed by how its customers perceive the service. A service should be delivered seamlessly for customers to perceive it positively. The fact that academics would rank the process of ‘the library sharing new books acquired’ as irrelevant in terms of quality simply shows that in their experience, the service is ineffective.

In other words, library users have a perception of the service, regardless of whether it has been defined by word of mouth or other sources of information or obtained from real service experience. Libraries as stated by Johnston and Clark (2001:1) must be accountable by sharing with academics the results of their book recommendations and/or additions to their subject discipline stock for them to be perceived as effective and relevant. According to Millson-Martula and Menon (1995:33), librarians must examine the concept of disconfirmation to understand service quality. Disconfirmation represents the gap between what academics and students expect from the library and the service performed by the librarians.

Q. 5 Create and maintain one-stop access to information

As part of enhancing the experience of the user when navigating information, libraries develop one-stop access, also known as a resource discovery tool. This one-stop access is aimed at ensuring access to information resources on various platforms through one platform. This system has a positive effect in terms of saving the users the time and frustration of moving from one platform to another. As academics and students do not have time to spend looking for library resources, this system contributes to service quality in the sense that the users of library resources are not sent from pillar to post when searching for information.

Figure 6 outlines the number of respondents in each group and how they ranked the library’s creation of a one-stop-shop online platform for information access as a measure for quality.

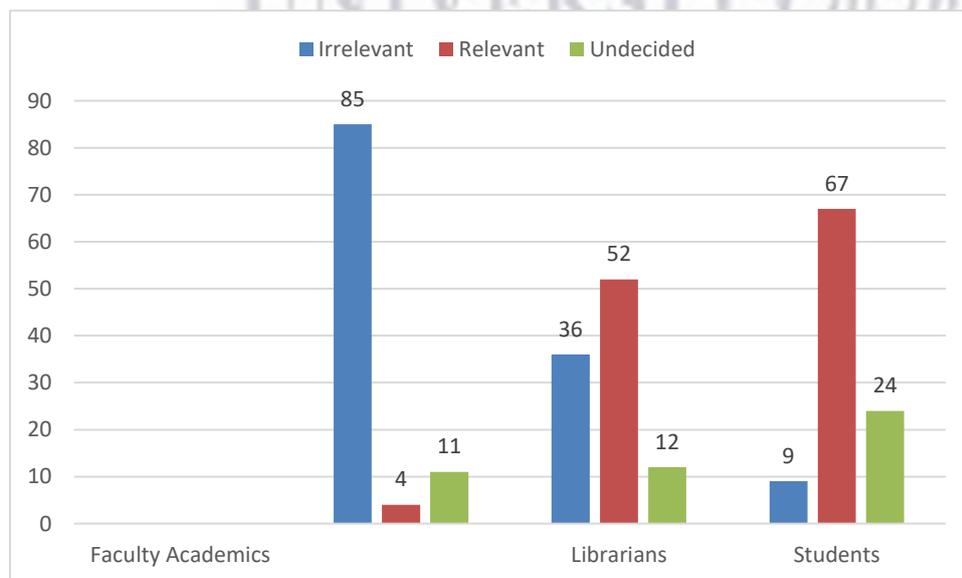


Figure 6: Creating a one-stop-shop online platform for information access

Q. 5.1 Faculty academics' views

The majority of academics (85%) ranked the indicator as irrelevant with only 4% ranking it as relevant and 11% remaining undecided. One academic mentioned that the experience of his/her students was quite positive, and this respondent suggested further improvements to existing online platforms used by the library to facilitate information access and discovery.

Academic A*: "There should be a button on the website or platform allowing access to online resources."

Academic E*: "I would say the perceptions of my students are good and positive about the library, its resources and their accessibility."

The academics' comments above show that the library website, which acts as a gateway, does not give them seamless access to online resources. These comments also suggest an easy and simple navigation process that does not take users to various platforms before they find what they want.

Q. 5.2 Librarians' views

The majority of the librarians (52%) ranked the indicator as relevant, with 36% considering it irrelevant and 12% remaining undecided. This result could be because the existing quality measures for libraries outline one-stop access as an indicator of library quality. There were no qualitative comments on this indicator.

The librarians who ranked the indicator as irrelevant may perhaps not know about the quality indicators for libraries, as much transition has taken place since 2006 in terms of staff mobility (from other library sectors to higher education libraries), as well as newly qualified librarians entering the sector. This could have informed the ranking of the quality measurement indicators by librarians. A study by Kreitz and Ogden (1990:297) on job shadowing reveals that librarians across the globe have the mentality that, to be successful in their careers, they should work at academic libraries. The practice of librarians switching to higher education libraries implies that some of the old practices may be new to incoming groups of librarians. While it is only speculation that some librarians may be new to the sector, another factor could be how the existing quality measurement indicators for libraries were established.

Q. 5.3 Students' views

The majority of students (67%) ranked the indicator as relevant, with only 9% considering it irrelevant and 24% being undecided. Even though the students seem to support the relevance of this indicator, there are still slight improvements libraries should consider with reference to the time it takes for books to be returned to the shelves. Libraries must devise means to speed up shelf packing and returned books or books that have been used by students in the library should be timeously collected and brought to the shelves. Their satisfaction levels varied between good and effective, while there were contradictions with respect to librarians' knowledge and friendliness.

Student A*: "I value the fact that they develop the repositories with our dissertations available on the internet. I would like to have more assistance in looking for resources."

Student E*: "Every time I come to the library; I can't find a book even though librarians say it's not issued."

To sum up, easy access to information sources is quite an important determining factor for the users (academics and students) in terms of the quality and effectiveness of the library. According to CHELSA (2006:1), there seems to be synergy between what librarians and students perceive to be the relevance of one-stop access to library resources as a measure of quality. Students are the main library users; academics refer them to resources they assume the libraries have. Their understanding of the motive behind packaging resources could perhaps be pleasing for the librarians. Similar studies conducted by Eager and Oppenheim (1996:15) in Europe, Fidzani (1998:329) in Botswana and Khan (2012:72) in India suggest a link between the library user's satisfaction with the library service, library quality and easy access to online and printed resources. What was not quite clear from these studies is how academics perceive one-stop access to online resources as a measure of quality. Haynes (2004:285), who studied quality measurement indicators based on three elements (inputs, process, and outcomes), discovered that academics still consider good or relevant quality measurement indicators to be those tied to the achievement of their teaching and research activities. The input, which in this case could be related to online resources and their packaging on the one-stop platform, only becomes relevant when the users' assessment of the service becomes positive. Any service that is detrimental to the accomplishment of their academic goals could be considered irrelevant, even if it is a relevant indicator when performed effectively.

Q. 6 Online user guides with multiple entry points to access information

The libraries are aware that their university populations are growing, with the academics having higher workloads to deal with. To save users the time of navigating the entire library website, librarians develop online subject guides that offer tutorials on specific subjects, resources in various formats related to that subject, and the contact details of the subject librarian for queries in that subject discipline. These online user guides mean that academics and students with limited resource-searching time can easily find whatever they want without having to waste time navigating one platform after the other. As these online user guides do not have user feedback mechanisms, libraries have to determine how much value they add in serving the needs of academics and students.

Figure 7 illustrates the number of respondents in each group (academics, librarians, and students) and how they ranked the online user guide with multiple entry points to access information as relevant measure for quality.

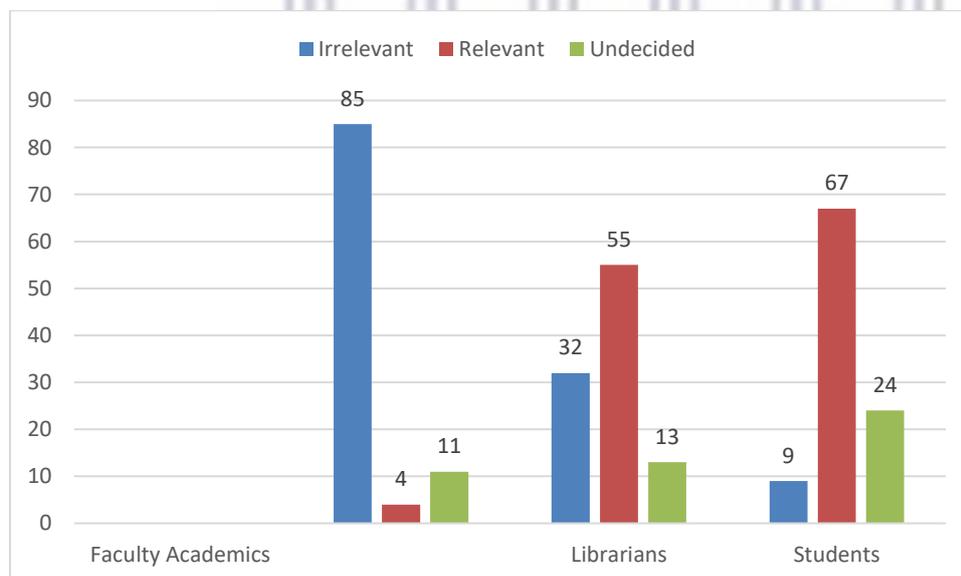


Figure 7: Online user guide with multiple entry points to access information

Q. 6.1 Faculty academics' views

The majority of academics (85%) ranked this indicator as irrelevant, with only 4% considered it relevant and 11% remaining undecided. It is understandable that academics might not view online user guides as a relevant measure of quality as the platform is designed to give students easy access to library subject discipline resources. Their low ranking of these guides could

simply be because they do not use these resources. According to Hernon and Calvert (1996:387), librarians' language use (jargon) is sometimes unclear to those not in the library field, and online user guides would need more clarification before any non-librarian can rank its relevance. These arguments, coupled with the fact that the librarians did not even comment on the indicator, could perhaps also be indications of this shortfall.

Q. 6.2 Librarians' views

While quite a substantive number of librarians (55%) ranked this indicator as relevant, 32% ranked it as irrelevant and 13% remained undecided. Understandably, librarians as custodians of online user guides are expected to rank this indicator as relevant. Those who ranked the indicator as irrelevant could be the limited few who are not technically oriented and therefore do not see value in this service.

Librarian A*: "I see online user guides as an easy way to point students to resources and services relevant to their needs."

Librarian B*: "Navigating the library website can be time-consuming; therefore, I use subject libguides to share with student's information pertaining to their courses."

The online user guides are among the services tailor-made to address the students' subject-specific needs. Understandably, the online user guides and subject portals are among the students' learning support quality indicators outlined in the new quality measures. Online user guides closely correspond to an interactive library website that will allow users the opportunity to interact with librarians by either posing questions or giving them feedback on services for improvement. Librarians are confident that online user guides equip students with the information and resources they need

Q. 6.3 Students' views

The majority of students (67%) ranked this indicator as relevant, with only 24% ranking it irrelevant and 9% remaining undecided. While students are exposed to library training on how to access library resources, including online user guides in their subject disciplines, academics do not have the benefit of such training. The students' ranking of the online user guides as a relevant measure of quality could be based on their familiarity with the platforms.

Librarians must develop online subject guides to support the students with readily available information related to their subject discipline. The study by Oakleaf (2010:1) confirms that the relevance of library quality measurement indicators should be viewed based on their contribution to user demands.

In contrast, Kuh and Bhatti (2003:24) advocate that when libraries consider the importance of reliable IT infrastructure, for example to support online user guides, its relevance and accessibility should receive positive testimonials from students. Based on Kuh and Bhatti’s study, the development of interactive learning spaces (online user guides) complements what librarians could have done with their physical presence to facilitate access to resources.

Q. 7 Library hours responsive to changing user needs

With the changing developments in higher education libraries, there is a need for libraries to review their library hours, especially among libraries that serve the needs of students from diverse backgrounds. Although not all libraries are extending library hours as there are alternative learning spaces on some campuses, one of the existing CHELSA guidelines states that library hours should be reviewed constantly to address changing user needs.

Figure 8 reveals the number of respondents in each group (academics, librarians, and students) and how they ranked the library hours’ responsiveness to user changing needs as (relevant, irrelevant, or undecided).

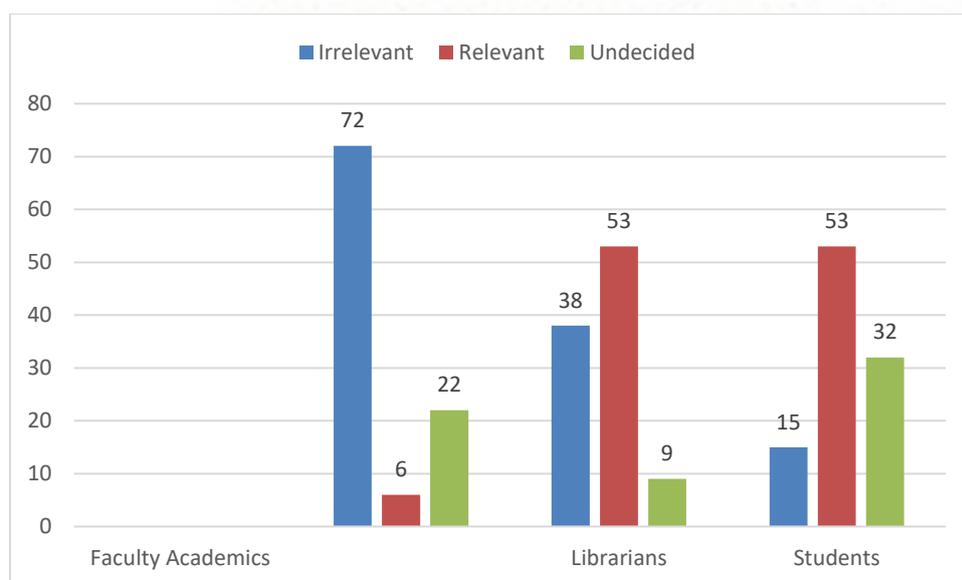


Figure 8: Library hours responsive to changing user needs

Q. 7.1 Faculty academics' views

The majority of the academics (72%) considered the responsiveness of library hours to changing user needs to be an irrelevant indicator of quality with only 6% ranking it relevant and 22% remaining undecided. While it is quite unusual that academics would rank this indicator as irrelevant, one comment signals the importance of physical contact with the library. The two comments below from two academics of the same university show that virtual access is a preference in some cases.

Academic A*: "I prefer to use online resources as I do not find time to physically visit the library as my time is spent in either preparation for lectures, meetings and research."

Academic A*: "I do encourage my students to spend as much time in the library as they can; the extension of library hours is an added advantage for their study and learning purposes."

To some of these academics, the number of hours the library is open is not related to quality. The academic quoted above feels that changes in library hours would not have any impact on his or her operations, as physical library use is minimal due to time constraints.

The other academic does not visit the library due to reliance on online resources that can be accessed anywhere.

Q. 7.2 Librarians' views

The study findings reveal that the majority of librarians (53%) consider library hours a relevant measure of quality, while a substantive number of librarians 38% ranked the indicator as irrelevant, with only 9% remaining undecided. This ranking could be associated with the fact that not all libraries included in this study have standard operating hours. One librarian mentioned the fact that students do not need an operational service after hours; what they need is just a safe, wired space that will allow them to study freely.

Librarian B*: "In our university, we have observed that students do not need the actual library to open but a safe learning space with internet access."

Librarian C*: "I am still not convinced that physical space matters as long as access to information resources is 24/7."

The other librarians felt that access to library resources should be what libraries focus on, rather than an extension of library hours. The conflicting statements indicate a lack of standardization of library hours in the higher education library sector. Despite CHELSA guidelines prescribing the review of library hours, each library uses its prerogative when determining opening hours.

Q. 7.3 Students' views

The majority of students (53%) ranked this indicator relevant, with only 15% ranking it as irrelevant and 32% remaining undecided. The findings reveal that students value this indicator as a relevant measure of quality even though some are unsure of its ranking. One student from university B* stated that librarians have to consider an adjustment of library hours.

Student B*: "Those not residing on campus need more library hours."

The issue of library hours was not mentioned by many students, except the one above from university B, who expressed a need for the extension of library hours for students not residing on campus. The issues of library hours, library use and electronic accessibility of resources have to be viewed together when quality measurement indicators are reviewed. While libraries have seen a decline in physical visits and a dramatic increase in the use of electronic databases, one could question whether the extension of library hours implies that users want to use the resources, or whether they just want to have a comfortable space in which to study.

According to Calvert (1998:4), the review of library hours and its ranking by academics should be viewed in concert with their patterns of library use. The infrequent use of the library by academics does affect their ranking of indicators such as physical access. Library hours are less relevant than for the students. According to CHELSA (2006:2), for effective teaching and learning to take place, academics' access to printed, electronic and digital resources defines what an effective library is for them.

Q. 8 Tangible: Appearance of the library facilities and equipment

It was the understanding of one of the librarians that library facilities (seating facilities, reading areas and furniture) must be comfortable and inviting to encourage academics and students to use them. This idea has evolved so much in recent times that libraries have started creating sections that are designated as leisure spaces. The rationale for seeking opinions on whether this indicator is relevant since librarians are going out of their way to invest in and research library space redesign, and the question of whether librarians, academics and students consider this item a relevant measure of quality must be addressed.

Figure 9 shows the number of respondents in each group and how they ranked the appearance of the library facilities and equipment as measure for quality.

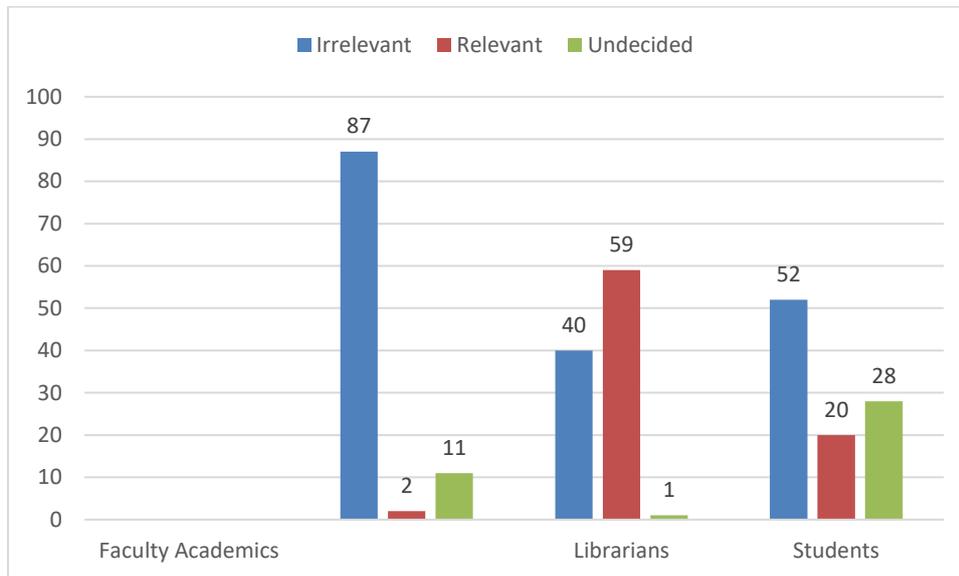


Figure 9: Tangible appearance of the library facilities and equipment

Q. 8.1 Faculty academics' views

The majority of academics (87%) ranked this indicator as relevant, with only 2% ranking it as irrelevant and 11% remaining undecided. Only one academic stated that poorly organized library shelves are detrimental to library quality. There was no mention of the physical appearance.

Academic* from university A*: I would have preferred our library to be similarly well organized and books easily located on their shelves.”

Among the items used by Andaleeb and Simmonds (1998:156) to delineate quality constructs in libraries are the overall cleanliness of the facilities, a visually appealing environment, and the appearance of the staff. These researchers propose the principle that the better the perceived appearance of the library facility, the greater the levels of satisfaction staff have of that library.

Q. 8.2 Librarians' views

With 59% of the librarians ranked this indicator as relevant, quite a substantive number (40%) ranked this indicator as irrelevant, with only 1% undecided. There seems to be a general level of satisfaction among libraries with keeping the appearance of the library facility and equipment as a relevant measure of quality. Librarians seem to value equipment, resources and

systems that support access to and the usability of the library as being more important than the actual physical appearance of the facility.

Librarian A*: “More internet access, printing and scanning facilities.”

Librarian B*: “Improved Wi-Fi connectivity, silence in the library.”

Librarian C*: “More discussion rooms, programme for computer maintenance in the library and more databases.”

Studies in the library and information sector across the globe as outlined by Roszkowski, Balky and Jones (2005:424) and Rowley (2005:508) show that some librarians have gone beyond looking at libraries as book preservation units to the realization that libraries are study and learning spaces where users must create knowledge and interact during the learning process.

Q. 8.3 Students’ views

The majority of the students (52%) viewed the indicator as irrelevant, with only 20% ranking it as relevant and 28% remaining undecided. It is understandable based on the comments from the students that the physical appearance does not have anything to do with library quality. Their comments did not mention the library aesthetics or ergonomics, nor issues such as seating facilities and shelving; instead, they considered access to the internet, printing and scanning facilities, adequately maintained computers and absolute silence important.

Student A*: “More internet access points are needed.”

Student A*: “Silence and discussion rooms are needed.”

Student B*: “More printing and scanning facilities.”

Student C*: “Programme for computer maintenance in the library is needed.”

According to CHELSA (2006), each higher education library is expected to provide its users with adequate space, studying equipment and knowledgeable staff who can confidently address user queries. The study by Cook and Thompson (2000) confirms that the academics’ views on library quality are based on their expectations and what is feasible for them. The fact that they consider appearance low in terms of its relevance as a measure of quality should not be viewed as the stance libraries should take. Academics do not use libraries as frequently as students do; their ranking of this indicator is therefore based on its level of importance for their purposes.

The students also showed discrepancies in the ranking of this indicator; the same students who considered library hours as quite important, along with silence in the library – as outlined in their comments—ranked the appearance of the library as irrelevant. For the academics and students, the quality of the library is related to space, seating facilities, and learning equipment, rather than aesthetics.

Q.9 Reliability: Librarians’ ability to perform the promised services dependably and accurately

In terms of SERVQUAL Zeithaml, Parasuraman and Berry (1991), the key success factors in service quality are the following five dimensions:

- Tangibility – referring to the appearance of the library’s facilities and equipment.
- Reliability – representing the librarians’ ability to perform the promised service dependably and accurately.
- Responsiveness – referring to the librarians’ willingness to help library customers and provide prompt service.
- Assurance – being the knowledge and courtesy of the library employees and their ability to convey trust and confidence to the users; and
- Empathy – being the caring, individualized attention the firm or the library pays to its customers.

According to Zeithaml, Parasuraman and Berry (1991), of these five quality service dimensions, reliability has a very high score, because once a service is not reliable, the users will lose faith and confidence in it. Core to the success of any library, therefore, is how much the users of such a library can rely on getting whatever they want from the library. Consequently, the question is to what extent academics, librarians and students consider this quality service dimension a relevant indicator of library quality.

Figure 10 shows how academics, librarians and students ranked the relevance of quality measurement indicators on reliability and the librarians’ ability to perform promised services dependably and accurately.

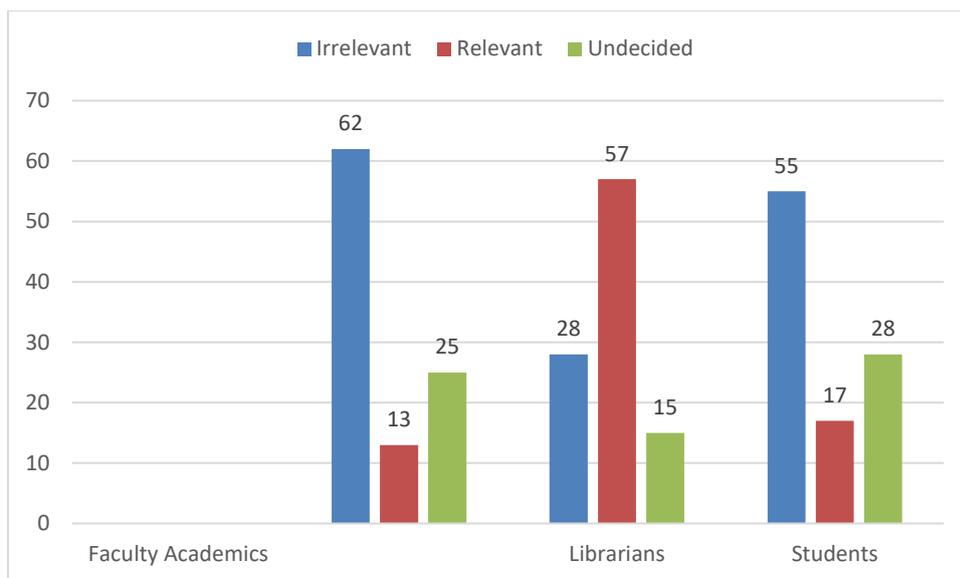


Figure 10: Librarians' ability to perform promised services dependably and accurately

Q. 9.1 Faculty academics' views

The majority of academics (62%) considered this indicator to be irrelevant, a small fraction of them 13% ranked the indicator relevant, with 25% remaining undecided.

There was no qualitative data to substantiate the ranking. Coleman et al. (1997:237) state that "library users define service quality as the extent of discrepancy between what they expect and desire and what librarians perceive to be their needs". Based on this, librarians should always strive to be reliable by ensuring that the services they promise users are available.

Q. 9.2 Librarians' views

Even though the majority of librarians (57%) ranked this indicator as relevant, with 28% ranking it as irrelevant and 15% remaining undecided, no further comments were made on it. According to CHELSA (2006), the reliability of librarians is one of the indicators expected from any library for quality service to be delivered.

Q. 9.3 Students' views

While students (55%) ranked the indicator as irrelevant, 17% ranked it as relevant with 28% ranked the indicator undecided. While there are qualitative data (comments) to substantiate the ranking, the study by Thompson (2005:3:) confirms that one factor that discourages library use is when librarians do not seem to be trustworthy and reliable.

Q. 10: Staff willingness to help users and to provide a prompt service

The library is a client service section of the university and, apart from having relevant resources and services that are up to standard, librarians must have a positive attitude to complement these resources. Friendly staff who are willing to help users whenever needed, should support the library. In the present study, academics, librarians, and students were asked to rank how relevant this indicator is in measuring service quality in libraries.

Figure 11 outlines how academics, librarians and students ranked the relevance of the quality measurement indicator of staff being willing to help users and provide prompt services.

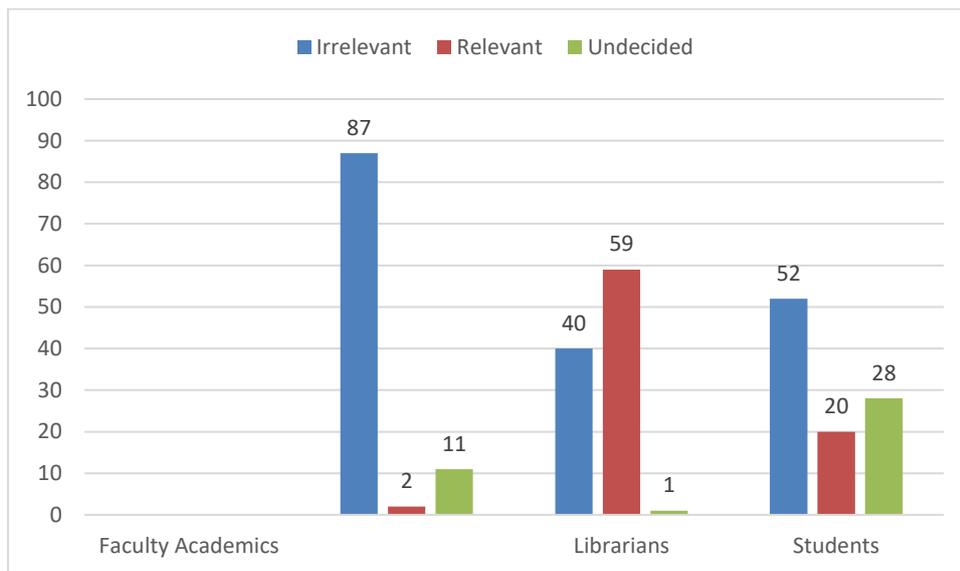


Figure 11: Staff willingness to help users and to provide prompt services

Q. 10.1 Faculty academics' views

The majority of academics (87%) ranked the indicator as irrelevant, with only 2% considering it relevant and 11% remaining undecided. However, the ranking of this indicator by academics is a bit questionable considering how they work very closely with their faculty librarians, who are to a large extent their support in the library. A comment from one of the academics reveals that the question was misconceived as the need to rank the level of satisfaction with the service.

Academic A*: “There is room for improvement; experiences vary from faculty to faculty.”

The comment also shows that academics do see room for improvement in terms of the attitude of the library staff and their willingness to help users by providing prompt service.

Nitecki and Herson (2000:259), who conducted a ranking of quality service attributes, suggest that libraries should consider following multiple approaches to how these indicators could be

combined to determine service performance. According to the study conducted by Cullen and Calvert (1993:143), among the top ten indicators ranked by library users, the helpfulness and courtesy of library staff came second in terms of preference, while the expertise of reference staff was listed ninth. The diversification of models for the selection of these attributes indicates that librarians themselves have not yet reached consensus on which of these are relevant to measure the performance of the library service. As a result, one wonders whether some (SERVPERF) service performance dimensions are more or less relevant to service quality than others and, if so, which ones are the most important to the users of library information system.

Q. 10.2 Librarians' views

The majority of librarians ranked the indicator as relevant as a measure of quality. One of the respondents from university B stated that faculty librarians specifically are always eager to help their academics with their research endeavours.

Librarian B*: "Faculty librarians by being part of the research team, for example, a librarian shows personal interest in the faculty research endeavours."

This comment from university B reveals that librarians are included in committees and forums where institutional research endeavours are taking place. Their participation in these forums empowers them to understand what researchers' wants and needs are.

Q. 10.3 Students' views

Despite the majority of students ranking the indicator as irrelevant, a student from university A felt strongly that the training librarians offer on how to use databases and library materials was always offered willingly. There were no qualitative comments related to the negative assessment of this indicator.

Student A*: "Training sessions (hosted by librarians) on using databases for accessing library materials are quite useful and librarians are always willing to see us participating."

While CHELSA (2006:3) says nothing explicit about librarians' willingness to help users, what is clear in the existing quality measures is the positive attitude they should display all the time when dealing with library users. It was quite difficult to get exact comments on library staff willingness to help users and provide prompt services.

However, based on the above comments from academics and students, the mere fact that this indicator is ranked as irrelevant shows that their experience of staff willingness to help is not a positive one. Librarians have to work out a system to improve their willingness to assist, especially when they serve academics and students.

Q. 11 Librarians' knowledge and courtesy

It is assumed that the library and information sector would appoint librarians with professional qualifications and with the knowledge and competencies that would equip them to address the queries of the users of the library (Nitecki and Hernon, 2000:259). Failure to adhere to such standards would compromise the quality and effectiveness of an academic library. The academics, librarians and students were asked to rank how relevant this indicator is as a measure of quality.

Figure 12 displays the number of respondents in each group and how they ranked librarians' knowledge and courtesy as a measure for quality.

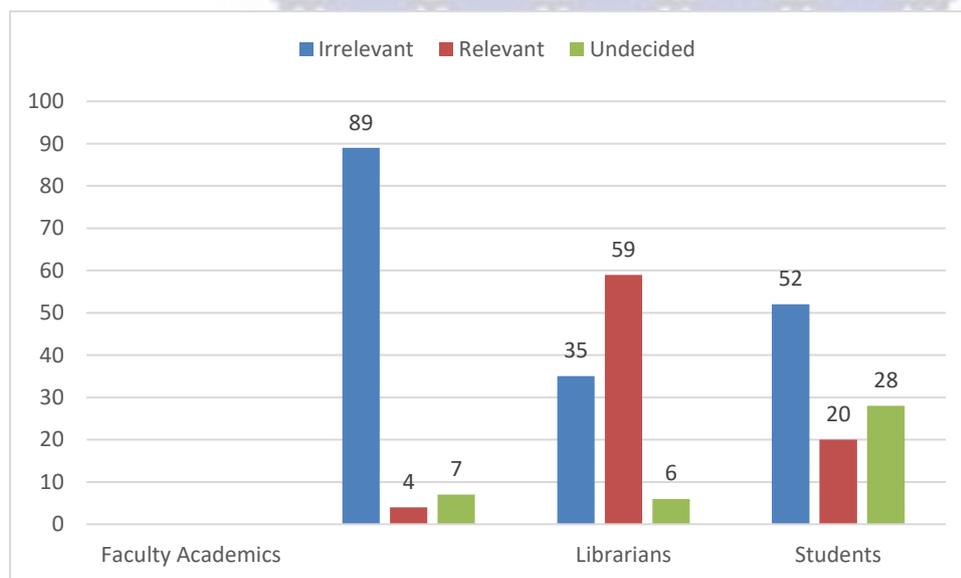


Figure 12: Librarians' knowledge and courtesy

Q. 11.1 Faculty academics' views

The majority of academics (89%) ranked this indicator as irrelevant, with only 4% ranking it as relevant and 7% remaining undecided. The results of the study indicate that academics consider librarians' knowledge and courtesy an irrelevant measure of quality. When these responses are viewed in relation to the academics' ranking of library hours and the physical appearance and librarians' willingness (attitude) to serve the needs of the users, there are

discrepancies in what the library does and what academics expect from it. Furthermore, according to Coleman et al. (1997:237), it becomes quite clear that what is on offer at these libraries does not match what academics want to see in them

Q. 11.2 Librarians' views

With reference to the librarians, 5% ranked the indicator as relevant, with 35% ranking it as irrelevant, and 6% remaining undecided. Although the librarians ranked this indicator as relevant, neither those who supported its relevance nor those who considered the indicator as irrelevant, made comments.

While CHELSA's (2006) measures for quality do not explicitly prescribe that librarian must be knowledgeable, the fact that they should provide training and development programmes for users implies that their level of understanding and knowledge should be at an advanced level to impart the necessary skills to those who get guidance from them. Hinchcliffe (2011:1) argues for value-adding librarianship, and advocates, among others this, for librarians who are knowledgeable of their field.

Q. 11.3. Students' views

While most students (52%) ranked the indicator as irrelevant, with 20% ranking it as relevant and 28% remaining undecided, there was a conflicting statement from one student from university A who applauded librarians for being knowledgeable in understanding research materials and in meeting their information resources needs. The following comment of the students refers:

Student A*: "Library staff should be more knowledgeable with regard to research materials and keep up to date with researchers needs."

As the students are the primary users of the library and spend more than 50% of their time in libraries, the fact that librarians' knowledge is appreciated, despite how the students ranked this phenomenon, is evidence of how much libraries should retain this as a relevant measure of quality.

Q. 12: Timely review of library services for relevance to user needs

Figure 13 illustrates the number of respondents in each group and how they ranked the timely review of library services in relation to user needs.

Quality is about reviewing and assessing services to determine how much they meet the needs of their users. This means that there is no quality without meeting users' needs.

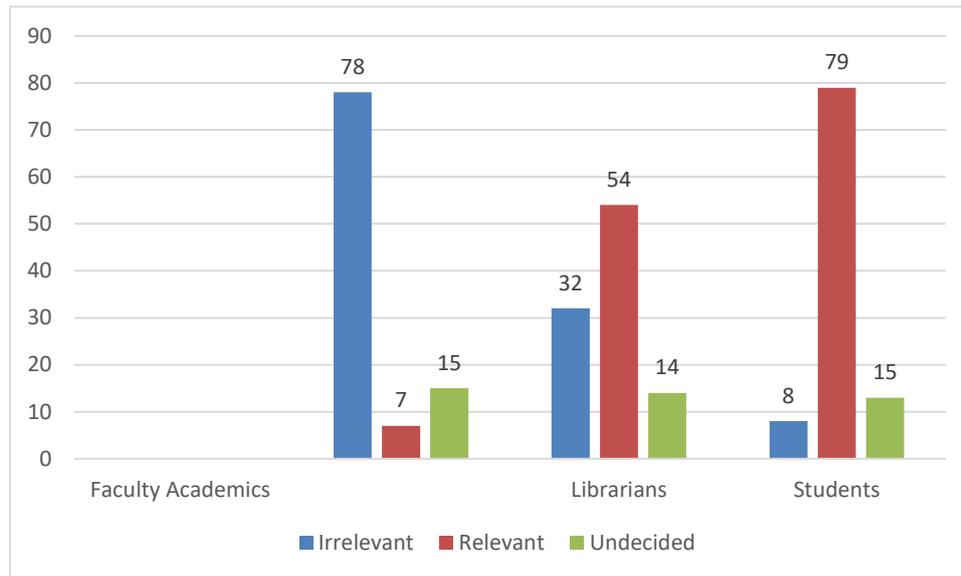


Figure 13: Timely review of library services for relevance to user needs

Q. 12.1 Faculty academics' views

The ranking of the timely review of library services for relevance to user needs shows that a majority of academics (78%) ranked the indicator irrelevant with only 7% of them ranked the indicator relevant and 15% undecided. The findings reveal that many academics considered this indicator an irrelevant measure of quality. In contrast, one academic from University C commended the timely review of library services as a mechanism to enable the library to keep track of current developments. An academic from University A commended library surveys as a good measurement tool to determine user needs. Both these comments are outlined below:

Academic C*: "Timely review of service enables the library to constantly keep up with current trends and make our researching in the library easier."

Academic A*: "I believe libraries could do well with surveys and constant user needs analysis."

According to CHELSA (2006), the panel for the quality review of libraries should include academics, as they form part of the forum (Senate Library Committee) that acts as a platform for librarians' accountability.

Furthermore, among CHELSA's measures for quality, this indicator is clearly stated, along with processes that libraries should follow to determine user needs, such as user surveys to solicit the users' input on what ought to be improved in library services.

Q. 12.2 Librarians' views

Quite a significant number of librarians (53%) ranked this indicator, timely review of library services for relevance to user needs as a relevant measure for quality, while 32% considered it as irrelevant, with 15% remaining undecided. When it comes to positive comments, only one librarian from University B commented on the importance of a timely review of library services as a measure for quality.

Librarian B*: "Service review creates an opportunity for users to give healthy feedback that is valuable for improvement and adaptation of library services to changing needs."

The CHELSA's (2006) quality measures state that librarians must take cognisance of different perspectives on the library and draw strength from the fact that library strategies must be reviewed constantly. Systems should be put in place to allow for the development and alignment with user needs, especially in preparation for quality improvement. According to Roberts and Rowley (2004:3), while librarians do not mind assessing the impact of the services they provide, by virtue of their nature they do not favour accountability as part of their working processes, and this might have informed the ranking of this indicator.

Q. 12.3 Students' views

The majority of the students (79%) ranked this indicator, timely review of library services for relevance to user needs as relevant, with only 8% of the students ranked irrelevant and 13% undecided. Positive comments from students from University E and B substantiated this. These students strongly believe that librarians rely on the students' opinions to provide effective and efficient service and students' perceptions are core to the improvement of library services.

Student E*: "Librarians need to get opinions from us, on what our needs and perceptions are."

Student B*: "All students' perceptions are useful in improving library services; therefore, students must be involved in review of the library."

It is quite clear how the respondents perceive the relevance of this indicator, and the researcher did not see any respondents' comments suggesting otherwise on the matter, except those that were testimony to its relevance. According to CHELSA (2006), libraries are expected to review their services timeously to learn how much these services meet the needs the users have. In practice, students are interviewed to reflect on the quality and performance of libraries whenever their quality is reviewed. According to Calvert and Herson (1997:408), while students know what to expect from a library, their ranking of quality measurement indicators should be linked to their satisfaction with how the library reviews its services.

Q. 13. Use of library usage statistics to determine resource needs for funding

In these financially trying times, higher education libraries must justify why their universities should invest in library resources. One of the most popular methods to justify funding for library resources is the use of library usage statistics. For librarians, any resources that are not heavily used by the university community are not value for money, and those resources can be subjected to cancellation when the library budget is reduced. Library usage statistics is used by libraries to convince their universities of how the library adds value to the university's core business of teaching, learning and research. In relation to this question, the academics, librarians, and students were asked to rank how relevant library usage statistics are as a measure of quality.

Figure 14 shows the number of respondents in each group and how they ranked the use of library statistics to determine resource and funding needs.

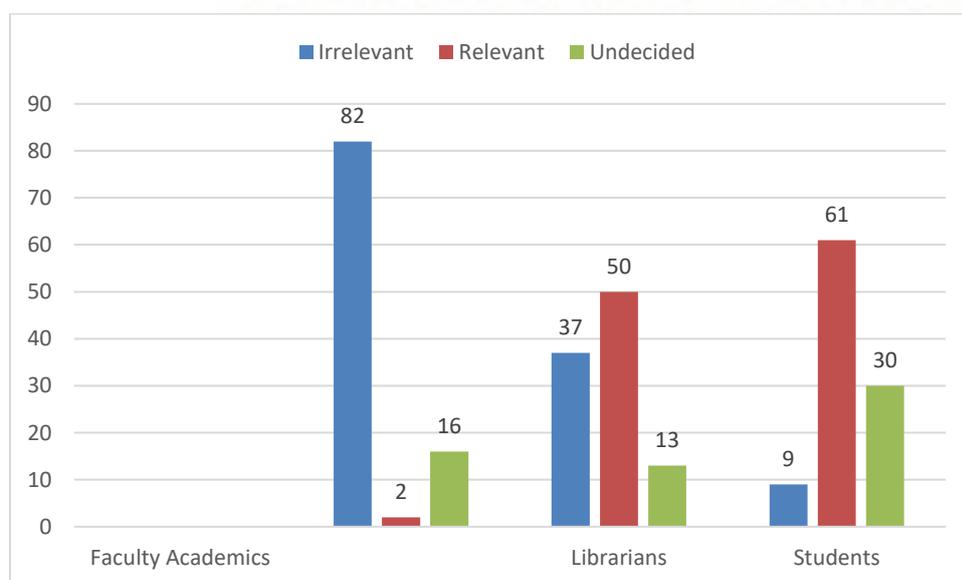


Figure 14: Use of library statistics to determine resource needs and funding

Q. 13.1 Faculty academics' views

The majority of academics (82%) considered the library's use of statistics an irrelevant measure of quality, with only 2% ranking it as relevant and 16% remaining undecided. Some of the services could warrant being quantified, whereas some of the intangible services are very complex and difficult to assess using numbers. The academics' ranking of this indicator might be premised on this point of view. Hernon and Altman (2010), who assessed service quality to satisfy the expectations of library users, support this argument.

Q. 13.2 Librarians' views

The majority of librarians (50%) ranked the phenomenon as relevant, with 37% considering it as irrelevant and 13% remaining undecided. It is quite understandable that the librarians would consider this indicator relevant, considering how much they cover usage statistics in their annual reports. According to Nicholson (2004:164), library quality matrices show the value of the collection of usage statistics by libraries. This may have informed their ranking of the phenomenon as a relevant measure of quality. Usage statistics are used to address various questions, such as local use of resources by the university community and benchmarking with other libraries. One of the earlier studies by Kinnell, Usherwood and Jones (1999:33) argues that library professional work is so unique that it becomes very difficult to assess using only quantitative data.

Q. 13.3 Students' views

The majority (61%) of the students considered the use of library usage statistics as relevant, with only 9% ranking it as irrelevant and 30% remaining undecided. As much as the students ranked the indicator as relevant, no comments were made to support the ranking. What emerged quite strongly was a comment from a student from University A, who advocated for adequate funding no matter how many resources in the library are used frequently.

Student A*: "The library must be given adequate funds despite how low the usage statistics are."

Based on the ranking of this indicator as relevant by the students as the primary users of the library, and by the librarians, who are the custodians of library services, and despite the low ranking by the academics, one could deduce that it should be included in the quality measurement matrix.

Q. 14. Feedback mechanism to assess the accessibility of electronic resources

Higher education libraries invest much money in subscriptions to electronic resources. There are times when access to these resources, according to Krashen, Lee and McQuillan (2012:36) becomes problematic due to network problems on campus, vendor configurations or disconnections due to non-payment of the subscription costs by the library. In these instances, university libraries run at a loss, as subscription models do not take into consideration the number of disconnections or access problems encountered. CHELSA's guidelines consider this indicator as critical to the quality and effectiveness of a library. The academics, librarians and students were asked to rank how relevant this indicator was as a measure of quality. Briefly, this study wanted to determine to what extent this indicator would be relevant as an evaluation matrix when the quality of the library is reviewed.

Figure 15 shows the number of respondents in each group and their ranking of feedback mechanisms to assess the accessibility of electronic resources.

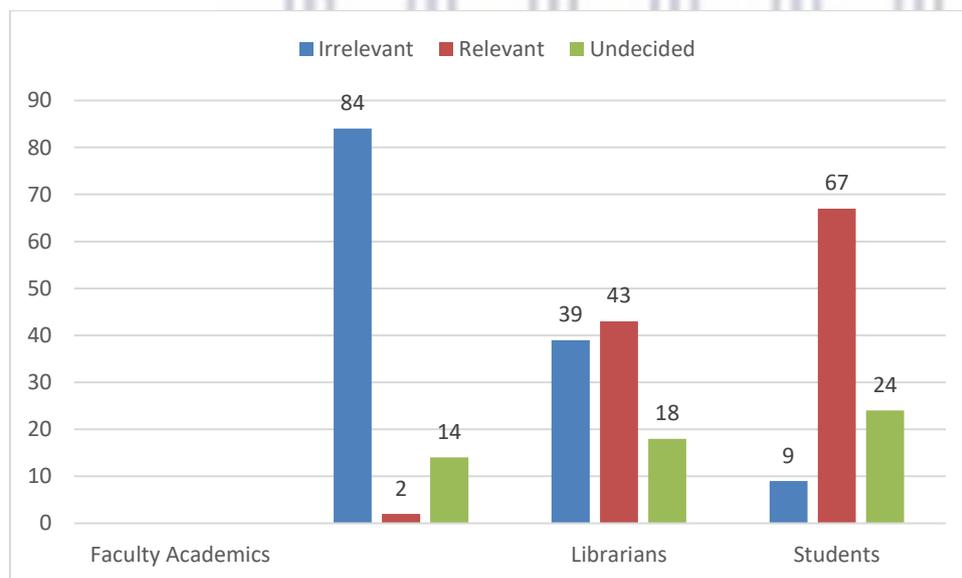


Figure 15: Feedback mechanisms to assess the accessibility of electronic resources

Q. 14.1 Faculty academics' views

Figure 15 reveals that a significant number of academics (84%) considered the library process of putting feedback mechanisms in place to assess the accessibility of electronic resources as an irrelevant measure of quality, with only 2% ranking it as relevant and 14% remaining undecided.

The academics offered no comments on this indicator other than ranking it as irrelevant. While Roberts and Rowley (2004:1) do not address the issue of academics and their ranking of this indicator as an irrelevant measure of quality, they come up with strong arguments for the importance of this indicator in positioning the library as part of the entire university, its quality, and its effect on the entire university. A higher education library, by nature, is not a standalone phenomenon, but involves processes and activities that contribute to the review of the quality of the product, service, or outputs. Academics are therefore in the panel that reviews library quality. Among the services academics consider an asset in their teaching, learning and research endeavours, as stated by Roberts and Rowley (2004:3), is access to electronic resources while they are in their offices.

Q. 14.2 Librarians' views

Only 43% of the librarians considered this indicator as relevant, with 39% considering it irrelevant, with 18% undecided. There was a clear discrepancy in how librarians perceived the relevance of this indicator. While there was a close tie between librarians who ranked the indicator as relevant and those who ranked it as irrelevant, it is quite important to note that one of the biggest threats to librarians is a disruption in the accessibility of e-resources. This is supported by CHELSA (2006:3), which clearly states that, core to the processes that libraries should follow to determine user needs and quality should be feedback mechanisms so that users can be informed on the status of the accessibility of e-resources. The CHELSA guidelines for quality also value the importance of giving feedback to users on how systems are used and how they can be improved. They also outline how librarians must take cognisance of different perspectives on the library and draw strengths from reviewing what they do. The high irrelevance ranking of this indicator by the academics should be viewed as an indication of how displeased they are with this indicator, even though there were no qualitative comments on it. In the study by Poll and Boekhorst (2007:31), the process of putting systems in place without mentioning, “whether those systems are relevant or related to measures for quality in libraries, could be one of the confusing issues for academics and librarians”.

These researchers argue that the studies on quality measurement standards conducted in New Zealand, Singapore and India placed this indicator under the cluster “potentials and developments”, where libraries are expected to constantly examine what they do for continuous improvement and effectiveness. This study also confirms that librarians are not open to services and systems that allow others (users) to dictate what they should do.

Most quality measurement instruments subscribe to systems and indicators according to which poor services should be blamed or associated with ineffective systems, resources, and services rather than people.

Q.14.3. Students' views

The majority of students (67%) ranked this indicator as relevant while only 9% ranked it as irrelevant, with a quite substantive number 24% undecided. There were no comments on this indicator.

5.6 Quantitative Data: Comparing the Respondents (academics and librarians) in their Ranking of the Relevance of Four Quality Measurement Indicators

This section reports on how academics and librarians ranked the four quality measurement indicators. These indicators were: missing books clearly stated on the library catalogue to avoid misleading academics and students; secondly, based on the existing quality measures and guidelines, libraries are expected to constantly survey their users to determine to what extent they meet the users' expectations and satisfy their needs. Thirdly, for libraries to be convinced of their resource growth pattern and how they measure up to libraries of universities of a similar size, they should benchmark their services and resources; and lastly, the respondents were asked to reflect on their information literacy preferences, as CHELSA (2006:2) has outlined three models (course-embedded, credit-bearing and library standalone courses).

These four quality measurement indicators are among the issues addressed during interviews with academics and librarians when accreditation of the library takes place. This part of the study, therefore, was aimed at determining how much academics and librarians value these indicators as critical components of library quality.

Q. 15. Missing books to be clearly stated in the library catalogue

One of the elements that affects the credibility of any library is trying to find a book that is indicated on the library catalogue as being available, while it is not on the shelf or is lost. This issue indirectly affects librarians, while academics and students feel misled when missing books are not clearly stated as such in the library catalogue.

Figure 16 depicts how academics and librarians ranked the relevance of the library service of stating clearly on the library catalogue that a certain book is missing or lost as a quality indicator.

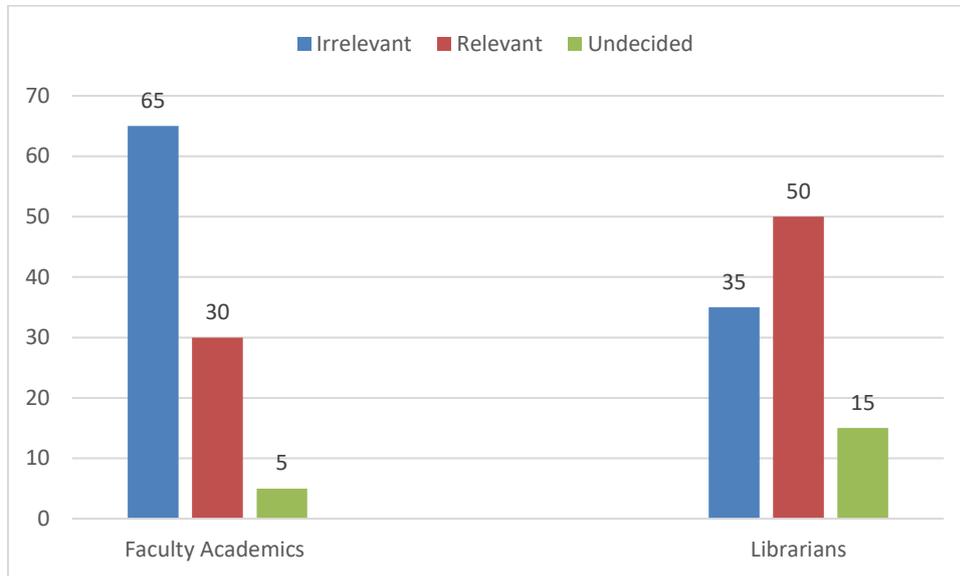


Figure 16: Missing books clearly stated on the library catalogue

Q.15.1 Faculty academics' views

It is clear from Figure 16 above that the majority of academics (65%) considered this indicator irrelevant, while 30% considered it relevant and 5% were undecided. There were no specific comments about the ranking of this indicator.

One academic from University A made a general statement that the library does not inform its users of the resources that are in stock and that users must devise different means to find resources. This was the only comment that could relate to the academics' frustration with not finding books that are present in the library catalogue, but not in the library itself.

Academic A*: "Library catalogue is not efficiently updated to guide us and our students on books available."

The low ranking of this indicator by academics is an indication that they are not satisfied with how libraries handle book acquisitions. A study by Wood and Griffin (2016:326) suggest various ways librarians can determine faculty/departmental needs with respect to resources.

Faculty websites, course outlines and surveys are some of the methods used to acquire relevant books and other sources of information required by academics to fulfil their teaching requirements.

Q.15.2 Librarians' views

The process of stating missing books in the library catalogue was ranked as relevant by 50% of the librarians, while 35% considered it irrelevant and 15% were unsure. Despite librarians not making comments about this indicator, the different rankings signal an element of doubt in how librarians view this indicator. Missing books are one of the most demoralising factors in the effectiveness of any library. Despite the accuracy of the library catalogue being ranked as irrelevant by the academics, the mere fact that they value the library's role in updating it is testimony to its importance as a quality measurement indicator. According to Hiller (2002:1), among the attributes that should be quality reviewed in libraries is an up-to-date library catalogue. While university libraries are facing several security challenges, one of the most critical core components of an effective library in the views of Maidabino and Zainab (2013:15) is collection security. Quality measurement indicators should not only look at collection relevance, but also at how secure books are and to what extent lost books are reported and replaced.

Q. 16. Library survey of users to determine value-adding services supporting teaching and learning

Higher education libraries, just like all user-centred sectors, are expected to do surveys among their users to determine how the services they offer additional value in support of university teaching and learning. The library committee that acts as an advisory committee for the university librarian is comprised of academics. The library accounts to this committee on how library functions are governed.

Figure 17 displays how academics and librarians ranked library surveys users to determine value adding services supporting teaching and learning as a measure for quality.

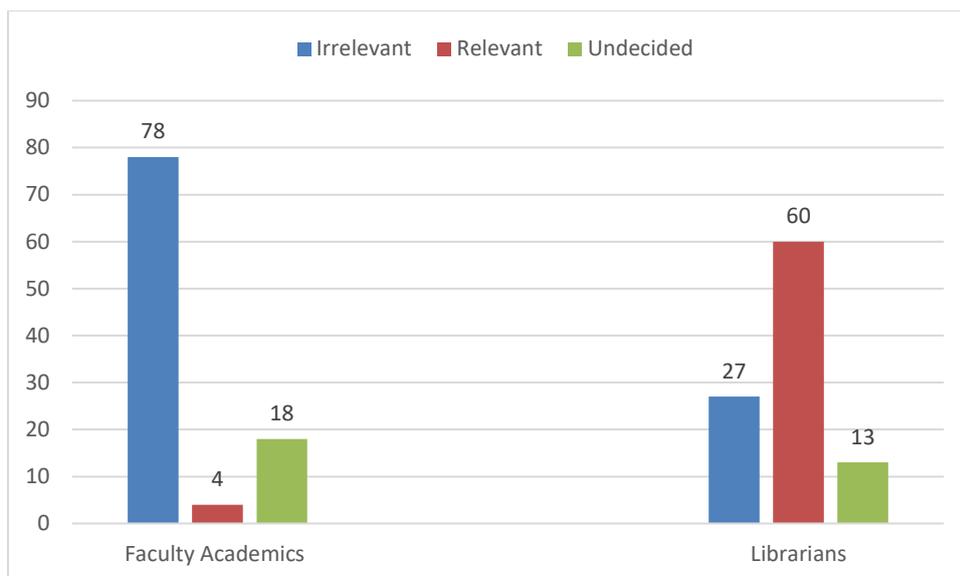


Figure 17: Library surveys users to determine value-adding services supporting teaching and learning

Q.16.1. Faculty academics' views

Figure 17 indicates that the majority of academics (78%) considered the indicator as irrelevant, while only 4% considered the indicator to be relevant, with 18% remaining undecided. No comments were made by the academics on this indicator.

Q.16.2. Librarians' views

Figure 17 shows that 60% of the librarians considered the indicator as relevant, while 27% ranked it as irrelevant, and 13% were undecided. Considering the number of years CHELSA (2006) measures for quality have been in existence, the ranking process and how indecisive librarians are in ranking it as a measure for quality could be linked to a lack of understanding of the phenomenon in relation to quality norms. User surveys are clearly stated by CHELSA (2006) as part of the processes that librarians should follow to determine user needs and to benchmark their services.

The study by Zeithaml, Parasuraman and Berry (1991:39) indicates that listening to the voices of library users and the opinions of others contribute to a continuous improvement in quality. As argued by Calvert and Herson (1997:409), library quality revolves around resources and services that should be accompanied by paying attention to changing user needs. Despite the low ranking of this indicator by the academics, which might be associated with their dissatisfaction with the service, there are merits linked to quality norms that warrant keeping user or customer surveys as a relevant measure of quality.

Q. 17. Benchmarking with other libraries' resources and funding

Higher education libraries in South Africa form part of the structure of the university to which they are attached. The interlibrary loan service was developed to strengthen their capacity and expand their collections. In addition, higher education libraries at the regional level established consortiums to build on each other's strengths in bargaining for library systems, resource sharing and capacity building. In recent years, since the libraries have been subjected to quality measurement, benchmarking was identified as one of the quality measurement indicators that should inform what each library needs and wants to reach the minimum quality standards.

Figure 18 shows how academics and librarians ranked the process of benchmarking library resources and funding as a measure for quality.

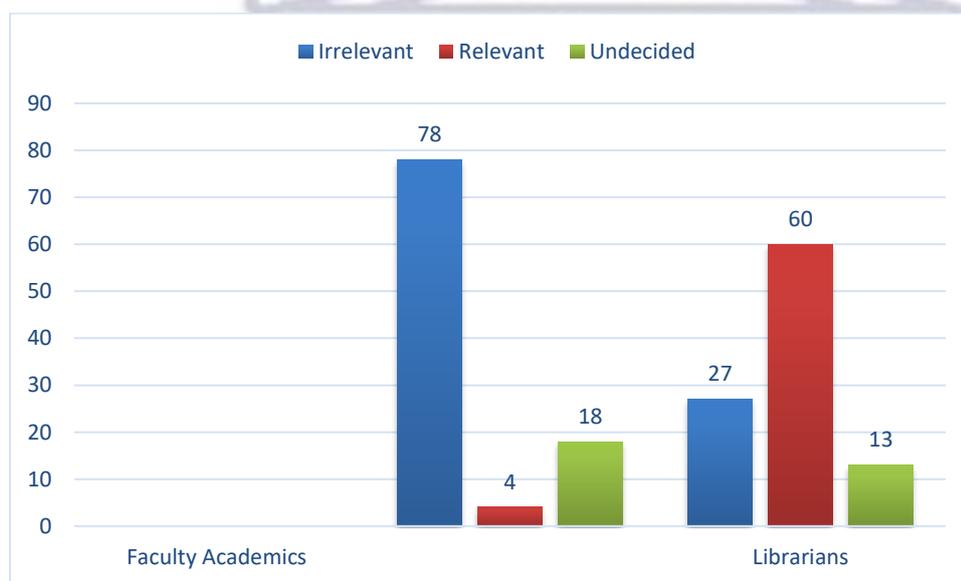


Figure 18: Benchmarking resources and funding against other libraries

Q.17.1. Faculty academics' views

The majority of academics (78%) ranked the indicator as irrelevant, with only 4% ranking it as relevant and 18% remaining undecided. Academics viewed benchmarking against other libraries as an irrelevant measure of quality, while a significant number of librarians considered it relevant. The fact that one academic from University B preferred to use other libraries in addition to their university library shows that some sort of resource comparison or benchmarking has been undertaken by this academic.

Through this academic's comments, one could easily deduce that benchmarking of resources and services is quite critical and that if libraries are not conducting it, users do choose the library that best meets their needs. In the current situation, where the budget for resources is limited, libraries should start benchmarking resource growth patterns and budgets. The academics also acknowledged the importance of the institutional resource sharing that is taking place between libraries. Libraries pursue this service after assessing their collection strength, and academics consider it beneficial if linked to benchmarking of budgets and resources.

Academic A*: "Regionally and nationally the library has a working system of interlibrary loans."

Academic C*: "Relationship between the libraries must be expanded to include benchmarking of budget and resources."

Academic B*: "I prefer other university libraries to my library because of poor resources."

Q.17.2. Librarians' views

Figure 18 shows that more than half of the librarians (60%) considered the process of benchmarking against other libraries a relevant indicator, even though 27% ranked this aspect as irrelevant, with 13% remaining undecided.

The irrelevant ranking and indecisiveness in taking a position on this aspect could be associated with what, Raza and Nath (2007:211) view as a lack of professional guidelines to define how quality in libraries should be measured. There were no comments from librarians on this indicator. Roberts and Rowley (2004), who invented the framework that informed the development of quality measures by CHELSA (2006), clearly assert that benchmarking between academic libraries is a means of assessing performance, apart from quality measurement in one's own institution. Their analysis of benchmarking includes a series of steps and processes that would add value to library quality. These steps are:

- regularly comparing performance with standards or best practices.
- identifying gaps where performance falls below standard.
- seeking out different approaches that can achieve improvements in performance; and
- implementing improvements, monitoring progress with improvements, and reviewing the benefits.

According to Raza and Nath (2007:212) and Barnard and Rensleigh (2008:433), there is a lack of authoritative professional library guidelines to help librarians define, in simple terms, how the quality of an academic library can be measured properly. Based on this study, despite the lack of librarians' understanding of key quality measures to look for in their libraries, benchmarking seems to be one of the processes they still consider valuable in defining user needs and improvements in service quality. It is also worthwhile to acknowledge the comments by academics from universities A, B and C, which suggest that respondents feel that their home libraries are not adequately resourced, hence their preference for using the resources of other libraries.

Q. 18. Course-embedded information literacy programmes

The national higher education has a mandate for producing graduates with twenty-first century graduate attributes, including information literacy. This includes skills offered by librarians to empower students to easily find, evaluate and critically assess information before use. Given this mandate, libraries are compelled to develop information literacy programmes. In the South African higher education library context, there are three types of information literacy programmes, namely course-embedded courses (a new approach), credit-bearing information literacy courses, and library standalone courses. Each library must choose the model that best suits its university's needs. The ranking of this indicator was informed by this autonomy in picking and choosing an ideal model per university.

Figure 19 displays how academics and librarians ranked, course embedded information literacy programme as a measure for quality.

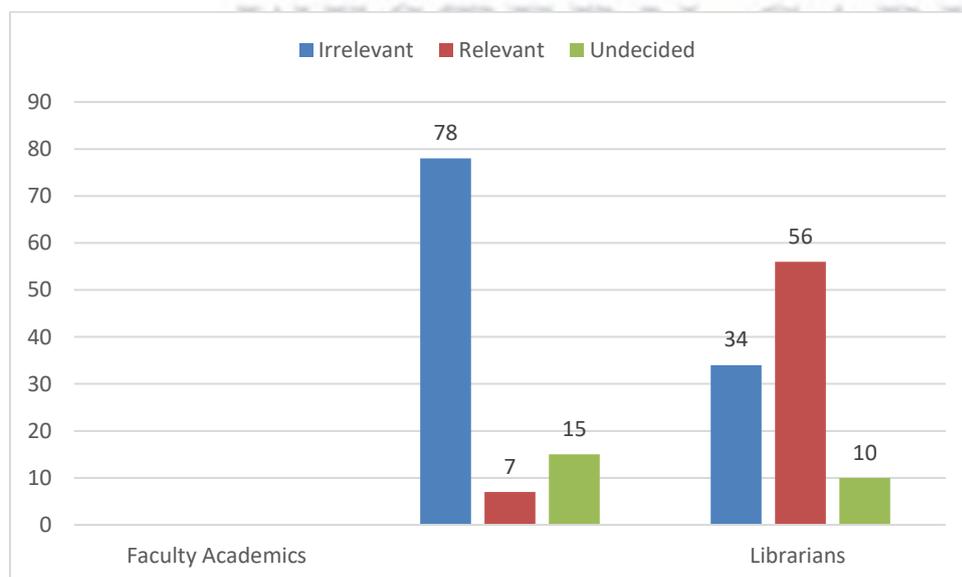


Figure 19: Course-embedded information literacy programme

Q.18.1. Faculty academics' views

There were quite a significant number of academics (78%) who ranked this indicator as irrelevant, with only 7% considering it a relevant indicator and 15% being undecided. An academic from University A acknowledged the benefits that are derived from the course-embedded information literacy approach through working very closely with librarians.

Academic A*: "My perception is for the course-embedded information literacy approach to work a sound relationship between faculty and the library is most helpful."

The academics' comments also indicate that the need for a set of locally desired programmes might have influenced the ranking of this indicator among both the academics and the librarians. The study conducted by the Association of Colleges and Research Libraries, ACRL (2012:534) indicates that for the effective implementation of an information literacy programme, each institution should derive its own model for how the programme will contribute to improving learning outcomes while also enhancing the institution's effectiveness. The revised information literacy frameworks stated by the ACRL also encourage institutional autonomy in the adoption of information literacy content.

Q.18.2. Librarians' views

Figure 19 shows that 56% of the librarians ranked the course-embedded information approach as relevant, while 34% ranked the indicator as irrelevant and 10% were undecided.

Librarian B*: "Each university should decide on which information literacy to adopt between credit-bearing, stand-alone and course-embedded information literacy course."

The librarian points to the institutional autonomy in the adoption of an information literacy programme. This autonomy is evident from the outcomes of a CHELSA survey conducted by Pearce (2013). Each library has the autonomy to choose a programme that best suits its local needs. Pearce's findings reveal that all higher education librarians in South Africa consider the development of information literacy programmes to be significant to the success of students.

However, each university library should have autonomy in deciding on the type of information literacy programme that best suits its teaching and learning requirements.

Librarian A*: “Students’ use of the library varies from discipline to discipline; some are well equipped with information literacy skills while others do not have adequate information searching skills.”

The responses from the librarians suggest that since some of the students hardly use the library and only experience the library independently or come to the library when they encounter problems with accessing resources or are stuck while writing an assignment; a course-embedded approach must be considered when choosing an ideal information literacy model for the university. According to CHELSA (2006), all higher education libraries in South Africa are expected to develop and deliver information literacy programmes for their students. However, the CHELSA quality measures are not prescriptive about whether they should be course-embedded, standalone non-credit courses or credit-bearing courses.

Librarian A*: “The information literacy is not fully embraced by some academics, but through the faculty/librarian’s liaison programme it is considered valuable”.

While the librarians also strongly suggested the importance of collaborating with academics in helping and guiding students to see the value of libraries, the issue of whether information literacy courses must be embedded or not is not clear from the responses. Based on these findings, and since the studies on information literacy are not prescriptive, one could deduce that each library or university could choose a model that fits its needs. “The library and its partners on campus based on ACRL (2012:535) will need to deploy these information literacy programmes in a manner that best fits their situation and to design learning outcomes based on the knowledge practices and dispositions for local purposes”.

5.7 Quantitative Data: Triangulation of students’ views with those of academics and librarians

According to Lincoln and Guba (1985), triangulation is a crucial step in mixed methods research where dissimilar sources of data or different data from the same source are used to examine the same object. In this case data from academics, librarians, and students within each group are examined and triangulated to find, where the similarities and differences are.

Students and academics are considered the primary users of the library. In terms of their experience of using the services provided by the library, they hold the upper hand when it comes to guiding the library in rendering quality services. Librarians introduce academics and students to the library through library orientation and service marketing to help them to use the library resources in the fulfilment of their teaching and learning roles. For an effective library, librarians and academics should work together. Collection development and/or the process of acquiring library materials in support of teaching and learning are among the initiatives for which this partnership is needed most. Librarians would not be able to do this without academics. This section of the study reports on the triangulation of the data to determine which of the respondent groups ranked the indicator as either relevant or irrelevant.

The reason for doing this cross-tabulation and/or comparison was to determine how much academics and students concur with or differ from the librarians' rankings of the relevant quality measurement indicators for libraries. In some instances, where discrepancies were identified, qualitative data were used to close the gaps.

Figure 20 below reveals how academics, librarians and students ranked the process of acquiring printed materials and the accessibility of electronic resources as a measure for quality.

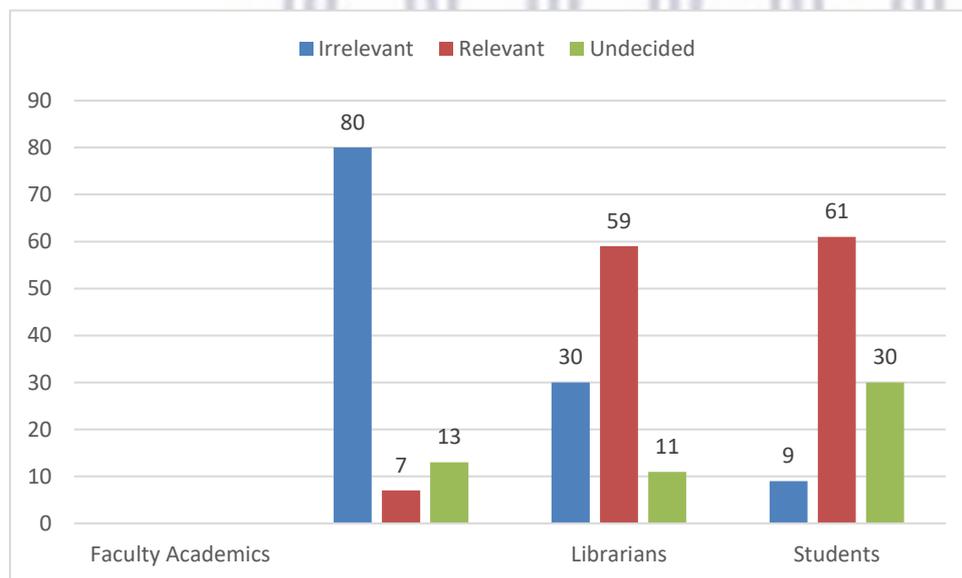


Figure 20: Acquiring useful printed material and the accessibility of electronic resources

A majority of the academics (80%) considered the indicator irrelevant, with only 7% ranking it as relevant and 13% undecided. While 59% of librarians considered the indicator relevant, only 30% considered the indicator irrelevant with 11% remaining undecided.

On the other hand, 61% of the students ranked the process of acquiring useful printed material and the accessibility of electronic resources significantly higher in terms of relevance, while 30% were undecided, and 9% considered it irrelevant. The acquisition of print and electronic resources is considered one of the core roles of any library, but the librarians as the main role players in the fulfilment of this service showed some indecisiveness in ranking the phenomenon relevant or irrelevant. According to Poll and Boekhorst (2007:5), a simpler product may translate into greater quality because it meets the needs and expectations of its target customer group.

This implies that the quality and significance of a product or a service should be defined in relation to the customer or user's experience. There seems to be a relationship between the students' ranking of this indicator (Figure 20) and the timely review of the library services to determine the users' changing needs (Figure 22). There also seems to be correlations between the variables physical use of the library, the need for print and electronic resources, and valuing library operating hours. These correlations are evident from the ranking of the phenomenon's relevance by students and librarians and the ranking as irrelevant by academics in Figures 6, 7 and 8. Even though the academics ranked the phenomenon low in the quantitative data, the qualitative data confirm that the academics concurred with the students in considering the process of acquiring printed and electronic resources as critical to the quality and effectiveness of libraries. The difference of opinions between librarians and the users of the library (academics and students) suggests a perception gap between librarians and library users in terms of what constitutes services of a critical nature.

Librarian A*: "If this is a purely client services-oriented survey then you should do what you ask in your questions and they are all important for client services. I would have liked to see examples of what the literature is suggesting we do in each question to decide if it will match what is actually done or should be done in the South African context."

There were inconsistencies in the ranking of this indicator as a relevant measure of quality by the students and when the students were asked to reflect on the services of the library that are critical to quality. "Access to books" ranked among the top five items. While the students ranked this service as performing well in addressing their learning needs, the same students also rated this indicator high as a critical service of the library that requires improvement. Based

on the students' responses, books must be accessible, relevant, cover the latest information and be able to cater for the number of students enrolled in a programme.

Student A*: "More recent books are needed; we cannot study in these conditions and books are not organized."

Student A*: "The library should order more books that are useful for students, and librarians must be asked to download for students' online books that are useful."

Student C*: "Purchase of recent scientific books is needed especially on the X library; dissemination of resources should be equal to all libraries."

As outlined in Poll and Boekhorst (2007:7), ISO 9000 standards describe this process as the consistent conformance of a product to a given set of standards or expectations. These findings also confirm that users of the library view the quality of the library according to their experience, while librarians rank the service based on service costs and the processes behind the scenes. In summary, the librarians expected this study to review issues such as adherence to new international library trends and the integration of technology, etc., as opposed to mere acquiring of printed and electronic resources.

The librarians considered new developments in libraries a more valuable measure of quality than the basic, traditional services that had been on offer in libraries for years. The more academics and students are kept informed about electronic resources and their accessibility, the better their use and interest in attending training on how to use them. The discrepancies in the librarians' ranking of this variable may be due to issues like these that confuse librarians about which of their services should measure the quality of their libraries.

Figure 21 displays how academics, librarians and students ranked timely review of library services as a measure for quality

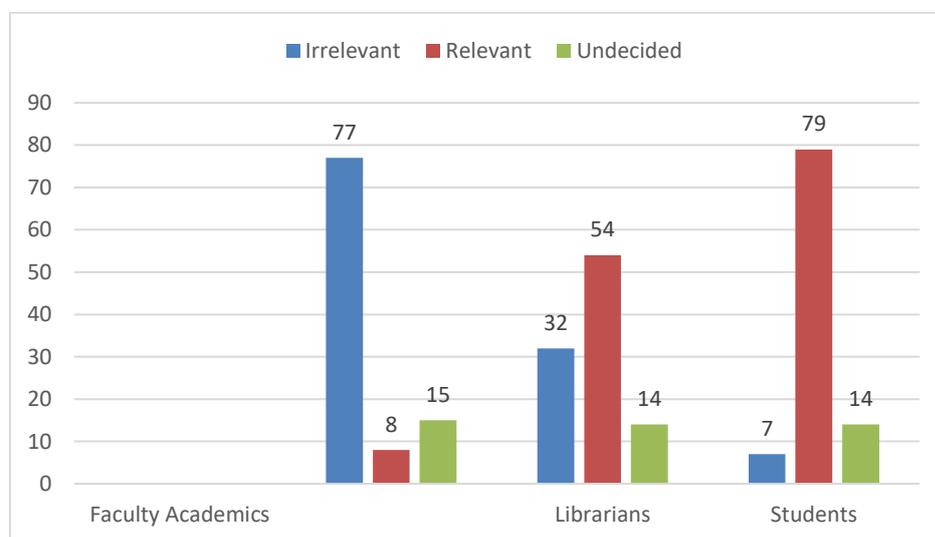


Figure 21: Timely review of library services to ensure relevance to users’ needs

A large proportion of academics (77%) ranked the indicator irrelevant, with only 8% ranking the phenomenon irrelevant and 15% remaining undecided. Fifty-four percent of the librarians ranked this indicator relevant; while 79% of the students considered the review of library services for relevance to users’ needs as a relevant measure of quality with only 7% ranking it irrelevant and 14% undecided. Gauging from the above, only librarians and students consider this indicator relevant, and academics view it differently.

Comments from academics that may explain their ranking include the following:

Academic B*: “Some of these labs need improvement though. Students are not happy that ‘off-campus’ access to electronic library resources is often not working.”

The comments of the academics show contradictions in how they ranked it in the quantitative data. Gauging from the comments by academics and students on off-campus access to electronic library resources and the suggestions made on the importance of mechanisms to assess the accessibility of electronic resources, it is quite easy to deduce that the timely review of library services such as these is critical to library quality.

Academic A*: “In my discipline students make use of Google Scholar for the latest journal articles.”

Student A*: “Off-campus access to library resources is very poor.”

Librarian A*: “Students only come to the library to obtain convenient space, use of interlibrary loans and rarely use the library collection.”

The other element that emerged from these findings was the need to pay attention to keeping undergraduate students abreast of information-seeking skills, especially the effective use of reference sources when writing assignments. Based on the academics and students’ qualitative results on the timely review of the library service based on their expectations, this indicator is a relevant measure of quality. The conclusion can be drawn is, librarians confused library developments with quality and effectiveness.

The academics also highlighted the issue of off-campus access to library resources as problematic, mentioning that the library does not advise users when the system is down. Seeing that there was a small group of students who rated this service as poor, this data show that the library is doing well in ensuring the accessibility of its electronic resources. However, when this phenomenon was also viewed in the qualitative data, much as there were positive comments on the libraries’ performance in this regard, off-campus access to the libraries’ electronic resources, including e-journals, clearly posed problems for academics and students. CHELSA (2006) cautions libraries about the importance of soliciting user opinions by either reviewing the library or conducting surveys to gauge user satisfaction with the library. Rowley (2005:508) and Poll and Boekhorst (2007:3) assert that given the nature of library services, which involve a series of processes and activities of which the quality must be experienced and witnessed by others (users), the timeous review of library services is unavoidable if the quality is to be guaranteed.

Figure 22 below displays how academics, librarians and students ranked interrogation of the library user statistics to determine user needs as a measure for quality.

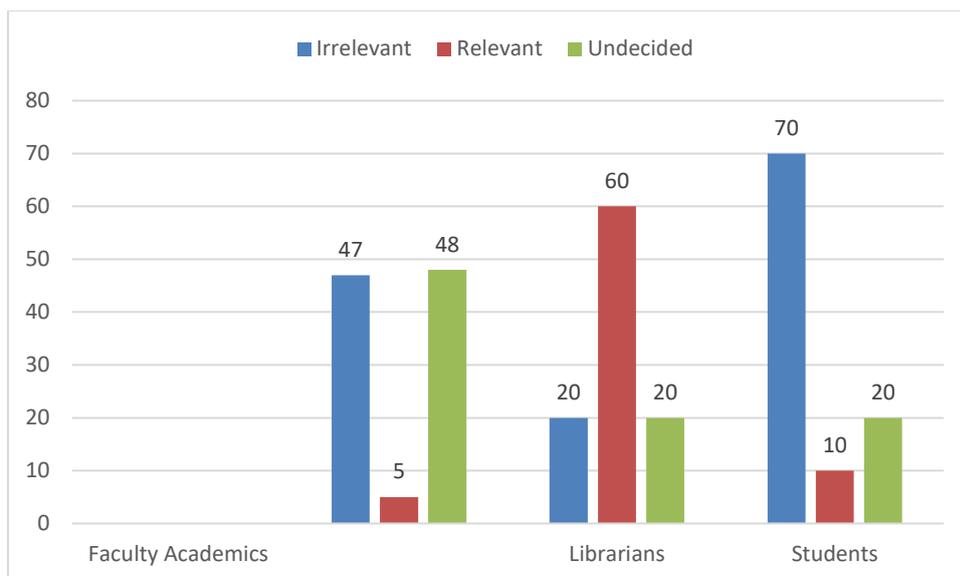


Figure 22: Interjection of library user statistics to determine resource needs for funding

A proportion of 47% academics ranked the indicator irrelevant with only 5% ranking the phenomenon relevant and 48% undecided. Of the librarians, 60% ranked the indicator as relevant, only 20% ranked it as irrelevant and another 20% remained undecided.

Of the student population, 70% of students ranked the indicator as irrelevant and only 10% ranked as relevant, with 20% remaining undecided. Drawing from this data, both academics and students consider a process interrogation of library use statistics to determine resources needs for funding an irrelevant measure of quality. Only librarians ranked this indicator as relevant. As indicated in Chapter 2, one of the most frequently used ways of justifying the need for library resources is to present to university management statistics that reflect how much the resources of the library are and were used by academics and students and how these usage statistics compare to the growth of resources. Many librarians equate more resources with higher levels of library use, improving the chance that the university would channel more funding. It is quite understandable that, while this indicator is viewed as relevant by the academics, who are not a frequent user of the libraries, librarians as the custodians of the library service should view it as such. However, based on Herson and Altman (1998:53) gauging the effectiveness of the library or its quality through statistical data on its use is outdated. As the concepts of quality, accountability and transformation become a given in the higher education environment, fitness for purpose and the relevance of the library are now viewed based on users' opinions, rather than on what the library suggests. It is possibly based on these arguments that librarians no longer view usage statistics as a way to funding.

Figure 23 displays how academics, librarians and students ranked the feedback mechanism put in place to assess the accessibility of electronic resources as a measure for quality.

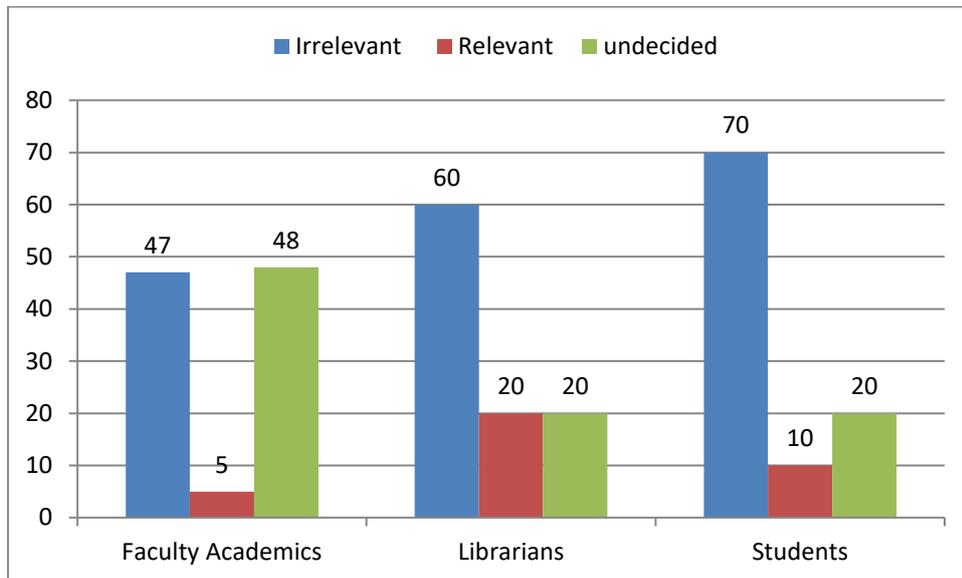


Figure 23: Feedback mechanisms put in place to assess the accessibility of electronic resources

A proportion of 47% academics ranked the indicator as irrelevant, while 48% remained undecided and only 5% ranked it as relevant. Of the librarians, 20% ranked the indicator as relevant, with 60% ranking it as irrelevant and 20% undecided. Only 10% of students ranked this indicator relevant. The low ranking of the phenomenon by academics, librarians, and students as a measure of quality signifies a gap in their understanding of the question. Even when the academics' data were interrogated further, the majority disagreed on the relevance of this indicator. One would have assumed that there would be a correlation between how academics rank this service and how they rank library activities such as library hours, the appearance of the library and the accessibility of electronic resources, as they should have high expectations with respect to the electronic accessibility of resources.

The respondent views the adoption of new technologies for communicating with library users as more important than giving them feedback on ways to assess the accessibility of electronic resources. These measures of quality are not new, as supported by a study conducted by Hernon and Calvert (1996:387), but the librarians' ignorance about it is quite disturbing. These study results, therefore, suggest a missing link between the practising librarians and the existing measures of quality adopted for higher education libraries.

This gap and the lack of correlations between what the librarians do and what users expect of the library, confirms the discussion of GAT in Chapter 2.

As students are the primary users of the library resources and are affected negatively when access to electronic resources is interrupted, when 70% of them ranked the indicator as irrelevant, that becomes questionable. One would have expected all the participants (academics, librarians, and students) to rank this indicator quite high in terms of relevance. According to the existing measures of quality, CHELSA (2006), among the minimum standards for quality library infrastructure, there should be a reliable and guaranteed off-campus access to electronic resources, supported by reliable connectivity and bandwidth, anywhere and anytime needed.

Figure 24 shows how efforts made by the library to expedite the accessibility of library resources, such as one-stop platforms is ranked by academics, librarians, and students as a measure for quality.

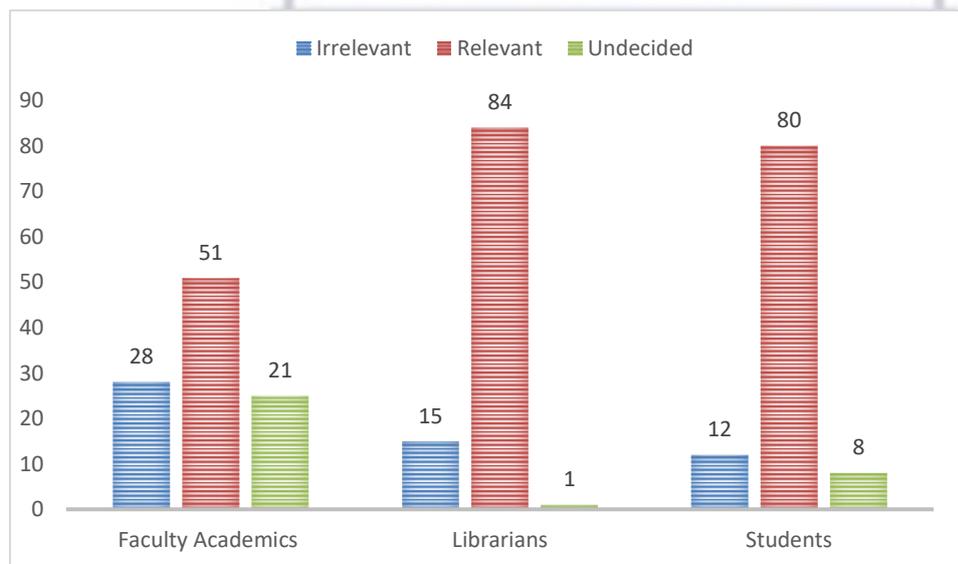


Figure 24: Interfaces and systems architecture such as a one-stop-shop platform to enhance information accessibility

A proportion of 51% academics ranked the process relevant with 28% ranking the phenomenon as irrelevant and 21% remaining undecided. On the other hand, the majority of librarians (84%) ranked the indicator as relevant, with only 15% ranking it as irrelevant and only 1% remaining undecided. Eighty per cent of students also ranked the indicator as relevant, with only 12% ranking it as irrelevant and only 8% remaining undecided.

Drawing from the above findings, all three categories of this study population (academics, librarians, and students) ranked this indicator as relevant. Although the indicator is considered less relevant by many of the academics, the fact that librarians and students ranked it as relevant qualifies it for consideration as part of the revised measures. It is surprising that academics ranked this indicator so low. Briefly, academics and librarians do not concur with students on the relevance ranking of this indicator. While one could deduce that these innovations matter less to academics, it is quite disturbing to observe that librarians who explicitly indicated in relation to the above questions that the questionnaire was too basic, rated low some of their innovative initiatives to promote the quality and accessibility of library resources.

The qualitative data also confirmed these discrepancies, as only the academics and students suggested further improvements to the existing online platforms of the library to facilitate information access and discovery. The comment below shows that at one of the institutions, academics viewed the library website, which acts as a gateway to information, as rather complicated to navigate.

Academic A*: “There should be a button on the website allowing requests for new books open to all staff and students.”

CHELSEA (2006) suggests the relevance of this indicator, and studies by Haynes (2004:285) and Tiemensma (2009:2) echo the importance of library quality based on the value of the library collection as determined by access, document delivery speed and efficiency, the balance between print and electronic resources, and how easy users find them to access. These studies signal how important the process of developing online platforms is and how these enhance the accessibility of the electronic resources and services of the library.

Some of the academic staff felt that students’ perceptions of the library were positive, although others felt that because their libraries were inadequately resourced, they resorted to using neighbouring libraries to fulfil their students’ study and research needs. Easy access to information sources is quite critical to the user in terms of the quality and effectiveness of the library, thereby making the aspect a relevant measure of quality.

Figure 25 displays how academics, librarians and students ranked the development of online user guides to provide multiple entry points to access information as a measure for quality.

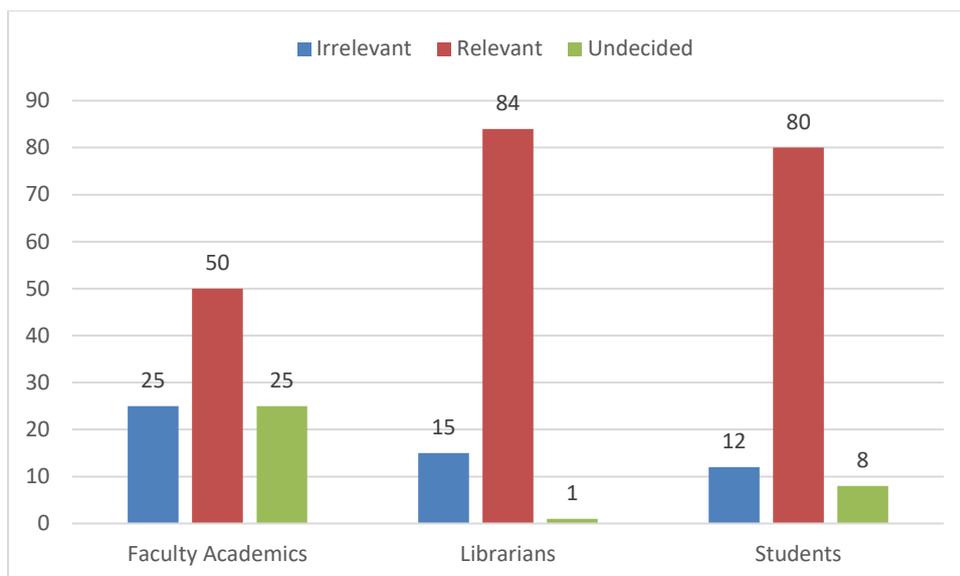


Figure 25: Development of online guides to provide users with multiple entry points to access information

A proportion of 50% academics ranked the indicator as relevant, while 25% ranked the phenomenon as irrelevant with 25% undecided. The majority of librarians (80%) considered online user guides developed by the librarians as a relevant measure of quality, with only 15% ranking them irrelevant and 1% being undecided. The students (80%) on the other hand ranked the development of online guides to provide users with multiple entry points relevant, with only 12% ranking the indicator irrelevant and 8% undecided.

Academics often judge the guides developed by librarians to help library users access library resources and services more easily based on their usage statistics by students. This might have influenced their ranking of the indicator as a measure of quality. The qualitative findings also show that academics and students value the library's role in communicating value and outcomes, even though communication about the library's role is deemed ineffective. These online user guides do not seem to fulfil their intended role of communicating with the academics and students about the services and resources that libraries offer per subject discipline. The comment below refers:

Academic E*: "Libraries as institutions of information communication and dissemination do not communicate their services and programmes effectively."

The above comment shows discrepancies between the librarians, the academics and the students' perceptions of factors leading to the inadequate use of the library guides by students.

While the students blame this on poor communication or poor marketing on the side of the librarians, librarians shift the blame to a lack of skills on how to use these platforms.

Academic E*: “Library users are not informed what services and resources are available.”

Librarian A*: “The use of the library guides by students is not good enough, students lack skills on how to navigate these platforms.”

This defence mechanism is evident from various questions in which the librarians were expected to give an account of their role, but their answers leave questions on their understanding of quality management, norms, and practices. In this case, it fits their ranking of the phenomenon rather well. In conclusion, the students’ quantitative data and their rating of this indicator as relevant, and the comments from academics that contradict their rating of the phenomenon, online library guides are relevant measures of quality when properly marketed to users. The more academics and students can be sensitized to the value of the online guides, and the more they can improve their database navigation skills, the better their use of and inclination to use these resources will be.

The hours of operation of a library affect students as frequent users of the library and librarians as workers in the library more than they do academics (see Figure 26).

One can conclude that the 80% of students and 84% of librarians who ranked this indicator as a relevant measure were informed by the above factors. The low ranking of this indicator by academics could be viewed in tandem with what they expect in terms of the accessibility of electronic resources stated in Figure 3. Their comments on what they expect from the library in terms of library resource use show that the physical library space is less important to them compared to access resources. To academics, spending time in the library was not as critical as having access to resources they need on their desktops.

Figure 26 displays how academics, librarians and students ranked library hours responsive to changing user needs as a measure for quality.

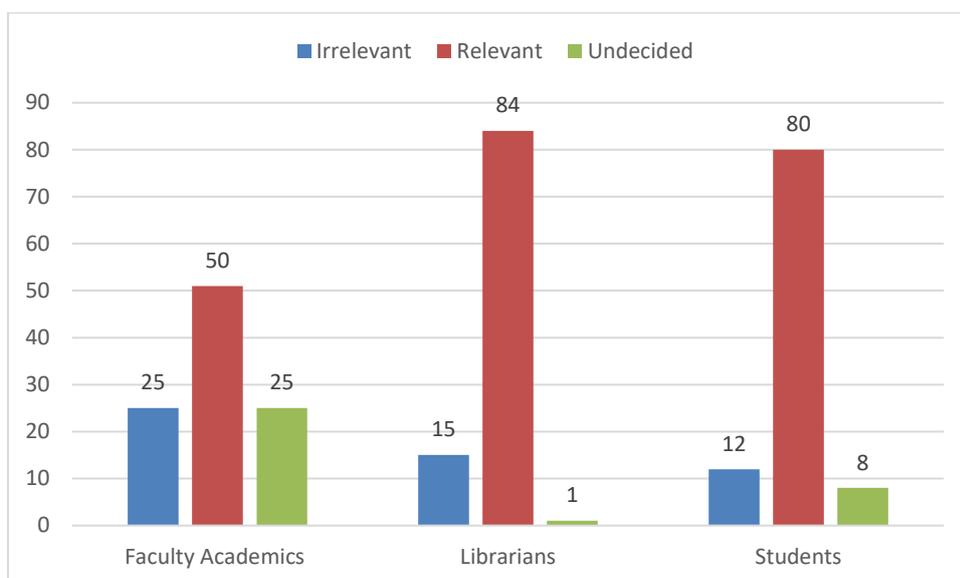


Figure 26: Library hours responsive to changing user needs

A proportion of 50% academics ranked the indicator relevant, with 25% ranking it as irrelevant and 25% remaining undecided. Eighty-four per cent of the librarians ranked the indicator as relevant, 15% ranked it as irrelevant and 1% remained undecided. However, 80% of students ranked the indicator as relevant, with only 12% ranking it as irrelevant and only 8% remaining undecided. The conclusion can be drawn those academics, librarians and students do consider the responsiveness of library hours to user needs as a relevant measure for quality. There were no comments from academics, librarians, or students about library hours in relation to areas for improvement. This is an indication that a review of library hours is considered a good measure for quality in these libraries. The silence on library hours specifically contradicts Chickering and Gamson (1999:75), who state that students who do not spend time learning to use the library become negative about what it offers, no matter how good it is. The study confirms that if students' effort with library use does not lead to success in their learning endeavours, there will always be a gap between what academics do to teach and what they expect from students.

Figure 27 reveals that 91% of the academics considered this indicator as irrelevant as a measure for quality, with only 2% ranking as relevant and 7% remaining undecided. On the other hand, 60% of the librarians ranked this indicator as relevant, with 30% ranking it as irrelevant and 10% remaining undecided. Of the students, 53% ranked the indicator as relevant, with only 13% ranking it irrelevant and 34% remaining undecided.

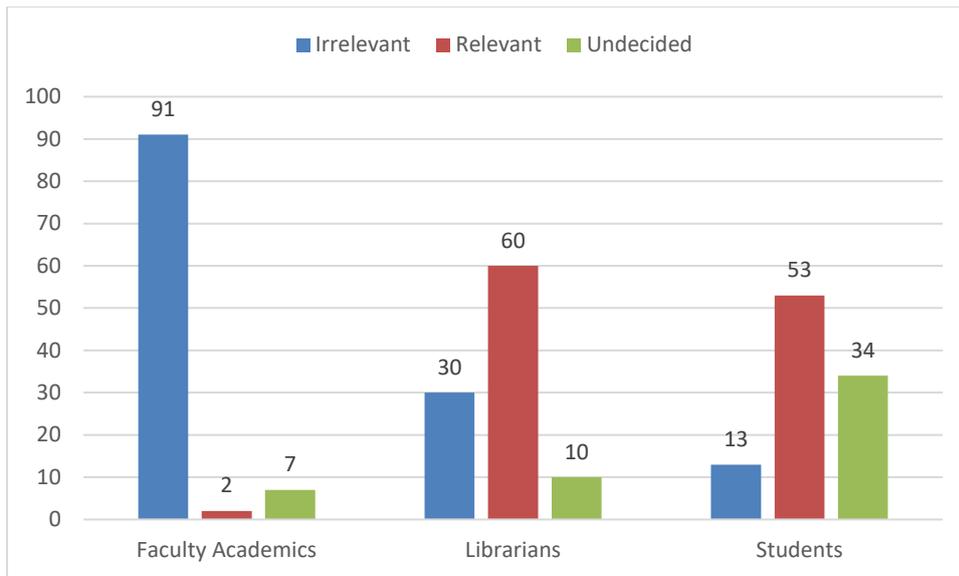


Figure 27: The appearance of the library facilities, equipment, staff, and marketing materials

Both librarians and students ranked the indicator as relevant, with only academics ranking it as irrelevant. The fact that the majority of academics ranked the indicator as irrelevant and a proportion of students seeming undecided on ranking this indicator as a relevant measure for quality, raised concerns that led to the interrogation of the students’ qualitative data. It is understandable that librarians spend long hours in the library and that its appearance will matter to them. From the qualitative data, it is quite clear that issues with the ergonomics of the library, inadequate seating facilities, discrepancies between physical spaces, or the misplacement or late return of library materials to their original location, create a burden for both academics and students.

Libraries should take cognizance of these matters when they consider the physical look to improve quality. The following comments from the academics, address more than just the library’s appearance, but also the behaviour of others in the space.

Academic A*: “Fortunately, I have used university X and Y to fulfil teaching and research needs. But I would have preferred our library to be similarly well organized and books easily located on their shelves.”

Librarian A*: “More internet access, printing and scanning facilities, improved Wi-Fi connectivity, silence in the library, more discussion rooms, programme for computer maintenance in the library and more databases.”

Student A*: “The library is very rowdy and students’ noise level is not controllable.”

Student B*: “Students disrupt those studying by giggling and kissing in the library.”

While a large percentage of respondents ranked this indicator as unimportant, their views were somewhat different when it came to spaces. What seemed to add more value for the respondents than appearance was adequate seating facilities, good lighting, and a well-functioning air conditioning system.

The following comments from the students substantiate these findings:

Student A*: “The low use of the library is associated with space problems.”

Student B*: “No adequate seating facilities, the library also has poor lighting and too noisy.”

Student C*: “We fight for tidy and quiet learning spaces.”

Student A*: “Some of our dissatisfaction with library revolves around over-crowdedness, high noise levels, and poor air conditioning systems in other libraries.”

Furthermore, libraries should devise clear strategies for controlling noise levels. Much as the students appreciate the study areas, these sections should extend their opening hours to accommodate distance and part-time students who work while studying.

Figure 28 below reveals that 76% of the academics consider the library’s ability to keep premises an irrelevant quality measurement indicator for libraries, with only 2% ranking it as relevant and 7% remaining undecided. Fifty-three per cent of the student population ranked the indicator as relevant, with 13% ranking it as irrelevant and 34% remaining undecided.

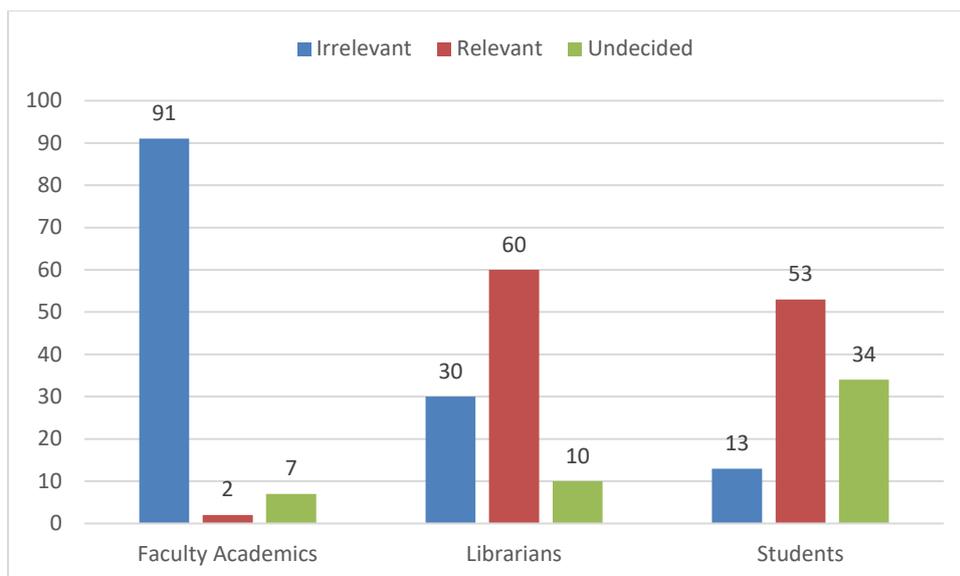


Figure 28: The library's ability to perform promised services dependably and accurately

The librarians and students concurred on the relevance of this indicator, with academics considering it irrelevant. This indicator is one of the few quality measurement indicators that was considered relevant by the majority of librarians (60%) and students (53%), while 91% of the academics ranked this indicator as irrelevant. It is quite pleasing to see librarians committing to the need for their libraries to be assessed and wanting to be reliable in keeping the promises they make to their users, whilst also students support the importance of this indicator. A small proportion of students 13% considered this indicator as irrelevant, with 14% undecided.

It is also noteworthy that the same librarians, while vigilant in identifying gaps in students' competencies in searching and accessing relevant resources for curriculum and research, also considered ranking an attribute as relevant that would give them credibility in showing accountability to these users.

Librarian A*: "Students are mostly unaware of the services that could be more useful to them to make their research easy; we need to take it upon ourselves to guide them through."

Each higher education library as stated by CHELSA (2006) is expected to clearly delineate the skills, attitudes and behavioural patterns librarians should possess; so, it is not surprising to see librarians rating this indicator as quite important and relevant, and the trustworthiness of librarians is clearly stated in the existing measures of quality.

Figure 29 shows how the academics, librarians and students ranked the efficiency and willingness of librarians to help users and provide prompt service as a relevant measure of quality. The study results reveal that 62% of academics ranked the indicator as irrelevant, with a small proportion (13%) ranking the phenomenon as relevant and another small fraction (25%) remaining undecided.

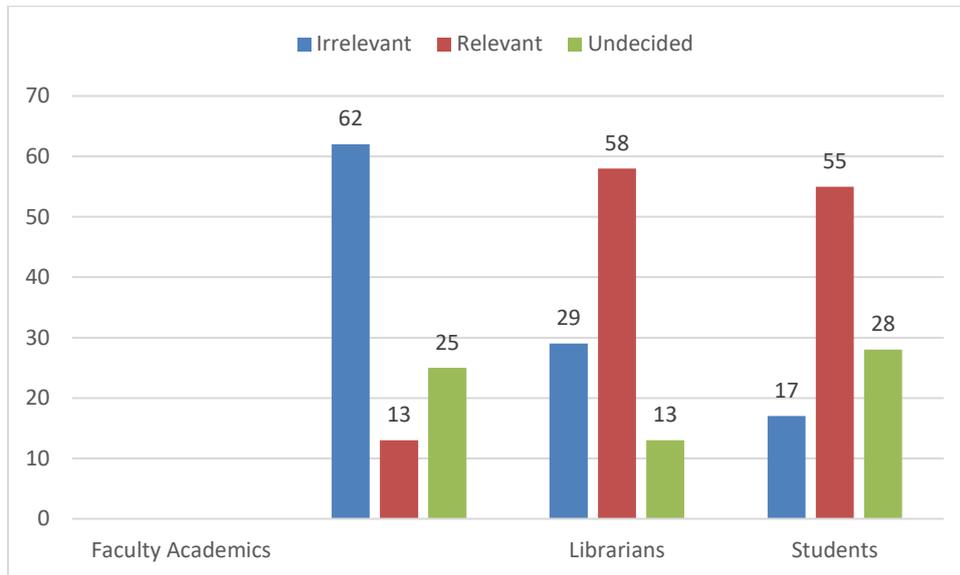


Figure 29: Librarians’ willingness to help users and provide prompt service

With reference to the librarians 58% supported the relevance of the indicator, while a smaller group (29%) considered the indicator to be irrelevant and 13% being undecided. The majority of students (55%) ranked the indicator relevant, with only 17% ranking as irrelevant and 13% remaining undecided. Librarians and students concur on ranking the phenomenon as a relevant measure for quality, with academics ranking it as irrelevant.

To find the balance between the user respondents (academics and students) and librarians, I interrogated the way in which librarians shifted the blame to systems, resources, or users. In a question in which they were asked to reflect on critical areas that require improvement in their libraries, the librarians felt that academic staff and researchers use the physical services of the library irregularly, while virtual access is used occasionally. They also felt that the claims of the library’s inadequacies are the result of a lack of skills on how to use the library. The librarians shifted the blame of non-use of the library by academics to a lack of skills, rather than their attitude or inability to instil a sense of confidence in users about what they can do for them.

Librarian A*: “Some academics are intimidated by technology which inhibits their willingness to interact with electronic resources. Others find the library enormously helpful as it gives them access to a wider range of information.”

Academic B*: “Very little use is made of these services simply because students are unaware of them, librarians are not knowledgeable, specific needs of researchers are not being met, journal subscriptions are largely irrelevant to the research being conducted at present.”

From the responses above it appears that the academics and students were quite confident in what they are saying about the importance of a reliable and responsive library. Despite the librarians pointing out grey areas in the responses of the users, there seems to be no research evidence that they surveyed the academics and discovered a shortfall in their information-searching skills. Their answers therefore are based on assumptions. Despite all these arguments, their rating of the indicator as a relevant measure of quality signals accountability.

Figure 30 shows that the majority of academics (89%) ranked this indicator as irrelevant, while only 4% ranked the phenomenon as a relevant measure of quality, with just 7% remaining undecided. Fifty-nine per cent of librarians ranked the phenomenon as relevant, with 35% ranked it irrelevant, while 6% were undecided. The students' ranking showed that 52% ranked this indicator as an irrelevant measure of quality, with only 20% ranking the indicator as relevant and 28% remaining undecided.

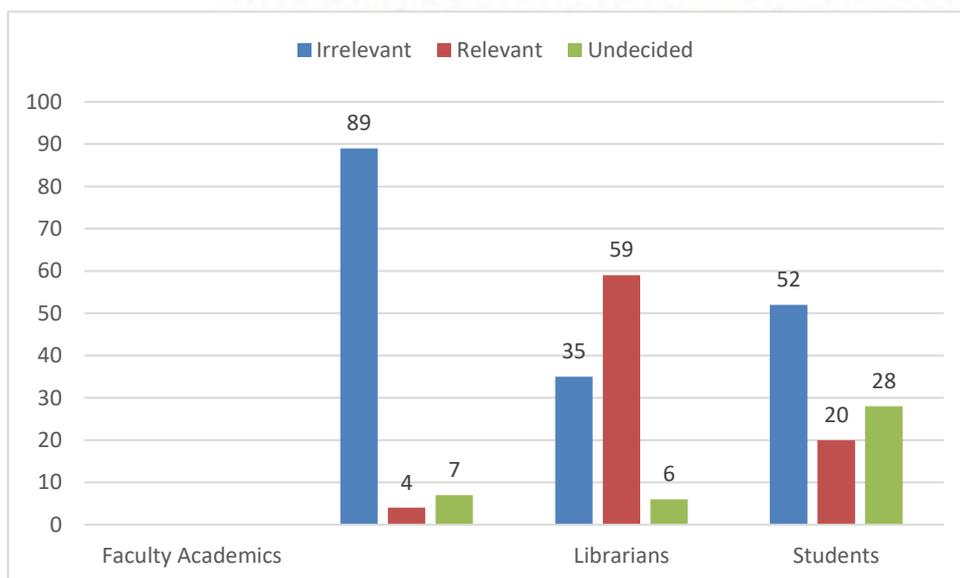


Figure 30: Knowledge and courtesy of the librarians and their ability to inspire trust

While discrepancies were also noted between the academics, librarians and students, an effort to determine how much the qualitative data could confirm this indicator’s relevance or irrelevance for academics drew attention to the following comments from the respondents:

Academic A*: “Very little use is made of the library services – librarians are not knowledgeable, specific needs of researchers are not being met.”

Academic C*: “Friendliness of frontline library staff is quite crucial to the effectiveness of its service.”

Student A*: “Librarians very friendly and helpful, doing an excellent job.”

The views and comments of academics and students on the importance of librarians’ positive attitude in the quality of the library, confirmed how related these issues are. Drawing on these arguments and despite the low ranking of the librarians’ courtesy and knowledge as a relevant indicator of quality by the academics, the comments in the qualitative data substantiated its relevance.

Figure 31 shows that while this indicator was not among the indicators that formed part of the data addressed by objective one, the majority of academics (55%) ranked the indicator as irrelevant, while 15% were undecided and a smaller fraction of them 30% considered the indicator relevant.

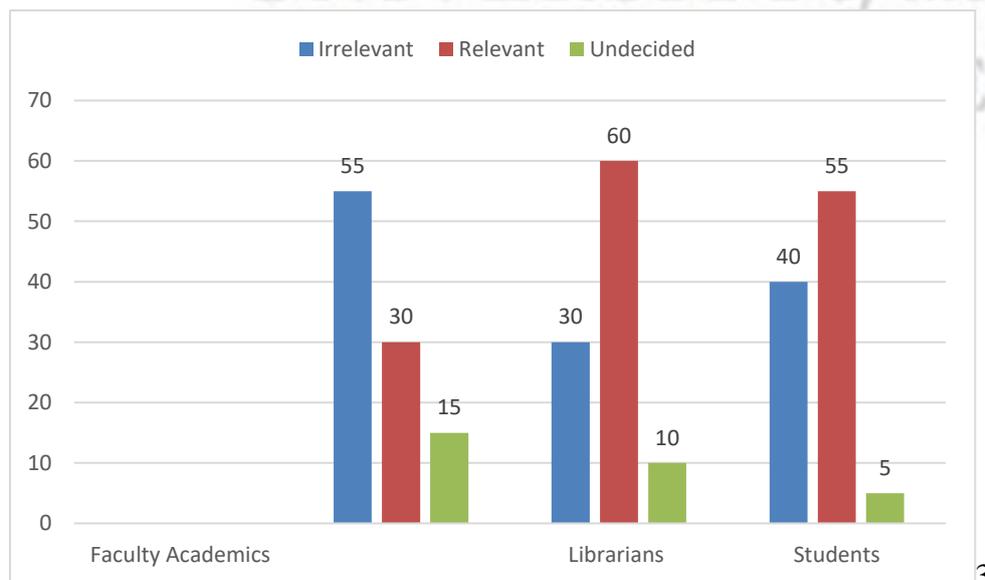


Figure 31: Caring and individualized attention to each user

While students are expected to demand extra care and individualized attention from the library, considering their daily encounters with librarians, the majority (55%) ranked this indicator as relevant, while 40% ranked it as irrelevant, while only 5% being undecided on ranking the phenomenon. It is quite understandable that 60% of librarians would rank the indicator as relevant, with only 30% ranking them as irrelevant and only 10% remaining undecided, as it specifically talks about how they serve the library users. Both librarians and students ranked the phenomenon as a relevant measure for quality, with also academics (30%) ranking the indicator as relevant. The qualitative data contained no comments on this indicator. According to Mowat (1996:27), there is a connection between the services of the library, the product, as well as staff adequacy, facilities, and space. Hernon and Nitecki (2001:224), who advocate that high quality staff members have the potential to transform the poorest staff into an operation that provides a high quality of service, support these claims.

Figure 32 shows that 89% of the academics ranked this indicator irrelevant with only 4% ranked it as relevant with only 7% undecided. While the majority of librarians (59%) ranked this indicator as relevant, only 6% were undecided and 35% ranked it as irrelevant.

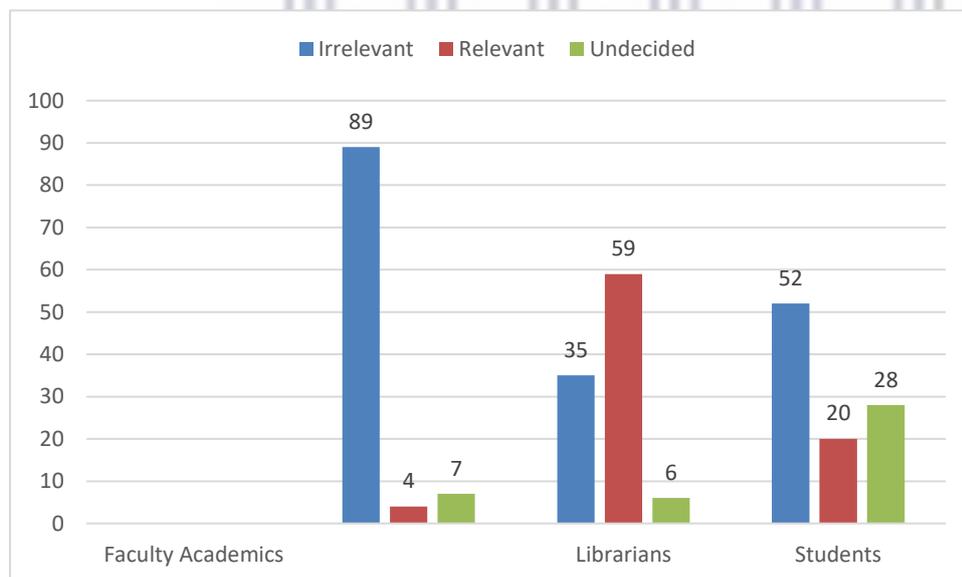


Figure 32: Platforms developed for the discovery and accessibility of library materials in various formats (libraries must provide spaces and facilities where users can interact with resources in physical and virtual environments)

The ranking poses some questions for librarians as they are the masterminds of these discovery platforms. Only 20% of the students ranked the indicator as relevant, while the majority (52%) ranked the phenomenon as irrelevant, with 28% remaining undecided

These findings reveal discrepancies that might imply a gap in the understanding of this phenomenon by librarians. However, since the academic staff ranked the item as irrelevant, it is quite difficult to deduce the ranking of the item without hearing the views and comments of academics and librarians on this indicator.

The qualitative data helped clarify the discrepancies as the students ranked the indicator as relevant, which suggests that further improvements to the existing platforms that are used by the library for information discovery are necessary. The website, as a gateway to library information, is one of the platforms mentioned, with the academics – without being explicit on the actual platform – suggesting easy and simple navigation processes that would save them and the students as the primary users of library resources, time. The comments by academics and students have reference:

Academic A*: “There should be a button on the website allowing requests for new books open to all staff and students.”

Student D*: “Every time I come to the library; I can’t find a book even though librarians say it’s not issued.”

Libraries must devise means to expedite shelf packing and the return of books that were used by other students from the tables to the shelves. The students’ responses concerning satisfaction levels with services offered by the library vary between good and effective, while the data also signal contradictions in the librarians’ knowledge and friendliness. Some students stated that the librarians needed to improve their attitudes, while others were very happy with their support. The academic staff felt that the students’ perceptions of the library were good, even though some said that because their libraries were inadequately resourced, they resorted to using neighbouring libraries to fulfil their students’ study and research needs.

Figure 33 shows that 55% of the academics ranked the indicator as irrelevant, with only 30% ranking it as relevant and 15% remaining undecided. The majority of librarians (60%) considered the creation and maintenance of interfaces and systems architecture to enhance information accessibility, anywhere and anytime, a relevant measure of quality, with 30% ranking it as irrelevant and only 10% remaining undecided. On the other hand, 55% of the students ranked this indicator as relevant, with 40% ranking the phenomenon as irrelevant and only 5% remaining undecided.

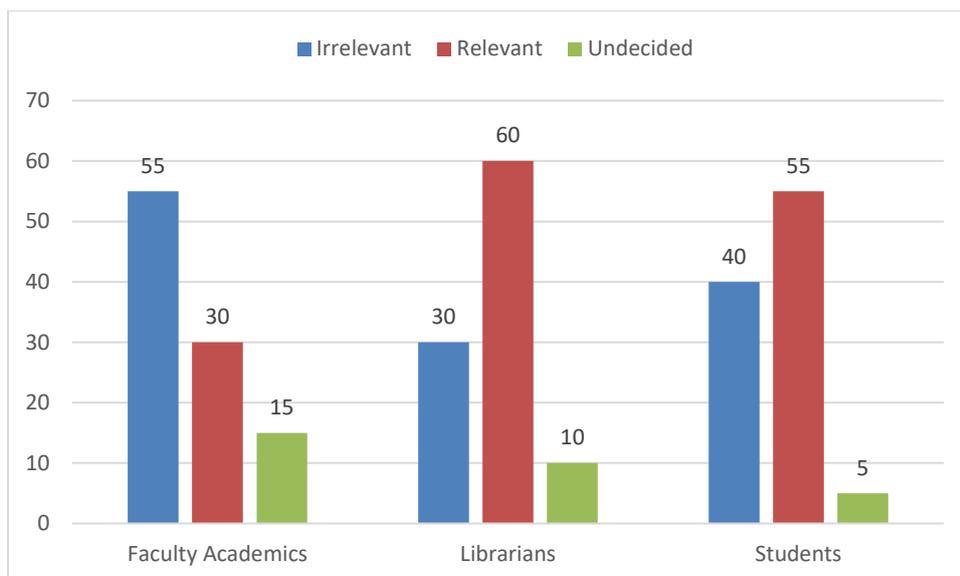


Figure 33: Librarians must create and maintain interfaces and system architectures such as a one-stop platform to enhance information accessibility

When correlating the results, it was not surprising to see the academics and librarians ranking this phenomenon as irrelevant, considering how much they ranked the variable of acquiring useful printed and electronic resources similarly. Off-campus access to electronic resources emerged in almost all the comments in the qualitative data, even where respondents were expected to reflect on mechanisms to assess the accessibility of electronic resources. It is therefore of serious concern that a significant number of librarians considered this indicator irrelevant. The academics and students indicate the following areas for improvement to ensure the quality of the library:

Academic A*: “Accessibility of the library resources online.”

Academic B*: “On campus and off campus is becoming one of the values the library adds to us academics with our busy schedule and our students.”

Student C*: “Access would help us as students not to have an excuse when the library is closed, as access to e-resources does not only require the library to be open.”

Student A*: “Access to resources is very poor; so much needs to be improved on the platform.”

Other than librarians complaining about how dependent students are on them in terms of searching for information, none of the librarians commented on the value of this service or how

important it is as a measure of quality. From these comments, and despite the low ranking from academics and librarians, the qualitative results signal the relevance of this measure.

Figure 34 indicates that 47% of the academics ranked the indicator as irrelevant, while only 28% of them considered the phenomenon as relevant, with 25% remaining undecided. The majority of librarians (80%) ranked this indicator as relevant, with only 5% ranking it as irrelevant and 15% being undecided. The majority of students (75%) ranked this indicator as relevant, with only 9% ranking it as irrelevant and 16% remaining undecided.

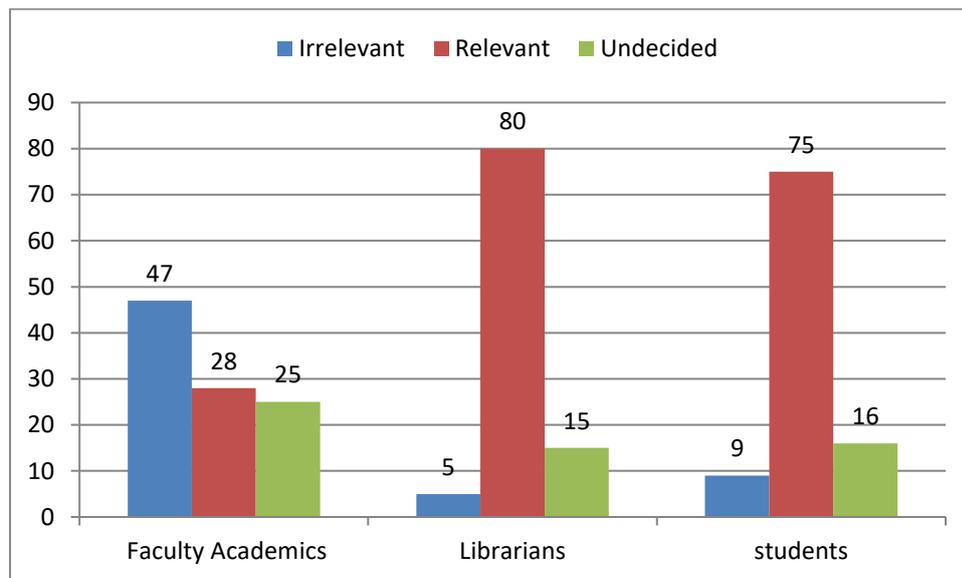


Figure 34: Feedback mechanisms to be developed for reporting on materials ordered and received

Although the students ranked this indicator as a critical service that must be addressed in the library’s quality measurement tool, there was no mention of this indicator in the qualitative data, especially in association with this question. When looking at the way academics and students suggest marketing and library training, one could deduce that this matter could also be integrated into the library’s marketing of electronic resources.

5.8 Qualitative data: Comparing the perceptions of academics, librarians, and students on the services of the library that add value to quality

These open-ended research questions were developed to determine how the academics, librarians and students' perceptions on library activities and services that add value to library quality compare. When the data were entered into ATLAS.ti 108, comments from academics, librarians, and students were found. Some of the comments repeated.

To make sense of the data, similar comments were grouped into themes that were used for interpretation. Hebert (1994:3), who believes that academics and students as users of the library have frames of reference that are different from those of librarians, informed this approach. This was evident from the way these questions were answered. To address this research question and to validate Hebert's arguments, the views of the academics, librarians, and students were merged into two groups, namely comments on services that add value to library quality and comments on services that require improvement. By comparing the views of the different groups of participants, the researcher was able to determine the interests of each stakeholder when it comes to the design of a quality measurement instrument for libraries. The academics, librarians, and students were asked to reflect on how they perceived the following activities that have an impact on the quality and effectiveness of the library, namely students' use of the library services and programmes, students' satisfaction with the library, faculty/library collaboration on the improvement of library services, and their understanding of library services that add value to teaching, learning and research. The data show that academics, librarians, and students do have a common understanding of what libraries should do to improve quality, with slight differences in how these services perform in terms of efficiency and quality.

5.9 Students' use of the library (perceptions of academics, librarians, and students)

Academics from Universities A and B felt strongly that undergraduate students are the only ones who optimally use the library's physical space and online library catalogues to check the availability of books. Academics also signalled poor use of the library by students enrolled for honours degrees, something that is detrimental to their learning success. Academics from Universities A and E cited information technology as a contributing factor to the poor use of the library by students; therefore, libraries should put in place programmes to address this problem.

Academic A*: "Undergraduate students do benefit from using the library."

Academic B*: "Postgraduate students benefit from and optimize Google Scholar to search for journal articles."

Previous studies by Nitecki (1996:180) show that their constituents consistently use relevant libraries, and that this principle still applies currently. Among the fundamental measures and

criteria that have been used for years to assess library quality is according to Vergueiro and De Carvalho (2013:4), how much physical library spaces, resources and services are used by users.

Academic D*: “Students at honours level do not effectively use library resources; hence they are not doing quite well in their studies. The libraries should put programmes in place to solve this problem.”

Academic A*: “I have seen poor mini-dissertations from students at honours level, an element that signals poor engagement with library literature sources.”

The librarians also concurred with the academics that postgraduate students prefer access to online resources through the off-campus access points and that their physical visits to the library are limited. For the librarians, this was evident from the fact that when there is a slight problem with off-campus access to the library, postgraduate students and academics are the ones who express their frustrations and not undergraduate students. One librarian from University A indicated that besides online access to library resources, one of the drivers for postgraduate students’ use of the library is access to interlibrary loans.

While the academics and students did not mention this service often, one of CHELSA’s strong success stories, as evident from usage statistics, is the establishment of a memorandum of understanding that strengthens the resource-sharing system, such as through interlibrary loans.

Librarians *A “Postgraduate students at my university are fascinated by off-campus access to electronic resources. When the off-campus links are not working or there is a network problem the postgraduate students send us very emotional emails.”

Librarian A*: “Postgraduate students are frequent users of interlibrary loans, online journals and electronic databases.”

Some librarians also indicated that the pattern of students’ use of the library depend solely on how busy they are with their academic work, an element that shows that library use is only needed when there are assignments to be handed in or research to be conducted. For these librarians, the pattern of library use is not always convenient for students, different from what academics and librarians expect.

It also transpired from the librarians' viewpoints that the frequency or pattern of library use is informed by the extent to which academics recommend the resources and services of the library to students.

Librarians D*: "Students use of the library at my university depends on how busy they are with their study work."

Librarian E*: "The library use by students depends on the level of their study. When they are doing coursework, frequency of library uses increases, while when they are conducting research, they only come to the library for obtaining convenient study spaces."

Librarian B*: "Library use is informed by the frequency of academics' referral of students."

The comments from the academics and librarians indicate the importance of library use as a benefit to students' learning success. Only one librarian was adamant about the fact that students are not expected to come to the library without an indication of what they should use it for. Academics therefore have a role to play in advising the students on the importance of the library resources and services for their learning success, while librarians must emphasize library use when they engage with students, such as during library induction and information skills training. According to the Society of College, National and University Libraries SCONUL (2016:1), libraries should not be viewed just as repositories of knowledge, but as places where undergraduate and postgraduate students can experience what it is to be part of the scholarly community by engaging with a diverse range of information sources with different views. Much as this study does not explicitly emphasize the importance of and value libraries add to student success, the relationship between the library and the student does influence that student's success during the learning process.

Students indicated that they were frequent users of the library and that the library was beneficial to their study and learning success. What transpired from their data, which is quite different from the academics and librarians' views, is that the students did not address the actual purpose of using the library, but rather factors that lead to effective or poor library use. Some of the factors students mentioned as reasons for the poor use of the library include the following: inadequacy of library resources, unawareness of services on offer, early closure of the library, noise levels and preference given by libraries to postgraduate students. The following are comments from the students about the above matters:

Student A*: “The library has better and adequate facilities for undergraduate students, preference is given to postgraduate students.”

Student B*: “The library closes quite early, the library hours should take consideration of the fact that during the day we attend classes, it’s only in the evening that we find time for the library.”

Student C*: “The library has an adequate number of books and online journals are accessible all the time.”

Student A*: “I love using my library but students must be discouraged from disruptive behaviours such as noise levels.”

Among the positive comments made by students was a reference to the library’s separation of postgraduate and undergraduate student learning spaces. The students commented that the level of their study determined how they learn, study, and engage with library resources. From these comments, it became quite evident that library facilities and space mapping should take into consideration these students’ diverse studying and learning patterns. The following comments refer to these issues:

Student B*: “Separation of postgraduate learning commons to undergraduate space is a great effort.”

Student D*: Undergraduate students study well through group work and interaction with each other, while postgraduate students are self-driven and do require spaces to accommodate that.”

The comments by academics, librarians and students reveal that there are a variety of factors that lead to either poor or positive use of the library by the students. Among the factors that emerged from the three study populations were resource accessibility, library hours of operation, training on library use, library support for research and communication. Zeithaml, Parasuraman and Berry (1991:39) assert that libraries tend to fail to understand what customers expect from a service and what features are needed to deliver high quality service. Based on these arguments, library use is viewed as a give and take; when its services are effective, the likelihood is that students will use it effectively.

5.9.1 Importance of the library in teaching and learning

The academics, librarians and students shared some positive comments on why students should use libraries for study and research purposes.

The academics, librarians, and students as one of the quality attributes of libraries also mentioned access to electronic resources anywhere and when needed.

Academic A*: “By accessing the library electronic resources anywhere we are, as academics and students, adds so much value to quality and effectiveness of the library.”

Student A*: “I like that fact that I can download an article on my computer and read it at home.”

According to these comments, library use is no longer associated with physical visits to the library building, but rather the accessibility of library resources online from anywhere needed. In contrast, some academics and students consider physical access to the library and the extension of library hours as crucial, especially for part-time students.

The current situation where teaching at universities is presented online using e-teaching platforms is according to Sowards (2000:137) compel libraries to improve accessibility of electronic resources, by either uploading them to teaching platforms for easy access. To ensure a benefit to the students, the library should be open 24/7, with networks effectively working for those students not residing on campus. The issue of library hours seems universal among all university libraries:

Academic A*: “Libraries should reconsider their opening hours as students prefer 24/7 service.”

Student B*: “As a part-time student I find the library well equipped; for part-time students, it closes quite early.”

Both academics and students from various universities emphasized library hours. When linking this aspect to the current demand for access to university education, the extension of library hours emerged as a strong need among the students from University B. The university library opening hours are therefore among the services that require closer attention and review. In contrast, a librarian from University A feels the students are quite fascinated by library spaces. There is room for improvement in extending the library building to accommodate the growth of the student population.

Librarian A: “Postgraduate laboratory on level 4 and undergraduate knowledge commons on level 6 make students feel [sic] fascinated by spaces that is [sic] particularly put aside for their learning.”

5.9.2 User preferences

One academic revealed that poor use of the library can be the result of various factors that are beyond the control of academics and librarians. The students, as individuals, have their preferences for when and how they use the library. The fact that library use is not a credit-bearing initiative will always leave library use to their discretion.

Academic A*: “Students do use their discretion to use the library as they are not penalized nor credited to do so.” Academic A*: “Part-time students complain about challenges in using library online resources remotely (off campus).” Academic A*: “The postgraduate laboratory for the university should extend its operating hours.”

While the findings reveal that academics and librarians share the same sentiments on how libraries are used by students, the students’ comments suggest that the library should be well equipped in terms of prescribed books that are accessible as short loans, more journals and access guaranteed 24/7 whenever resources are needed. One student mentioned how unaccommodating the library at University B was of part-time students.

Student A*: “Prescribed/textbooks books must be available all the time at short loan.”

Student B*: “More textbooks for all students.”

Student C*: “More books must be purchased for students; prescribed books are not enough for students.”

Student D*: “More books and more journals are needed.”

Student B*: “The library is not very accommodative [of] working students.”

Student A*: “Postgraduate section of the library should extend its library hours, otherwise it is only meant for full-time students.”

In emphasizing the importance of the students’ use of the library, Klopfer and Nagata (2009:1) indicate that library services, unlike goods, tend to be delivered with cooperation between the consumer and the customer. According to Zeithaml and Bitner (1996:69), the customer in this study, the student, is present while the service is being produced and they may take part in the production process. Based on these arguments, when the users do not use the library, it automatically implies that the services are poor or inadequate.

According to Smart, Witt, and Scott (2012:392), while teaching and learning in higher education must follow a student-centred approach, the learning part, which largely takes place between the lecture hall and the library, must be facilitated by students. These arguments indicate that students' use of the library is as important as attendance of lectures. The hours of operation are not flexible enough to accommodate those who come to the library to study after hours.

With reference to the students' training on how to use the library, academics argued positively about how informed and equipped postgraduate students are with skills for using the library, while the students, on the other hand, commend the librarians for being knowledgeable. According to (Society of College, National and University Libraries), SCONUL (2016:2), students' satisfaction with library hours of operation and services came out among the top eight in their study of factors that prospective students would look for when considering which university to apply to. Despite this study being conducted in Europe, there was no other literature from the continent to suggest otherwise. This was also evident in the CHELSA (2006) measures for quality, which confirm that library hours should be flexible enough to meet the needs of the current and potential users of the library.

Librarian A*: "Students need proper communication from the library to improve their understanding of its role in their learning. Postgraduate students need exposure to library orientation."

Librarian C*: "Postgraduate students have to be taught extensively about critical literature reviews and skills on how to critically analyse appropriate citation matrices."

Academic C*: "The students feel that they are misinformed on activities meant for them in the library."

The comments by the librarian from University C suggest that as much as postgraduate students have adequate facilities for learning, there is a need to review training programmes, as postgraduate students do need extensive training on information navigation skills. According to the librarian from University C, students are either misinformed or not informed at all about services on offer in the library. These comments came out quite strongly from academics and students, while librarians were convinced that their communication was effective. According to Etebu (2010:13), communication facilitates the achievement of organizational goals.

In the library, where the division of labour and departmentalization is well established, effective communication is of vital importance, since the acquired materials go through nearly all departments before appearing on the shelves, and a communication breakdown can delay this. Good communication gives a sense of direction and serves as a guide. This would include things like library signage placed at entrances to sections of the library and on shelves to direct or guide library users. Communication between the users and the librarians can help users a great deal, especially those who are new to the library. It can inform and educate them about collections, rules and policies, procedures for borrowing books, and so on.

5.10 Students' levels of satisfaction with the libraries

Among the comments on student satisfaction with the library were those made by academics. They recognized the importance of the reconfiguration of library buildings. Academics from University B illustrated that individual and group study cubicles are of significant value and it affects students' satisfaction with the library. On the other hand, students from University A commended their library for the installation of Wi-Fi and unlimited access to electronic resources. These students were also satisfied with the responsiveness of the services offered by librarians at their university.

Academic B*: "Students do appreciate study cubicles for group and individual use. Some students are happy while others are not."

Student A*: "Fairly happy with Wi-Fi and unlimited access to electronic resources."

Student A*: "Librarians are friendly and supportive."

Student B*: "Librarians are knowledgeable. Librarians have all the knowledge and answers to the questions we have."

Librarian A*: "Students are satisfied about what we do while academics are still complaining of our services due to lack of knowledge on the services offered by the library."

Librarian C*: "Most of our library clientele are happy with library services, however, there is room for improvement in terms of acquiring new books and electronic resources."

The views of librarians suggest that students are satisfied with their services and that they consider the librarians to be knowledgeable enough that the students can have faith in what they do. That was confirmed by the comments from University B. Dlamini (2004:23) reveals that academic libraries in South Africa do not have operational customer care strategies and services in place. Secondly, there is a relationship between poor information use and customer service and a lack of customer care strategies and services at academic libraries at tertiary institutions.

5.11 Services for quality improvement

While librarians considered their services to be up to standard in meeting and satisfying the students' needs, the academics and students had different opinions on the performance of the libraries. Librarians therefore have to take a step back to listen to the views of library users before they speculate on how they think their libraries are performing.

Academic A*: "Book ordering process takes a while thereby frustrates students when we refer them to materials we assume the library has ordered whereas books are not on shelves."

Academic C*: "Access to electronic resources is very poor; this frustrates our students as the internet is always down."

Academic A*: "There is just a general feeling that the librarians do not keep academics and students posted of resources and services available."

Academic E*: "The inconsistencies in the performance of IT facilities on campus affect not only the image of the library but affect the satisfaction levels of the students."

The academics were not pleased with the turnaround time when ordering books that support their teaching endeavours. While academics are quite honest about being unable to keep up with the fast-paced developments in the library as stated by Dugan, Hernon and Nitecki (2009), libraries must invest time and effort in training them in how to use these services.

Academic A*: “I have to be quite honest; it is quite time-consuming to keep pace with library developments. I do not blame the librarians; I blame myself for my students’ satisfaction levels.”

The academics also raised the issue of postgraduate students’ inadequate use of the library, an element that, although detrimental to the students’ success, is beyond what the libraries can do. As a practising librarian, and gauging from this comment, I consider the challenge of the underutilization of the library something academics and librarians should place on their collaboration agenda.

Academic A*: “The ongoing challenge of postgraduate students who do not use library facilities to their detriment and supervisors’ frustration, is becoming one of the issues that are beyond the librarian’s endeavours.”

Academic A*: “I would not be sure whether students have negative reports of the library or not as I am not a frequent user of the library myself.”

In contrast, some of the students’ comments showed how student-centred they are when suggesting service improvements. This analysis is based on a comment by a student from University A*, who felt that the system of managing computers at the library was not up to standard as it required students to book a computer and access it for a specific number of hours. What the student seemed to question is the fact that the booking system has cut-off times, so when the students come after that grace period, the booking is no longer valid. If systems such as this, which require a give and take, are used to penalize the library, that would not be fair to the librarians.

Student A*: “PC reservation system employed by the library for effective management of student access to computers has a good and a bad side. Positively it gives us an opportunity to share computers, while it also demands effective management of time on the student’s side. When you book a computer, you must make sure you set aside time to use it.”

According to Nitecki (1996:181), the improvement of service quality at libraries should be guided by the users of the services. When it comes to the effectiveness of the processes

followed to acquire these resources, Lathan (2003:7) asserts that the library that develops its collection policy in a simplified manner so that its processes are not misconceived to mean something else to users stands a better chance to satisfy its users. A librarian from University B indicated that among the issues that they deemed as having an impact on students' satisfaction with the library was poor funding, which affected the growth of the library collection and the services offered to students, as well as space shortfalls. The issue of funding was also echoed by two academics from universities A and D, who had to devise means to access library resources in their subject disciplines, as their libraries were not adequately resourced. Klopfer and Nagata (2009:2) say that customer satisfaction studies are usually based on averages derived from a sample of the entire customer base. According to Klopfer and Nagata (2009:3), library collections, especially books, have always been one of the core services that define the library and can contribute to customer satisfaction. The library systems used to enhance the accessibility of library resources have recently come to be viewed as quite important by academics and students.

Librarian A*: "Poor funding is detrimental to the growth of the library. No adequate funding for renewing the existing resources, more funding is needed to save libraries from shutting down".

Librarian A*: "Space is becoming a limitation – the library building is rather shrinking yet students' influx to the library is uncontrollable."

Librarian A*: "Noise level and poor student behaviour act as a barrier to the library aspirations to professionalize library spaces."

Academic A*: "The library is not adequately equipped with literature sources to support my research."

Academic D*: "I get [more] support from my research partners than my library for access to research materials."

When addressing the importance of customer/student satisfaction, service quality gurus such as Hernon and Altman (1998:53) remind us that accreditation standards in the case of libraries generally focus not only on what the libraries do, but also on how effective the services are that they offer in meeting the information needs of academics and students. For these scholars, when dealing with quality and customer satisfaction matters in libraries, there is a need to adopt relevant applications from other disciplines besides librarianship, such as business approaches.

Their article also shows that one of the effective ways to address customer satisfaction and expectations is to identify gaps and seek ways to reduce them. The gaps that seem to be affecting student satisfaction with the library as suggested in this work include collection gaps, slow processes in purchasing resources, inadequate number of prescribed books or textbooks, poor information communication technology that hampers access to resources whenever needed and ineffective communication between the library and its users. Even though funding as an issue was mentioned, it appeared more in the librarians' comments, with one academic and two students mentioning it as a barrier to student satisfaction. As indicated by the data, South African academics and students expect the library resources and services to be accessible anywhere at any time. Based on this, quality and user satisfaction will only be assessed based on how the book collection is acquired, processed, and made accessible to users at a convenient time and place.

5.12 The effects of faculty/library collaboration on service quality

The above question was designed to seek the respondents' views on how much faculty/ library collaboration contributes to the quality and effectiveness of teaching, learning and research at a university.

5.12.1 Value-adding services

The academics' responses revealed some conflicting statements, as some considered this indicator relevant and useful, while others condemned it as having no benefit for them. They also felt the library did not come up with solutions for the shortcomings they highlighted regarding library services. Despite all these concerns, the cooperation fostered by the libraries with other libraries at the regional and national level makes a considerable contribution to the acquisition of resources not available locally. Without repeating issues that were mentioned in relation to other questions, some academics felt strongly that there was greater potential to involve the library in curriculum development, information literacy courses, study spaces and time. The following responses refer:

Academic A*: "I have a good interactive relationship with the library but I feel that others are not utilizing it to its full potential."

Academic A*: "Academics should capitalize on this collaboration by involving librarians in their curriculum designing processes."

Academic A*: “Library must be integrally involved and a lot depends on library staff attending meetings where student matters are discussed, curriculum planning and timetabling to make sure students have opportunity to learn how to get support. If librarians are not involved, we all lose out on a valuable resource.”

The following comments are the views of academics, librarians, and students on how much faculty/library collaboration contributes to the sharing of resources and their use. The comments from an academic from University D acknowledges regional and national cooperation, such as interlibrary loans, as one of the services librarians established to support academics and postgraduate students engaged in research endeavours:

Academic D*: “Regionally and nationally the library has cooperation in term of interlibrary loans that helps us in sourcing library books our library does not have.”

While the academic from one university is quite content with the benefits of interlibrary loans; responses from the qualitative study show that some academics feel that the constant use of library resources in various formats, besides fulfilling the teaching, learning and research needs, improves the academics’ information-searching skills. There were also assertions that some of these skills are easily acquired by taking advantage of the librarians’ liaison role. The liaison between academic staff and the library does add value and acts as a vehicle for the improvement of library use by faculty staff and students. As it is not prescriptive in terms of the quality measurement instrument, these relationships remain casual and warrant no form of accountability. According to Wenger (1998:2), there are three important elements that underwrite the effectiveness of faculty and the library. The collaboration includes partnership on acquiring and purchasing library resources, user training and shared goals on improving students’ learning outcomes. These three elements combined, as stated in CHELSA (2006), should contribute to the effective building of collection quality and service relevance.

5.12.2 Services for quality improvement

The comments from two students from University B suggest that faculty/library collaboration should be a formalized structure and be optimized to save students from being sent from pillar to post.

Student B* “There is a need to be a formalized structure to reinforce this relationship”

Student B* “My perception is that this relationship is vital for students as it is them that benefit a lot from it than being sent from pillar to post”

Other librarians strongly commended the academics from some departments for giving them the time and space to train their students and to discuss library services. From many responses, it is possible to identify a gap between the librarians’ motives and the academics’ understanding of the importance of their role in classroom activities. The inclusion of this indicator in the quality measurement instrument would strengthen this service and yield positive results when it comes to library quality. The use and exploitation of the relationship between academic staff and librarians depend on each academic – some commended it, while others claimed it was not working at all.

5.12.3. Perceptions of library services that add value to quality teaching, learning and research

A library’s benefit is the unique social profit of a library’s activity. It is a profit unknown by any other kind of organization or institution. It is generated by the professional activity of the staff and the intentional preparation of library processes. The comments below represent the views of academics, librarians, and students on what they consider the value-adding services for the libraries to be.

5.12.4. Services for quality improvement

Among the services mentioned by the academics that add value to teaching, learning and research and that are not being performed to expected levels or have to be introduced are the following services: one-stop gateway to newly acquisitions, well-managed book collections of which the relevance is guaranteed through constant evaluation and weeding. The comments from academics from universities B and A below illustrate:

Academic B*: “One-stop gateway to new books by pressing a button is needed.”

Academic A*: “Book collection must be constantly evaluated, weeded and updated.”

Based on a comment below from a student at University A, the library should improve access to the internet and printing services to allow the students an opportunity to print before classes start.

Student A* “Printing and internet stations should be made available even longer hours”. For the library to improve quality, printing and internet facilities are quite critical.

Among the services that add value to teaching and learning is the library’s communication strategy with users. Based on the comments by academics and students, libraries are not effectively communicating what they do and plan to do, nor do they give their users feedback on services requested. This communication gap between librarians and users creates misunderstandings regarding what the service motive is and how advantageous it can be to them:

Academic A*: “Not always informed on services on offer and their motive in support of teaching, learning and research.”

Student B*: “Librarians must advise us on time on what their learning support plans are.”

Librarian C*: “Through induction programme and user training we communicate what the library does.”

According to Calvert (2005:1), one way of winning customers to your company’s side is putting communication systems in place so that the providers and consumers of that service can have a common understanding when it comes to services on offer. As stated in CHELSA (2006), libraries must develop print and online communication tools such as online guides and booklets for students to independently learn how to use the services and resources. One of the shortfalls of the existing CHELSA measures of quality is its silence on the issue of the exploitation of web technology as a quality measurement indicator for libraries.

5.13 Qualitative data (emerging quality measurement indicators)

In this section of the study, the respondents were asked to share their views on and perceptions of measures of quality that should be added to the revised quality measurement indicators.

5.13.1 Adequately funded resources

One of the major contributors to effective and quality library services is adequate financial resources allocated to libraries for acquiring more learning materials. Academics felt that some faculty disciplines were well equipped with adequate learning resources, while others were under-resourced:

Academic A*: “Resources and budget allocation for Dentistry Faculty do not seem to be on par with fees students pay for the programme and the income the university generates on the programme offering.”

Academic C*: “I am very concerned about the general budget cuts for library resources, which on its own compromises the entire university quality. “

Student A*: “The library is a very valuable resource for my study success and it is a convenient space to spend the rest of my day when I do not have lectures.”

Some of the concerns about promoting value-adding services included comments associated largely with a lack of parity between branch libraries and a need for standardization of faculties’ financial allocations for library support and academic programmes. The students felt that libraries were convenient spaces for studying and learning, which on its own adds value to teaching and learning success. However, services and materials must be updated constantly, with the older collection weeded from the shelves, as it can mislead inexperienced learners.

Student A*: “When the students cannot find what they want from the library at a point of need, they lose faith in their library and that does not have to occur several times.”

The students also felt that even a single negative experience of the library could destroy the entire good faith they have when they cannot find the sources they need.

While CHELSA (2006) combines issues such as funding, staffing and infrastructure under “resource provisioning”, this study reveals that funding should be mentioned explicitly as a standalone measure of quality. Weiner (2005:432), subsequently supported by Poll and Boekhorst (2007:17), argues that an adequately funded library has the potential to provide quality services. Poll further comments that libraries whose expenditure on resources, buildings and staff increases every year, stand a chance of satisfying their users and thereby providing quality services.

5.13.2 Integration into teaching plans

The inability of the library to have learning materials for students is a discredit to both the academics and the librarians. An inadequately resourced library, although directly affecting library quality and the credibility of librarians, is also detrimental to the university’s success,

as academics might be unable to teach the students well without the relevant materials in the library. According to Heath (2011:1), among the most critical aspects of library quality assessment is its ability to enable students and academics to easily find learning materials relevant to their courses. The more users struggle to find resources in their subject disciplines, the higher the chances of the university being unable to reach its adequate throughput rates. When the library does not have adequate and relevant curriculum-related books, students can fail the course because they get low scores on their assignments. The students were frank about the difficulties they experienced in ranking the quality of the library, as each course or programme they enrolled for was supported differently by the library:

Student at*: “The services are good especially if the librarian is told in good time what faculties expect in good time. The library is the only source of information to access books; sometimes books are expensive from the bookshops even for the libraries to buy.”

The comment shows that library users consider time as crucial, so for librarians to be effective in addressing their needs with the relevant information, they must be given ample time to find resources. While the role of higher education libraries is quite explicit in terms of supporting teaching, learning and research in the fulfilment of institutional goals, none of the other teaching and learning strategies clearly state what university libraries should offer and provide in support of their academic enterprise. While this aspect creates a very big gap between what libraries do and what academics expect from the library in support of student learning, none of the academics or students raised this issue as a hindering factor for the effectiveness of libraries. Instead, some indirect comments by academics and students signalled a missing link between the librarians’ role and academics’ expectations:

Academic A*: “Students do have dedicated sessions presented by the library staff and hands-on demonstrations on how to use library online resources.”

Academic B*: “I suggest that the library should develop an information booklet that outlines what resources and services are on offer for undergraduate students.”

Academic C*: “In my subject discipline the library is well organized and my students are exposed to Google Scholar to access online resources.”

Student A*: “Curriculum planning that involves the library is needed so that books that we are referred to as students are not old. Library use should form part of the students’ timetable.”

Student D*: “Access to up-to-date curriculum-related books is needed and the library must secure funding for this.”

The data presented above indicate that libraries alone cannot guarantee the effectiveness of their services. As stated by Hernon and Altman (2001) in Chapter 2, calls for libraries to be accountable have drastically moved the libraries’ performance from reporting on their resource growth to how and what they do to fulfil user needs as part of the fulfilment of institutional learning goals. These suggestions call for a new approach to the way libraries are viewed in terms of their responsiveness to faculty teaching needs. They have to rather advocate for close partnerships being fostered when teaching plans are drawn up.

5.13.3 e-Research support/digital scholarship services

Some of the indicators for an effective and quality library include new initiatives introduced by the libraries either to improve access to local content or to open educational resources. Librarians see the open-access revolution and scholarly communications as solutions to the slowly growing collection and shrinking library budgets. The libraries’ role in assisting academics to publish in open access journals is seen by other academics to give access to more resources.

While all these new initiatives are recognized, more collaborative learning spaces are expected to improve the interaction between the library and its users. The comments from academics refer:

Academic A*: “There are so many opportunities presented for libraries in scholarly communication, datasets, data services and long-term archiving of raw research data.”

Academic E*: “We expect the library to develop more flat spaces and venues for interactive teaching and learning.”

The centrality of libraries in the research data management cycle has the potential for increasing the visibility and recognition of libraries. This drastic change is described by Boud and Falchikov (2007:3) and echoed by Baker and De Vine (2010:11) as: “[t]he shifts from collections to connections and the changes in the information environment from a situation of

information scarcity to information overload has together with increased use of search engines created a new breed of self-sufficient users who do not see the library as the centre of their information environment. The study by Smart, Witt, and Scott (2012:392) argue that, since emerging, new e-research practices increasingly harness the resources and services offered by academic libraries. Libraries are now compelled to rethink their workforce planning, strategies, and ways to effectively assess delivery models to incorporate the new practices and performance measurement tools of the e-research agenda. In substantiating these arguments, Callan, Baker and De Vine (2009:11) affirm that the merging of information and communications technology (ICT) with traditional research practices has created a drastic shift and a new movement of e-research that generates new research methods and a need for advanced networks and new tools. In contrast, academic and research libraries, as common workplaces for knowledge creation, production, and dissemination, are expected to measure these new trends to ensure relevance and alignment. The three strategic drivers according to Smart, Witt and Scott (2012:393) that are instrumental to e-research are collaborative research, digital scholarship services and scholarly communication and research. Data management does have a direct impact on library services and must guide the development of quality measurement indicators. As a practising librarian in South Africa and gauging from the current developments, I could foresee higher education libraries changing their direction from traditional approaches to the establishment of digital repositories and online theses and dissertations, with open access advocacy and participation in hosting online journals providing evidence that the change is being made.

5.13.4 Integration into e-learning

The academic staff and librarians were asked to reflect on which of the libraries' services add value to teaching, learning and research. As the respondents could pen their thoughts, one could see that their interpretations of what the question asked varied from person to person. Some respondents, for example, looked at what would contribute to value-adding services in the library in support of teaching, learning and research. Nevertheless, if the study managed to solicit the input of users and librarians, its objectives were met. When the librarians were asked to reflect on services that add value to teaching, learning and research, it is quite interesting that all the latest developments that are taking place in teaching and learning are quite exciting for the librarians, and these feelings were in harmony with what the academics and students suggested. A couple of librarians from various universities found their contribution to e-teaching quite inspiring:

Librarian B*: “Through the e-teaching tools I can now integrate their library online tutorials and resources to Blackboard. They can also assist students in detecting the extent of plagiarism in their assignments through Turnitin. The use of database discovery tools and their daily exposure to the creation of links between the library catalogues, electronic books and electronic journals add so much value to e-teaching and learning.”

Academic A*: “By using the electronic journal section I gain access to most articles I use on the e-learning platform.”

Academic A*: “Yes, I am teaching students and I discuss with our faculty librarian the library and its service availability of resources – very good, well-structured, good relationship – we should be very happy with the services’ regular usage.”

Academic B*: Yes, I’ve had a very good personal experience with the library since starting with my studies in 1997.”

Academic A*: “Our university is quite aware of how technologically challenged academics are and unfortunately it is quite time-consuming to try to stay informed, but it is best to see what your particular students need and make sure you are just as up to date as they are.”

The librarians suggested that any success in teaching and research relies solely on the effective use of library resources. Academics should invest time in training how to access and use library services. The librarians commended their participation in their faculty board meetings and time allocated to the library as a standing item. They strongly suggested that some improvements are needed for this relationship to work. Based on these responses, there seems to be a need for effective communication between the library and faculties on role clarity and mechanisms to make these relationships fully functional. The librarians felt they must be given faculty slots to share and demonstrate new developments taking place in their libraries, especially those that have a direct impact on the success of teaching, learning and research. New developments, such as Web 2.0, have a direct impact on 21st-century students’ learning. Students are leading the way in navigating information in various formats, while some academics are still confined to traditional norms of teaching.

The effectiveness of any library depends solely on how embedded that library is in the academic teaching, learning and research programmes. Some students found it beneficial to have a good relationship with faculty librarians; even if they are in another province, positive results are yielded. Though it faces several challenges related to ICT, university teaching is becoming more concerned about the quality of learning. According to Andre (2007:2), high on the list of these challenges is identifying appropriate ways to evaluate the extent of their contribution to quality learning experiences.

Several drivers are encouraging the integration of ICT into the student experience, including involving other learning support units such as the library in the e-teaching space. The limited previous research conducted on the integration of libraries into e-teaching in relation to the quality of the librarians' interests as stated by Saunders, Lewis, and Thornhill (2003:16), suggests that an inductive approach to this research is appropriate. These include opportunities such as students' ability to deal with multi-tasking and adoption of skills that will help them to easily understand modern e-communication and collaboration methods, coupled with immediate access to an increased amount of knowledge, both in their subject discipline and in their future careers. Universities in general are recognizing technology as a driver of development; hence, its integration into teaching is given attention in the teaching and learning endeavours. Libraries, therefore, based on Harland, Stewart, and Bruce (2019) have to form part of these engaging, collaborative e-learning spaces, starting with a process planning stage.

5.13.5 Information literacy courses/information skills

The students felt that the online information literacy courses were beneficial, especially when they were discipline-based. To reach an agreement on effectively designing an online subject discipline-oriented information literacy programme, academic staff and librarians should work very closely together.

Student B*: "The online tutorials are very helpful for our studies."

Student A*: "The subject discipline training programmes add value to my study."

The study by ACRL (2012) also shows that the new measures of quality have started considering the library's role in the digital era and assessing the size and impact of the digital collection and how it is packaged and used. According to Rodriguez (2011:2), there is a sprinkling of literature investigating the relationship between library use and student retention that shows that students who persistently attend classes and use the library tend to succeed in

their academic endeavours. The responses show that some academics feel that, besides fulfilling teaching, learning and research needs, the constant use of library resources in various formats improves their information-searching skills. Some comments indicated that some of these skills are easily acquired by exploiting the librarian's liaison role. The liaison between academic staff and the library adds value and acts as a vehicle for the improvement of library use by faculty staff and students. In summary, the academic staff commented that web technology, along with the accessibility of the library's online resources, saves them the time of visiting the library. To improve this service, libraries should send academic staff alerts on e-resources acquired in their subject disciplines. Some of their concerns about value-adding services were on the lack of parity between branch libraries – some are well equipped with resources while others are under-resourced.

University A made an example of its Dentistry Faculty, while institution C was concerned about its main library resources that were static due to budget cuts. Students felt libraries were convenient spaces for studying and learning, which on its own adds value to teaching and learning success. The students were frank about how difficult it is to rank the library's performance, as each respondent bases this ranking on his or her latest individual experience:

Student B*: "The services are good especially if the librarian is told in good time. The library is the only source of information to access books; sometimes books are too expensive from the bookshops even for the libraries to buy."

In contrast, the qualitative data from the librarians' comments reveal that the training provided to students is not enough without taking academics through the same programme, as some academics do not know how to use electronic resources or cite and use different referencing styles. Putting students abreast of new developments in using and accessing library resources also requires a degree of balance between instilling in academics the equivalent knowledge so that they can confidently guide and assess the students use of the skills when writing assignments.

Librarian A*: "In most cases as librarians we play a meaningful role in giving students, especially postgrads, an opportunity to engage with information so that they get relevant information and skills to tackle their research."

Academic D*: “Access to online journals, research books for staff development, a library must help lecturers to learn how to use search engines etc. (referencing, informing the academic community of changes timeously on the rearrangement of books).”

Academic C*: “We do need assistance in searching for resources in and out of the library. I would not mind if librarians can do that for me rather than training me.”

Gauging from the above discussions, libraries must review their training strategy and open avenues for guiding academics and researchers on how to navigate and access online library platforms with valuable resources that might be underutilized due to a lack of skills and confidence to search databases.

Student A*: “Students and academics often have to be taught extensively about critical literature reviews and the usage of critical and analytical terminology as well appropriate methodologies.”

Librarian B*: “Faculty librarians being part of the research team, for example, a librarian showing personal interest in their research endeavours, for instance, their research topic, email them out of the blue with a link, an article reference that relates to their research.”

Brettle’s (2008:3) study investigated information skills training and revealed that, although these programmes are considered valuable as user support for information access, there is limited evidence of how they improve skills. To address this issue and attempt to find solutions, the study results show that library information-searching skills or training conducted with clear outcomes tend to yield more positive learning outcomes aimed at addressing a lack of skills.

According to Crespo (2004:13), despite the issues surrounding the methods of conducting information skills training, the vast, unorganized resources on the internet are continuously disrupting library users by making available instant sources of information that are not suitable for research use. In emphasizing the relevance of information skills as a new indicator for libraries, Crespo further argues that the convergence of new and perhaps unskilled users, coupled with demands for information along with the promise of the internet and instant access to information, compels libraries to seriously consider “information-searching skills” as being more critical for library users’ learning than ever before. To seal this issue, the study by Fox and Rainie (2002:19) examining quality initiatives shows that the internet has an abundance of

information sources that makes it helpful in researching topics, yet it does not put systems in place to sift between authentic and unauthentic sources of information.

5.14 Conclusion

The students declared that 25 out of 34 existing quality measurement indicators for higher education libraries were relevant in meeting learning and study needs, while the librarians concurred with the students on the relevance of almost all except seven quality measurement indicators. This is despite their positive comments in the qualitative data about certain indicators related to resource provisioning and accessibility.

While academics are expected to guide students on using the library by referring them to resources they might have recommended for the libraries, students should also set aside time for visiting the library and using its resources for the quality of teaching to be guaranteed. This study showed that students, as frequent users of the library, are familiar with using the library and its resources and that this places them at the forefront when selecting relevant quality measurement indicators for libraries. A pattern emerged that led to the conclusion that librarians are not in favour of accountability.

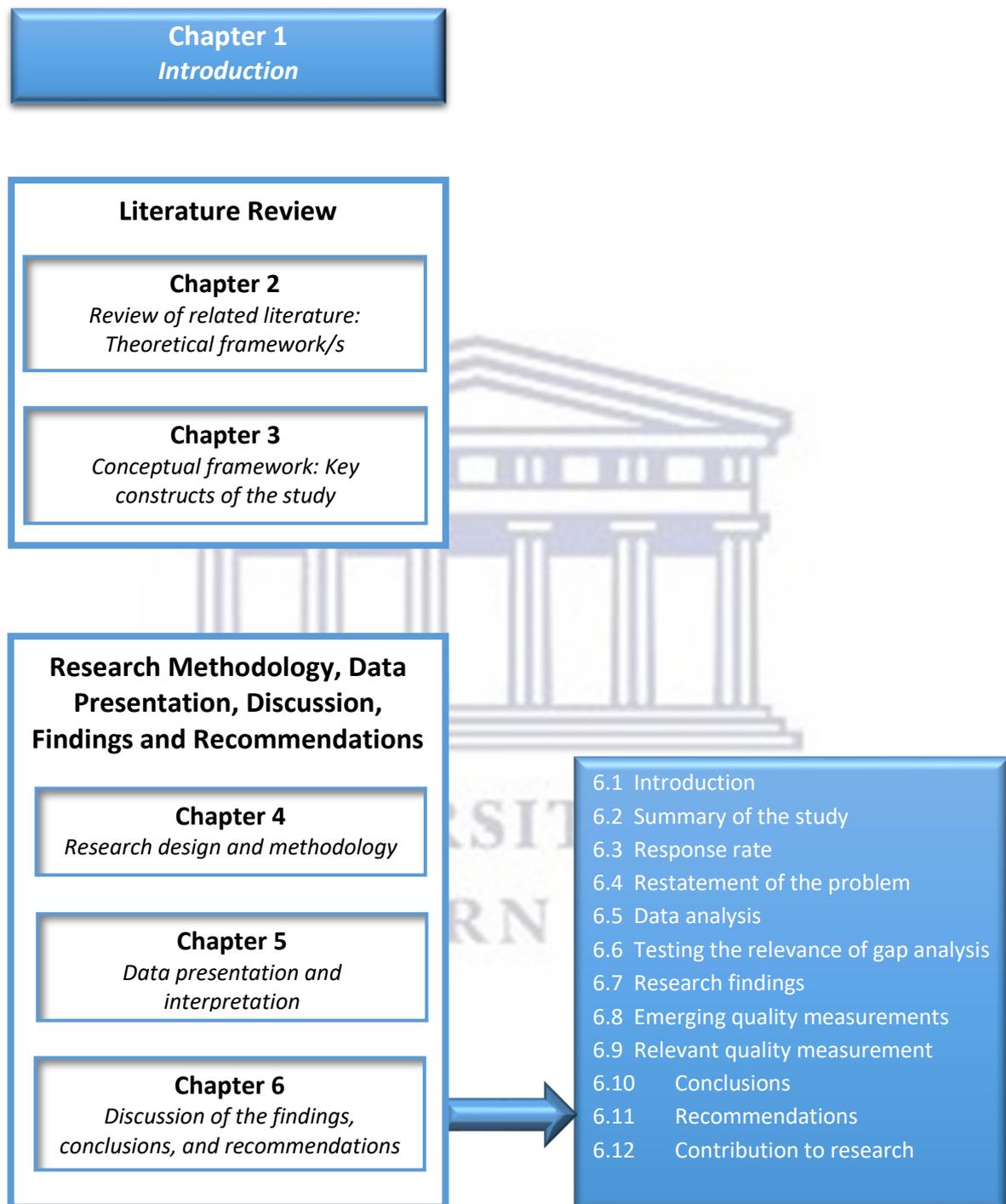
This was evident from their low ranking of quality measurement indicators that required librarians to step up in their role. When the academics and students were asked to identify services that add value to teaching, learning and research, it became quite evident that access to electronic library resources, physical library spaces and the adoption of Wi-Fi connectivity are still considered valuable resources for teaching and learning by academics and students.

Furthermore, the separation of undergraduate and postgraduate learning laboratories was viewed as a valuable service that adds value to library quality. Although the findings of the qualitative study yield a wealth of knowledge, the study indicates that new measurement indicators need to be considered in the revised measurement tool. Those measurement indicators include informed faculty/library collaboration, adequately resourced/funded library, alignment of the library with university teaching and learning plans, library role in support of e-research support, development of an interactive information literacy programme, and training that does not only target students, but guides academics to effectively use library resources and services. What also became quite clear from the study was a disconnect between what libraries do, and what academics expect from and perceive of the library, the latter in relation to quality.

This disconnect signals a need for improvement in the level of collaboration between academics and librarians' partnership should initially start from the planning of library activities to the adoption of criteria for service evaluation. With such a system in place, academics would be able to participate effectively in library quality reviews and service evaluation. Although the interpretation of the results may not point to reasons for the low ranking of an indicator, they also signalled difficulties or circumstances that could have influenced the respondents to rank an indicator as irrelevant.



CHAPTER 6: DISCUSSION OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS



6.1 Introduction

This chapter summarizes the main findings in relation to the research questions and discusses the general conclusions based on the findings of this work. The strengths and limitations of this study are outlined and suggestions for further research on the quality measurement of libraries are presented. The chapter concludes with recommendations for the three categories of stakeholders at libraries at higher education institutions, namely librarians as policymakers, academics, and students. The interpretation of the findings is guided by the key themes arising from the study findings.

6.2. Summary of the study

The study sought to investigate the relevance of the existing quality measurement indicators for higher education libraries as viewed from the perspective of academics, librarians, and students. Although exposing academics, librarians, and students to quality measurement indicators is new in the field of library and information science, the study revealed that each library stakeholder has its own needs, wants, and expectations that should be met using a quality measurement instrument that addresses all their requirements. The following questions were used to guide the research design:

- Are the library needs of users important factors for quality given that individual users might have different opinions on the same service?
- Does the library conceive its service differently, as the services are offered to many persons, and some may be satisfied while others might hold a different view?

The research also addressed the question of whether the fostered partnership/ collaboration between academics and librarians in designing services and developing programmes aimed at student success are responsive enough to contribute to student success. This study acknowledges the importance of funding and the effectiveness and growth of an academic library, but also the fact that this should not replace service responsiveness and quality. The reason for the exclusion of cost issues from various studies conducted on library quality is the assumption that users are not concerned with costs; what matters to them is the relevance and responsiveness of the library. However, the difference between this study and others lies in the fact that in the local context, academics and students associate reliability not only with the library's physical appearance, but also with the extent to which online platforms used to

disseminate information are accessible, reliable, and dependable in terms of their connectivity. The study's findings also confirm close relationships between all the quality service dimensions of accessibility, reliability, responsiveness, and value-adding.

While accessibility to online library resources means ease of access to the platforms on which these resources occur, they are affected by the speed and reliability of internet connectivity, bandwidth, and / or Wi-Fi connectivity. When academics and students commented about off-campus access to online library resources, accessibility and reliability issues were mentioned. Studies in which reliability is mentioned as a relevant measure of quality at libraries include Parasuraman, Zeithaml and Berry (1985:41), Coleman et al. (1997:238), and Schneider and White (2004:24). South African library users at higher education institutions measure the performance of libraries by looking at accessibility, reliability, responsiveness, accountability, and the tangible services of the libraries.

While these tangible and intangible benefits may sound like library jargon, the study findings show a connection between the library's physical environment, its use, access, and perceived quality. The measurements or scales used to assess the tangible factors were crude and basic compared to the intangible measurements and scales, such as accessibility, accountability, and reliability. When asked to reflect on the tangible and intangible benefits, the respondents referred to simple issues such as the appearance of the library facilities and how equipped the library was. Assumptions differed according to the frequency of library use among academics and students. Students spent more time in the library, so they were directly affected by anomalies in physical spaces, yet academics spent more time teaching, where it should be considered that accessibility does supplement physical use. The lists of measures academics and students suggested as for quality included the following:

- Library materials in various formats that are accessible, relevant, and responsive to their needs.
- The librarians underestimated the importance of the responsiveness and accountability of service, while overestimating the importance of the characteristics of the staff that provided service. The study also showed the diverse views of librarians and users on what features would show when libraries were not quality compliant.
- Statements such as “quality is always measured based on user's perceptions” resonated well with this study, since some of the unanswered questions about benchmarking as a

relevant measurement indicator proved to be an irrelevant quality indicator in the South African context.

- The students, who were considered frequent users of the library as a home away from home, found tangible issues such as library tidiness, noise, seating, spaces, and library hours to be relevant indicators of quality.
- In contrast, the study found benchmarking to be of value as an ideal approach to assess quality.
- The study results also signal that library users did not see improved communication from the library about services as a relevant measure of quality, while librarians considered communication quite critical to their effectiveness.
- This study also indicates that faculties valued librarians' assistance in guiding their students towards appropriate information sources for course assignments, while academics were positive about librarians' help and supported the fulfilment of their teaching outcomes. Process learning pedagogies such as resource-based learning helped faculties move from a content model to the incorporation of techniques that helped students learn how to learn. In South Africa, these issues form part of the new reforms taking place in higher education, yet they are not incorporated into the existing quality measurement indicators for libraries.
- The results provide a better understanding of how academic library resources and services affected library use and education outcomes.
- Activities such as maximizing all employees (librarians in this study) in a continuing drive for quality improvement are noted as they suggest what could have been done when the South African measures for quality were developed.
- The study findings recommend that measures should be put in place to manage user expectations for the library to improve library quality.
- Managing user expectations is not a once-off exercise: it requires several quality dimensions.
- Although it has not been common practice to align libraries and their services with teaching and learning theories, new developments in higher education call for collaborative teaching / collaborative learning with librarians. This entails fostering partnerships for teaching coupled with the use of terms such as embedded librarianship. This should be considered. These arguments strengthen elements of the gap analysis framework that, although typically outside the scope of a library, can be addressed

through a series of interventions by the management and staff. There seems to be a new direction that libraries should take in support of these theories.

- For effective teaching and learning to take place, there must be mutual engagement and liaison between the faculty staff and administrative staff to ensure that the necessary facilities are in place for this.
- Elements such as ensuring that venues / lecture theatres are in place and libraries having adequate learning materials to support the curriculum are considered core values that can ensure the success of lecturers and students in the completion of their degrees.
- The use of web technology with training programmes emerged quite strongly as an emerging quality measurement indicator that academics and students suggested for inclusion in the revised quality measurement instrument. Dovetailing with the value-adding proposition of the present project, librarians tended to view the new developments in libraries as central to quality.
- Considering the developments that have taken place at higher education libraries, librarians expected this investigation to consider issues that are associated with these developments such as the use of Google Scholar, Mendeley, Endnote, and RefWorks as services that should be classified as quality indicators by academics and students.
- The results reveal that library access and the accessibility of library resources, accountability, and responsiveness are among the core quality measurement indicators in the view of users.

6.3. Response rate

There were more student respondents than academics and librarians in this study. This could be ascribed to the ratio of students and academics and librarians at the institutions. There were also differences in the number of responses between the different universities, as the questionnaire was poorly returned by some universities. The academics and students at the researcher's home university appeared more willing to participate in the study than those from the other four universities. The spread among universities was much better among the librarians. There are differences about what constitutes an adequate response rate, although Babbie and Mouton (2001:4) indicate that there is consensus that 50% is adequate for analysis and reporting, while 60% and 70% would be good and incredibly good, respectively. The study had a 66% response rate, meaning that the findings can be viewed as representative of the sample population.

6.4. Restatement of the problem

Over the past two decades, libraries have experienced rapid changes with respect to new information technology, the internet, and the information explosion. This has created misconceptions about the future of libraries. All these developments came at a time when the costs of library materials were rising drastically, a factor that compelled libraries to account for every penny they spent to grow the library collection. Simultaneously, technological developments spurred librarians to rethink their future and redefine library collections, the sets of skills required for staff, and the attributes of libraries that would be responsive to user needs.

The recent emphasis on quality and accreditation of higher education institutions in South Africa has prompted library decision makers and practitioners to reconsider their quality measurement strategies and to develop more meaningful measurement indicators that would not only focus on fulfilling the library goals but which respond to the needs of library users. The search for relevant quality measurement indicators for higher education libraries could form part of an instrument that would provide evaluative data that serve the users' needs. This study sought to investigate relevant quality measurement indicators for South African higher education libraries using a holistic approach. This holistic approach involved seeking academic staff and students' opinions on what they considered relevant quality measurement indicators for libraries.

6.5. Data analysis

The qualitative data were analysed by organizing the data into themes. According to Babbie and Mouton (2001:4), if the researcher wants meaningful and useful results from qualitative research, materials under scrutiny must be analysed methodologically. In the present project, this method entailed a construction and reconstruction of the context in which the data were produced. The construction of themes was largely based on the literature reviewed. After adding the data from the questionnaires to ATLAS.ti, the questionnaire data were correlated with the data from the literature, resulting in new patterns. The new patterns were further classified, catalogued, and grouped into associations and larger themes. Five central themes were engendered by the data, namely library accessibility, accountability, reliability, responsiveness, and tangible benefits.

These themes were then analysed further to see how they corresponded with themes from the literature, and they were used as the discussion points in this chapter.

6.6 Testing the relevance of gap analysis theoretical framework to the study

The study findings reveal lacunae around that which librarian, in contrast with students, perceived to be service quality statements. Among 15 quality service statements related to library quality, they agreed on five only. The only two quality statements that librarians ranked relevant were those related to timely review of services for relevance with respect to user needs and their ability to perform promised services dependably and accurately. In terms of the five clusters or themes identified as relevant measurement indicators for libraries, the latter belongs under the rubric of reliability. Of the seven quality measurement indicators that were ranked highly relevant by students, librarians agreed the least with accountability. As explained by Parasuraman, Zeithaml and Berry (1985:41), the gap theory, was discussed in Chapter 3, and is applicable here. The study results prove that South African higher education librarians have misconceptions about what users expect from the library service. The indicators testify to the relevance of GAT, as discussed in Chapter 2, Section 2.7. Hernon and Altman (2010:15) use the gaps model to show that library customer expectations are subjective and based on the extent to which they believe a particular attribute to be essential for an excellent service provider.

Their perceptions are therefore viewed as judgements about service performance. However, as expectations are not static, they change and evolve. Expectations provide a frame of reference against which customers measure their experience. These expectations become a basis against which to compare actual performance, making gap analysis particularly useful. The recent South African study by Kekana and Kheswa (2020:1) confirms the similar gap between what librarians' think is relevant and users' understanding of their needs. Five gaps between librarians and students emerged from the data.

Gap 1. Consumer expectations / management perception gap: the fact that there were seven indicators that librarians ranked as irrelevant while students ranked them as relevant reflect this gap between what the consumers expect and how the management perceives things.

Gap 2. Management perceptions of consumer expectations: this gap affects service quality from the customer viewpoint. The data confirm that librarians cannot rank quality service

statements of value to academics and students. In other words, they do not see what students and academics need from them.

GAP 3. Service quality specifications / service delivery: this gap affects the perception of service quality from different customers' standpoints. The data revealed a gap between what academics and librarians regard as relevant to student learning.

GAP 4. Service delivery / external communications: this affects the service quality from the customer's standpoint.

GAP 5. Consumer's expected service / consumer's perceived service.

Respondents were required to indicate the services a library should offer. The respondents were also required to indicate the extent to which they believed each of these services embodied a relevant quality measurement indicator for libraries. Respondents' perceptions were apparent in comments that formed part of the qualitative data. To make sense of the results, themes were sorted into four clusters: accountability, accessibility, reliability, and value-adding. These clusters provided a picture of what academics and students saw as measures of quality. Out of 21 service quality statements that were ranked for quality relevance, as based on expectations, seven fell into the accessibility cluster, three into accountability, four into reliability, and six into the value-adding cluster. This categorization is subsequently used to examine the result against GAT.

The study findings suggest that academics and students expect libraries to improve their communication, as they have little understanding of the reasons behind some library operations. This was evidenced by the low ranking of feedback mechanisms as a quality measurement indicator. The academics did not think about the process itself, except to rank it negatively because of its inadequacy. Students ranked the indicator as relevant, but the levels of accountability that were expected among librarians and students on the one hand, and librarians and academics on the other, were not the same. The students' concerns centred on librarians personally, while initiatives between librarians and academics were ongoing and required accountability. One example of a service that is critical to library quality mentioned by the academics was the issue of library collection development. The turnaround time of the process of budget allocation for books and the ordering and receiving of those books was one of the critical issues that libraries seem to be failing to account for.

Although it is unclear how much accountability is still relevant as a measure for quality at higher education libraries, the study revealed that users expect librarians to be accountable. The fact that students ranked these quality measurement indicators as relevant, while academics commented on the fact that libraries should address them, confirm their relevance as a measure for quality.

6.6.1. Contradictory statements from academics: The Gap between expectations and perceptions

The study revealed that some service quality statements that were ranked low by academics in terms of relevance came out quite strongly in their perceptions: service quality statements suggested addition into the newly revised tool. As expectations were gauged in terms of the ranking of service quality statements prescribed by the libraries, this part of the study dovetailed with the research question. The third research question addressed how respondents perceived the relevance of quality measurement indicators for libraries. Those perceptions were gathered by asking respondents which of the quality measurement indicators should be included in the existing quality measurement matrix. Towards responding to this issue, respondents were given open-ended questions. Service quality statements that fell short of the academics and librarians' expectations based on the quantitative data would be those services with the lowest perception. However, this was not the case; instead, the researcher noted contradictions in terms of interpretation of the quantitative questions. Among the simplest quality service indicators were issues such as the library acquiring printed and electronic resources. The process of acquiring printed books at higher education libraries involves collaboration between academics and librarians.

Since librarians supplied academics with a list of the latest publications from the publishers' marketing flyers, academics did have an opportunity to select and submit a list of their recommended books to the library. Since the revised quality measures for South African higher education libraries were adopted from American libraries, academics may have been confused by the terminologies used. In the context of South African higher education, terms such as "book acquisition" refer to the process of ordering printed books; it is not a common term that the other stakeholders are familiar with. The other factor worth noting is that the process of acquiring electronic resources in the local context is not a maybe but a must.

Academics and librarians saw this indicator as a relevant measure of quality, along with the enhanced process of providing access to electronic resources, as reflected in the figure in Section Q.3.1 and Q.3.2. In addition to the low ranking of the process of acquiring print and electronic resources mentioned above, five service statements had exceptionally low expectations and perceptions ratings, as reflected in the academic data and as discussed in Chapter 5. The indicators that are ranked low relate to physical library use. It is interesting that, to make sense of the low-ranking statements, one should be looking at the academics' ranking of the accessibility of resources as variables that meet expectations in terms of relevance as quality measurement indicators. This indicates that academics' use of library resources was not limited to physical visits: what matters most to them is the accessibility of online resources.

According to Parasuraman, Zeithaml and Berry (1985:41) and Parasuraman, Berry and Zeithaml (1991:12), a gap is engendered when the library customers' expectations and perceptions differ. The respondents' perceptions of services that add value to teaching and learning were gleaned from answers to the question where respondents were asked to share their views on areas for improvement that were pertinent to quality. When it comes to the low ranking of library-specified quality measurement indicators, one may assume that the language used for the formulation of the questions (library jargon) was not understood by readers outside of the library field.

6.6.2. Gaps between academics and students: Access to Information versus Physical appearance

While the data gathered from the students reveal the relevance of physical library spaces, tidiness, and library hours, the academics felt that access to information was quite vital for their teaching and learning needs. The literature review in Chapter 2 as witnessed by McGregor (2008:18) has demonstrated that access to information is considered a valuable resource for teaching and learning. The conflicting views of academics and students indicated different goals for these stakeholders. While students were expected to physically use the library as their second classroom, academics were expected to ensure that the students enrolled at their university were given the full teaching attention they deserved. Brady and Cronin (2001:34) confirm that academics forge a partnership with librarians to ensure all materials purchased by the library in support of teaching and learning are not confined to the physical space when it comes to accessibility. These testimonies were therefore indicative of how academics engaged with library resources compared to students.

Academics' lesser responses to library hours, the appearance of the library and the knowledge of librarians signalled how much virtual access had superseded the physical use of the library. On considering students' ranking of physical and virtual accessibility as relevant quality indicators for libraries, it is notable that Chickering and Gamson (1999:75) and Kember, Parasuraman, Zeithaml and Berry (1985:41) point out that, students value studying in the library. While spending many hours in the library does not guarantee positive learning outcomes, the time spent by students in libraries was used for studying or gaining access to library materials. The value students assigned to the library as a physical space for studying and accessing information is therefore worth considering as an indicator for inclusion in a quality assessment, despite the fact that academics did not value the physical space as much.

As indicated in Chapter 2, a study by Gibbs and Simpson (2004:3), which examined the way in which students use their time outside the classroom, showed that students do see the library as a benefit. Given the fact that students spend considerable time at their university libraries, their need for a more physically appealing space with adequate library hours and accessible resources is easily understood.

6.6.3. Differences between academics and librarians with respect to selecting quality service indicators that support students' learning

Academics and librarians were asked to rank four quality statements developed to foster cooperation between the two stakeholders and to guarantee a library's accountability to its users. According to CHELSA, one of the quality measurement indicators, formulated as "library develops course-embedded information literacy programme," is an indicator that all higher education libraries are expected to meet in support of the teaching and learning of students. All of the activities compel librarians to step up their roles to ensure that academics get value for money from library resources, services, and staff. The study results reveal that, as much as librarians were willing to determine which services added value to teaching and learning, academics did not always support the relevance of such initiatives. The differences between academics and librarians were so noticeable in the data that it created the impression that librarians were not communicating with quality management, quality measurement indicators, and quality assurance matters. The existing quality measurement indicators for libraries were drafted ten years ago, and they are not mandatory for libraries at higher education institutions. The university libraries that used them as part of their institutional quality reviews for the accreditation of libraries, did so voluntarily.

6.7. Research findings

The study findings confirm what Buckland (1982:63) considers to be an intellectual gap characterized by librarians' lack of understanding of what ought to be covered in a relevant quality measurement instrument. The academic responses related to negative experiences of library use. In this vein, Brooks and Brooks (1999:22) signal incongruence around their experience of using the library, their expectations, and their perceptions. However, the responses of academics to items where their perceptions were tested did not correspond with the way their expectations were ranked. The same applied to the librarians – the inconsistencies in the ranking of the existing relevant quality measurement indicators for libraries signalled their awareness of underperformance in meeting the users' needs. The findings of this study also confirm that academics and students considered the accessibility of library resources as a high priority in the list of quality measurement indicators for libraries.

Access to library resources, virtual accessibility of online journals and databases, and off-campus access to online library resources were amongst the services that featured prominently under the theme of accessibility. In addressing study objective one – identifying relevant quality measurement indicators for higher education libraries by considering the views of academics, librarians, and students – a clear disconnection between the librarians, academics, and students in selecting relevant quality measurement indicators for libraries has been found. This disconnection was evidenced firstly when academics and librarians were asked to rank the relevance of the feedback from the library to academics on new acquisitions and, secondly, on ranking library services for accessibility. Thirdly, it is centred on development of library quality measurement based on what the library did to influence student learning outcomes. These disconnections confirmed the relevance of the GAT, as discussed in Chapter 2.

Boulding et al. (1993:7) explain that GAT follows the principle that the smaller the gap between the librarians and the users of services, the better the quality and satisfaction levels of the users of such service. This theory defines the disconnection between what the libraries do and what users expect from them as a perception / disconfirmation of the gap between what the library service should provide and the customer's perception of what the service provides.

This theory suggests that the success or failure of the library solely depends on how satisfied users of that library are with its services. Quality, therefore, cannot be divorced from satisfaction, perceptions, and expectations.

With these arguments in mind, the context within which higher education libraries function does not require a one-sided approach, but a holistic approach, where the role of the library is assessed based on its effectiveness and relevance to the needs of academics and students. It is also dependent on how well librarians are informed on how academics and students experience the library resources, services, and systems.

It can be detrimental if libraries are not aware of the needs of the users and do not put systems in place to assess the library's impact on academic teaching and student learning. Though this study aimed to investigate the relevance of the existing higher education quality measurement indicators as developed by higher education library directors under the auspices of the CHELSA, the findings reveal that some librarians were not aware of these indicators. This became quite evident when librarians ranked critical quality service statements related to the processes of buying books, accessibility, and the development of platforms for information navigation, as irrelevant. The research findings reveal that, for library quality indicators to be effective and relevant, library resources should be accessible, while there should be reliable services and staff willing to help users whenever they visit the library.

Though there is a significant difference in the scope and context of the studies conducted in South Africa on library quality, one common finding has been confirmed by this study's findings, namely that library users' perceptions of the importance of value-added services is indeed central, where the phrase "accessibility of library resources" is held to be an important component of service quality. The results of this study confirm that access and accessibility as well as the time invested in that process were also viewed as significant quality measurement indicators for libraries in the South African higher education context. The quality service statements related to accessibility that students ranked as relevant, included the indicators outlined in Chapter 5:

- the library's process of acquiring print and electronic resources.
- assessment of electronic resources accessibility by the library.
- sharing new books for courses offered by the university.
- the library creating and maintaining a one-stop-shop for easy access to information.
- the library creating online user guides with multiple entries to information access; and
- feedback mechanisms to assess the accessibility of electronic resources.

In contrast, academics ranked these quality measurement indicators as irrelevant, while concurring with students on almost all the others. Brophy and Bawden (2005:498) suggest that web search engines such as Google have created very high user expectations for how library systems should be designed. The libraries should therefore strive to take away the barriers between users who want fast, easy access to unlimited full-text content and interfaces that require critical thought before navigating information. Brophy and Bawden (2005:499) and Farkas (2013:4) explain that, although students appreciate the concept of creating information access portals such as online public access catalogues, in view of their experience of Google or a web search, they would prefer their navigation process scores to be less than web browsing. Based on these arguments, and in line with the study's findings, it is easy to conclude that convenient access to library information resources is one of the indicators libraries should not take for granted. According to Farkas (2013:5), "Google has become the symbol of competition to the academic library". To frame the understanding of what accessibility is about in the realistic practical operation of a university library, it is quite important to note that resources from other full-text platforms are only accessible to users if their library subscribes to them.

There are electronic databases that deliberately list the resources they have even if the library does not subscribe to them. Publishers use these platforms to market potential resources that institutions might be interested to have. These lists of resources do compromise quality as users assume that the inaccessibility comes because of the library's negligence. Rightly or wrongly, accessibility as stated by Gonçalves et.al. (2007:1416) is likely to be favoured over quality as a determinant of choice by the users. However, there is a growing gap between individuals with unrestricted access to information and information resources, and those with limited or no access to the same information. Despite the increased production of information sources, few professionals realize that incorporating accessibility features into library websites, interfaces, and digital materials can promote ease of access. Likewise, few are aware that making digital resources accessible increases the usability of library resources to the benefit of multiple user groups, and not only adaptive technology users. In the present project, accessibility was viewed as a list of specific and tangible features and characteristics that make it easier for librarians to make informed decisions on purchasing digital resources. With a view to framing the librarian's understanding of the principle of accountability, Cook and Thompson (2000:393) indicate that librarians are quite informed of the importance of collecting input measures with a view to statistics for some form of accountability.

However, users are not bothered by the number of collections, but expect instead to receive quality service when it comes to accessing both physical and virtual resources. No matter how superb the collections are, they are likely receiving poor assessments from their users if librarians are not accountable for their existence. Particularly in the contemporary milieu of increasing technological change and demands for accountability, "a measure of library quality based solely on collections has become obsolete". These various considerations have prompted the ARL to sponsor several "new measures" initiatives that focus on outcome measures, such as assessments of service quality and satisfaction. Because the existing South African higher education libraries quality measures that are being reviewed originated from the ARL (2004), it is pertinent to take into consideration these new developments when redrafting measurement indicators for South Africa.

6.7.1 Research question 1: Relevant quality measurement indicators for libraries from the perspective of academics, librarians, and students

The search for quality indicators for higher education libraries must necessarily start with a specific area of knowledge. This study opted to focus on the unique demands of libraries involved with higher education. This choice is justified by the characteristics of the services and products libraries provide to their academics and staff. There is a demand for specialized information that requires an active positioning of the professional to respond properly to the needs and requisites of their customers.

As stated in Chapter 5, it was found that 21 existing quality service statements were relevant in the view of students. Of these, the librarians viewed five as irrelevant. This steered the study in the direction of making deductions on what librarians understanding of user needs are. Much as the study findings commended libraries for their creativity and alignment to trends, especially when it comes to digital content management, open access, and visibility of local research, it did not change the misconceptions that sprout from librarians' ignorance. Respondents made the following comments on commendable services:

Academic A* "I value the fact that they develop repositories."

Academic B* "The research repository is a wonderful initiative to make our research more widely accessible."

Academic C* "Better interlibrary loan service with desktop delivery of articles."

Academic D* “Laptops, tablets and regular contact information sessions between the departments and the faculty librarian is commendable.”

A pattern emerged that induced the conclusion that suitable quality measurement indicators for libraries would require librarians to step up to develop systems to survey the library users' needs while continuing to introduce new developments that add value. The quality service statements that were ranked low were all related to librarian accountability. These indicators included feedback mechanisms to users and reviews of library services. The study findings confirmed two disconnections between the librarians and students on the one hand, and academics and students on the other, around selecting relevant quality measurement indicators. The disconnection related to librarians' understanding of user expectations of the quality of the library goes against the principle by Nicholson (2004:165) of the input-process-output theoretical sketch. Though the principle sounds impressive, its practical application is not evidenced by South African higher education libraries. Much as libraries do follow a certain quality service loop in terms of input – putting systems in place, and + processes with guides, rules, and regulations on how those systems should be used – missing from this loop is output, that is, finding out if the recipients of such services are satisfied with them. Studies conducted by Taylor and Baker (1994:163) and Shaughnessy (1995:1) follow the same line of reasoning, pointing to the main prerequisite for quality as the understanding of the needs and expectancies of the users: security, courtesy, and communicability; the adoption of an adequate language by the information professionals; and an adequate physical environment. While the disconnection between librarians and students can be associated with a fear of accountability, the disconnection between academics and librarians and academics and students can be related to their lack of understanding the jargon used in the formulation of quality service indicators or statements.

Whitehall (1992:35) reviews the quality of libraries and information services by focussing on the importance of customers' satisfaction when it comes to identifying services of relevance for library quality. The present project dovetails with his research, especially for libraries such as ours, where a quality measurement tool was designed based on the views of library managers ten years ago. Service statements such as the adequacy of the sources for the user's interests, their relevance to the users, the speed of access and the information supplying, the users' evaluation of the services, and the facility available to use the services and products offered are in line with library relevance and quality. One may conclude that one of the fundamental factors for the quality management of information services is focus on the customers. As knowledge

about the dimension of the students, that is, the customers of library services increases, one may know the criteria that they use as judgement, reaching the remainder of the requisites indicated by Shaughnessy (1995:2). Some library performance indicators as outlined by Whitehall (1992:25) provide information about the quality as elements such as customer satisfaction, response time, collection coverage and relevancy of stock form part of those measures. The indicators that were ranked relevant as quality measurement indicators for libraries confirmed service principles that matter to library users. These service principles are accessibility, accountability, reliability, responsiveness, and tangibles. The quality indicator of service responsiveness is also associated with staff being willing to provide prompt service and help customers, the indicator of assurance is aligned to the "ability of the organization's employees to inspire trust and confidence in the organization through their knowledge and courtesy", and empathy is defined as "personalized attention given to a customer" (ibid). Borrowing from the arguments above, a list of five indicators can be made that can serve as a basis for the scope of the quality measurement indicators being studied.

Parasuraman, Berry and Zeithaml (1991) advocate that libraries should consider a multi-item scale for measuring consumer perceptions of service quality. This pragmatic way of identifying service quality dimensions resonates with the ten dimensions that respondents in this study suggested: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, accessibility, communication, and understanding the customer. The similarities between Parasuraman, Berry and Zeithaml's study and this study's findings are the five tangible dimensions regarded as relevant quality measurement indicators by university students despite academics' low ranking. These indicators as stated by Parasuraman, Zeithaml and Berry (1985:42) are linked to service performance and intangible service dimensions such as accessibility and accountability. How these five tangible dimensions came about as relevant quality measurement indicators for this study is discussed in detail below.

6.7.1.1. Accessibility

The study results demonstrate that academics and students expect libraries to provide access to relevant print and electronic resources. These resources must be packaged in a matter that allows navigation within a single online platform. Accessibility to this platform should not be limited to the library's physical location and time. Furthermore, when all these elements are in place, users of these resources should only be allowed a single online access point. The online and physical platforms where these resources are situated should be reliable and, in cases where access is made possible by the internet, bandwidth and connectivity should be stable.

As outlined in Section 6.7, these indicators are classified by Tarzan and Kiauta (1996:113) as services of convenience to customers.

Comments from academics showed that accessibility still ranked high when viewed from the perspective of the user that is also witnessed by Kekana and Kheswa (2020:2). The following comments serve to illustrate this:

Academic E* "Our university is very aware of the value electronic resources add to our teaching and research endeavours. Unfortunately, it is time-consuming to try to stay informed as an academic on issues beyond your subject discipline even though there is a benefit in making sure one keeps up with the library so that needs of the students can be met".

Academic A* "Dissemination of electronic resources usage statistics would be of benefit in determining how the budget for resources could be managed".

Easy access to these services as witnessed by White and Abels (1995:36) can be optimized by a convenient location, good telecom connections, and other information technology. According to CHELSA (2006:13), guidelines for physical and virtual accessibility of library resources at higher education libraries in South Africa form part of the critical services that affect library quality if neglected. Most higher education libraries in South Africa have realized the importance of this indicator and have put measures in place to ensure the off-campus accessibility of library resources. While the accessibility indicator is used only to refer to access to resources in various formats, the study results showed that this indicator went beyond focussing on resources to include online platforms, their accessibility, and internet connectivity. As stated by Nelson et al. (1991:13), the discrepancies between librarians and students should open avenues for studies that compare the knowledge and skills perception of information service staff in relation to end-user perceptions. Surendra and Denton (2009:77) compared the skills, traits, and attributes of librarians with how users of the library viewed their necessity in resolving their library problems. This study revealed a gap between the perceptions of information service workers, that is, librarians, and users, and further gaps among information workers themselves.

Among ten user-centred library attributes that were assessed, information service workers disagreed with each other on five, including the provision of access and review of electronic resource accessibility. Tiemensma (2009:22) states that, despite disagreements between librarians and academics on the relevance of access to resources, this indicator is unquestionable, and offers a gauge of quality that defines a library's relevance and the purpose

of its existence. The inaccessibility of resources should be viewed as a risk to the universities that invest funds in them.

According to Rodriguez (2011:12), the most convincing evidence libraries can provide on quality and their impact is embodied by electronic resources such as the use of online catalogues, electronic resources and databases, digital collections, traditional print, and electronic books. This, according to Ahmad, Abawajy and Kim (2011:84), warrants a new way of thinking, where the library's investment in electronic resources should be a relevant measure for library quality, while evidence on the use of such resources for multidisciplinary teaching, learning, and research is seen as an indicator of quality. A persistent shortcoming in the decision-making process about library quality that should be addressed according to Calhoun and Cellentani (2009:6) is the lack of research into user needs and benefits, and the actual impact on users' decisions. Appleton (2018:5) confirms that, among the new measures of quality, libraries need data that could provide decision makers with information that justifies expenditures and makes the case for additional resources. Much as this data will position the library well when it comes to resource allocation, the same data have the potential of providing evidence that is needed during library quality reviews. Appleton's 2018 study mentions efficient and reliable suppliers and customer service missions as elements that require attention as critical to the success of academic libraries.

6.7.1.2. Accountability

The study revealed differences in the knowledge of students and academics concerning the library service. The library instruction for students seems to expose them more to the library rules, services, and products on offer, while academics know more about library strategies, policies, and budget allocations. This seems to be incongruent with the quality measurement needs of each group established by the present project. Both parties complained about poor consultations and / or accountability on the side of the library on issues pertinent to the services on offer. Most academics did not receive notifications when there were items to be collected; of those who said they were notified, only four shared the way they received it - by personal communication and / or their faculty librarian. Concerning the location of printed books on the shelves, students and academics declared to have difficulties around finding materials, which led us to conclude that the visual communication at the libraries was unsatisfactory. The formal mechanisms of communication to improved use of the library seem to be inefficient as students and most academics said few librarians came to their rescue. The decline in library use was caused by a lack of knowledge about the services and resources on offer. Four academics

clearly stated that they depended on other libraries than their own due to inadequate resourcing or unawareness about the resources available.

With a view to aligning these findings with the research conducted and literature consulted, the latter as expounded in Chapter 2, the concepts of quality, accountability, and communication became inseparable. These concepts as witnessed by Hernon and Calvert (1996:387), are no longer involved choices but were found to be essential for inclusion in a quality measurement tool for libraries. As stated by, Hernon and Altman (2001:224) the call for accountability in libraries has drastically moved the library's focus from reporting on its resource growth and the implications of this development for the fulfilment of user needs versus the fulfilment of institutional learning goals. The services and resources of the library do not offer value for money when academics and students do not use them or are uninformed of their existence. Librarians therefore have a major role in placing special emphasis on this service indicator. A study by Lategan (2009:53) reveals that quality outcomes at universities are a function not only of the level of resources available, but also of the way in which they are used. This article confirms that library quality indicators should be adjudicated based on their contribution to the fulfilment of university outcomes.

6.7.1.3. Reliability

This study has found that the use of the libraries normally occurs under the guidance of the librarians, as we may assume from the answers. The indicator of reliability also does not seem to be much affected by the time libraries are open for use, but rather by reliability of library platforms for information access.

The quality service dimension of reliability is defined by Schneider and White (2004:24) as "delivering the promised performance dependably and accurately while accessibility and responsiveness refer to resources and services". According to Blixrud (2003), supplying input, that is, acquiring resources, and outputs and statistics, that is, the number of users accessing those resources, is not good sufficient when it comes to measuring the success of the library. The study reveals that the increasing pressure to maximize the use of resources coupled with the demand to demonstrate library outcomes and impact in the universities are becoming core indicators for quality measurement. While students seem to favour physical and virtual access to the library, academic responses strongly advocated access to online resources on their desktops (office) and off campus (home). Parasuraman, Zeithaml and Berry (1985:42) argue that reliability reflects the service provider's "ability to perform service dependability and accurately". Furthermore, reliability as witnessed by Parasuraman, Berry and Zeithaml

(1991:13) includes doing it right the first time and it is one of the most important service components of customers

6.7.1.4. Responsiveness

The willingness to provide prompt service and help implies that, the employee must according to Tarzan and Kiauta (1996:113, Humphries and Naisawald (1991:263), offer efficient and effective service in the shortest possible time. Responsiveness as stated by Parasuraman, Zeithaml and Berry (1985:43) represents the "willingness to help customers and provide prompt service". However, this indicator was not ranked to be relevant by academics or students. Library responsiveness to teaching and learning is according to Kyrillidou (2002:43) and Herson and Calvert (1996:386) considered to be, one of the key fundamental elements that define an effective library and is, indeed in those terms that librarians ranked this indicator relevant.

6.7.1.5. Tangible factors / the library as a learning place

The studies conducted in Brazil by Cullen (2001:662), Calvert (2008; 4), White and Abels (1995:37) put emphasis on quality indicators such as, tangible factors that refers to physical appearance of the library, the usability of the equipment, including repairing / fixing of materials, and the appearance of the personnel to have had a significant effect on the perceived quality. The measurements or scales used for the tangibles were simple and basic in comparison to intangible measurements and scales such as accessibility, accountability, and reliability. Mech (1990:72) argues for a student's need for a set of information literacy skills with competencies that enables them to search, find, and evaluate an information source before use. The study also observed that, there are a series of library research conducted focussing on library evaluation processes and service performance. Studies of this nature tend to give the profession fewer facts in discovering how collaboration with educators adds value in promoting library use by academics and students (Mech, 1990). This notion can be associated with an irrelevant ranking of course-embedded information literacy programmes by academics. In using my reflection as a South African practising librarian, given that copyright and intellectual property laws are so vigilant, the training on legitimizing the use of information has valuable benefits for learning outcomes and for saving universities from risks of violating these laws.

Based on the rating by academics and librarians, these indicators must be retained on the quality measurement instrument.

6.7.2. Research question 2: Comparing the views of academics and librarians on QMI that support students' learning

Lorenzen (2001:21) has found that learning (library use) becomes effective only when there is a high degree of relevance of what ought to be learned. Regarding library service use, there must be a degree of understanding and interactions between librarians and academics. Furthermore, the students' understanding of libraries and their use becomes more productive and sensible when an opportunity for active engagement in their management is created. Poll and Payne (2006:548) advocate for the importance of aligning the quality of the library to the role and value they add to teaching, learning, and research. There must be two-way communication between librarians and academics for them to understand the expected value they should add to teaching and learning. Only four quality service statements were reviewed to determine the extent to which these two parties (academics and librarians) viewed them as relevant to the quality measurements for libraries. It is only four quality measurement indicators such as missing books that should be clearly stated on the library catalogue with library developing user surveys to determine the value the library resources add to teaching and learning; benchmarking with other libraries funding for library resources; and development of course-embedded information literacy programmes aligned to classroom activities whose relevance were only ranked by academics and librarians. Out of these four quality measurement indicators, none of them was ranked relevant by academics, an element that shows that they do not see them as vital to library quality. These divergences signal that academics misunderstand what ought to be quality library services. The corrective measure to these disconnections is for librarians to step up and create formal sessions where negotiations with academics are pursued before the establishment of services in their support.

6.7.3. Research question 3: Comparing the views of librarians to those of academics and students

The library is the storehouse of knowledge and information: it provides access to information resources and the information itself. The library helps academics to achieve the objectives of producing students that are information literate and prepared for lifelong education. As stated

by Ubogu and Walker (2007:19) libraries should provide access to information resources, expert professional support to facilitate thorough and accurate use of all library resources, access to library materials and services to the community.

Therefore, libraries are important when it comes to facilitating academics' generation of information relevant to teaching students and research. The studies by McGregor (2008:17), Brady and Cronin (2001:34) and also confirmed by Sohal and Raza (2012) indicate that, the acquisition of library resources is becoming as important to service quality as virtual accessibility of library resources. Much as the indicator was rated relevant on study objective one, that was, examining library expectations, it became quite evident when the results were carefully considered, that a clear imbalance existed between the ranking of the similar phenomenon by students as against ranking by academics and librarians.

6.8 Emerging library quality measurements indicators based on the views of academics and students

As outlined in Chapter 2, quality and quality measurement indicators become relevant and effective only if they meet customer expectations and guarantee their satisfaction. In Chapter 3, the term “expectations” was used to show what the library users feel about the library. The study results revealed that academics, librarians, and students do largely accept most of the indicators under the element of “accessibility” as relevant measures for quality.

While academics and librarians did not agree on the relevance of all indicators under “accountability”, students ranked them as relevant. Even though not all indicators were positively rated by librarians under “value-adding”, these results confirmed the speculations on the gap analysis theoretical framework that have been expounded in Chapter 3. The study by Parasuraman, Zeithaml and Berry, (1985:42), argues that higher education libraries are evolving in tandem with the development of information communication technology. Currently, in the South African higher education sector, a number of developments such as (digital revolution) that are taking place in the sector, place libraries on the upper edge in comparison to other libraries in the country. Most of these developments are self-initiated by libraries, an element that could affect their slow movement to the quality measurement band whilst also placing them equally higher on the innovation revolution. Most of the higher education libraries are dwindling between serving two worlds - one that is traditional, with library users who favour print to electronic resources, and the virtual world, where nothing is

expected from the library apart from digital access. To make sense of the study results, each macro indicator is discussed with a view to its impact on activities that should be viewed differently when it comes to library quality.

6.8.1. Faculty-library collaboration

Regarding faculty-library collaborations, students indicated that faculties must also play a meaningful role in buying books that are relevant to their subjects, instead of relying on the library. This relationship would be useful considering the impact of student success on the university's financial state in terms of subsidies. As research is quite important in any university, the liaison between the faculty and the library should be aimed at striking the balance between teaching, learning, and research. The academic responses garnered here reveal that there was no perceived benefit for academics from the library.

They also feel that the library did not seem to provide solutions to the issues they questioned in library services. Despite all these concerns, the cooperation fostered by the libraries at the regional and national level did make a huge contribution to the acquisition of resources not available locally. Without repeating issues that were mentioned in response to other questions, some academics strongly felt there was a greater potential for involving the library in issues about curriculum development, information literacy courses, study spaces, and time, as evidenced by the following comments.

Academic E" "I have a good interactive relationship with the library but I feel that others are not utilizing it to its full potential".

Academic* "A lot depends on the relevant librarian's personality on how far they can in establishing relationships with lecturers, there should be formalized structures to entrench this relationship". A librarian's ability to develop a new relationship with their users as stated by Partridge, Lee, and Munro (2010:315) will help build communities of practice in which the librarian's authoritative role will evolve into a more synergistic partnership with library users.

A study by Franscotti, Levenseler, Weingarten and Wiegand (2007:77) suggests that when libraries introduce better learning environments and flexible hours of operations as well as areas to allow users to access leisure resources, does encourage frequent use of the library by staff and students. These researchers argue for library flexibility: that students should be allowed to come to the library any time to do whatever they are interested in doing.

In contrast, some scholars condone the library's role in promoting leisure and fun: Rodriguez (2011:1) asserts that, despite significant progress made in user-oriented evaluation, libraries still lack effective methods for demonstrating value and contribute to helping academics to improve student learning.

Unless this issue is connected with quality measurement indicators for libraries, the situation will forever remain like this. According to Rodriguez (2011:3), unless libraries develop adequate quality measurement instruments that encompass the generation of evidence that they do support faculty endeavours with what they are doing, they are going to be left behind in campus conversations. Gauging these findings and discussions currently, when the role and value of the library are questionable, it becomes clear that libraries need to include these issues as relevant measures for quality. The latest update on library quality standards, as stated by Association of Colleges and Research Libraries), ACRL (2010), suggests that the trends in the accreditation of libraries should include its full integration into the academic endeavours and focus on recognition of the library's educational role in support of all students, rather than looking at student learning outcomes based overtly on library-related matters. The integration of the library to the university is clearly outlined in the CHELSA (2006) measures for quality.

6.8.2. Adequately funded libraries

Amongst indicators aligned to new trends and developments as suggested by Poll and Boekhorst (2007:1), one finds quality measurement indicators for libraries by including a "demand for cost-effectiveness". This is based on recent budget cuts for libraries. Despite the general knowledge that an inadequately funded library is not capable of fulfilling the needs of users, libraries remain inadequately funded.

6.8.3. Aligning the library resources to teaching and learning outcomes

This survey covered issues that were basic from a librarian's perspective, which has led to the discovery of numerous discrepancies between their responses and those of users.

6.8.4. Integration with teaching plans

The study findings reveal that library and their librarians introduce services that are innovative and, most of the time, beneficial to academics and students. However, it would be ideal to take them along while introducing those services, so that they can give input at the initial stage. This reminded this researcher of the standard practice where library strategic plans are crafted

without the involvement of academics. The study by Rodriguez (2011) suggests the importance of effective communication between the library and users as means to improve quality of the library service.

6.8.5. Libraries communicating value

Libraries are confronted with a general demand for transparency as to their worthiness and the value they add to the university outcomes. According to Kuh and Gonyea (2003:256), for librarians to easily adjust towards meeting current and emerging ever-ending user needs, they must possess the following skills: adaptability, flexibility, good listening, effective communication, and a forward-thinking approach. With libraries reporting on their funding constraints, those constraints should, as stated by Poll and Boekhorst (2008:41) be tied to the number of users registered in that library, allowing for the total cost per user forming part of a measure for quality. The respondents' comments have reference to this.

Academic B* "If students would be informed and educated by the library in conjunction with academics on the importance of library use, cost of resources and facilities of the library that should be optimally used, the value of the library would be taken seriously".

Librarian C* "Unawareness on what libraries can do results to some academics assuming that access to the internet alone takes them to relevant scholarly articles whereas the library invests on building the e-resources".

Academic D* "When my students have access to the internet, there is no need for library visit".

Academic B* "The libraries as institutions of information communication and dissemination do not communicate their services and programmes effectively".

According to Ahmad, Abawajy, and Kim (2011:83), as libraries are becoming smarter by integrating Google Scholar into their websites, the impression created for users suggests that the internet can point them directly to research articles. The study findings and speculations on the power of the internet reveal that perceptions about the role libraries play are still not clear, hence a need for permeation into academic spaces. It is due to these misconceptions that some academics do not see a need for working with librarians in streamlining services for students. Marketing and communication of library services raise several issues, bearing in mind new developments in information communication technology and mixed views regarding access to information. Even though, according to Nawe (1993:52), the marketing of library services raises many questions, by addressing these libraries can bring valuable information to close

user quality gaps, such as being misinformed about services. The study by Cullen (2001:662) asserts that marketing is a necessary quality component that can address key critical issues such as achievement of high-level customer satisfaction, enhancement of the perceived value of service, and survival of an institution. Seeing that quality was not made explicit on the existing measures for quality in South Africa, it is worth considering.

6.8.6. Research support in a digital university environment

Some of the themes engendered by participant comments included the following research support services: the open-access revolution and scholarly communications, libraries' role in publishing, research data management, integration into e-teaching, and intellectual property and copyright management. While South African higher education libraries as outlined by Thomas (2011:183) are expected to be the masterminds of research data management by preserving and curating data. Libraries are well suited to support the data quality process. Data quality measurements are discussed, including the fundamental elements of trust, authenticity, and are applied to the Digital Curation Lifecycle model to demonstrate how these measures can be used to understand and evaluate data quality within the curatorial process. Opportunities for improvement and challenges as witnessed by Giarlo (2013:5) are identified as areas that are fruitful for future research and exploration.

The study of Giarlo, (2013) is a live testimony of what libraries are expected to do. In the first place, the article is an e-publication and, secondly, it advocates for what libraries are expected to be, namely "data quality hubs" that promote online accessibility of research publications. As the evolution of information technology directly affects the ways in which university teaching, learning, and research are managed. Libraries have progressed tremendously around the integration of their services to e-teaching as their resources transitioned to more electronic than print.

6.8.7. Teaching and learning support in the digital era

Based on measures for quality as stated by CHELSA (2006) and recently developed CHELSA Academic library standards, all the national higher education libraries are expected to provide their users with technology tools and train them on how to use them. In preparation for that, libraries have developed a series of information literacy programmes that do not only prepare students to master their study programmes by effectively using the library, but rather courses that assist them to master their global citizenry. In consideration of e-teaching and learning

support, these information literacy courses are online and are delivered through web technology.

Recent developments in South Africa made life easier for libraries, as students are now getting laptops in support of web-blended learning. It is not prescribed whether these information literacy programmes should be standardized or not. This autonomy might be the reasoning behind inconsistencies among librarians. Academics largely favour the information-literacy-embedded approach. As South African information literacy originated from the ACRL, this course is not prescriptive. In trying to come to terms with the librarian's responses, there is no compulsory model that is more valuable than others. Additional to the information literacy programmes, libraries at the national level subscribe to electronic databases that are acquired through the South African National Licensing Consortium. Online databases compel all libraries to have a large proportion of their online journal articles accessible through the website. The issue of their accessibility still largely depends on each university's internet capabilities.

Academics and librarians were asked to reflect on which services of the library add value to teaching, learning, and research. As respondents could write their thoughts, one could see that the interpretations of what the question asked varied from person to person. Some respondents looked at what would contribute to value-adding services in the library's support for teaching, learning, and research. Nevertheless, if the study managed to solicit the input of users and librarians, the objectives were met. The themes formed part of what transpired from the academic's and librarians' data. When librarians were asked to reflect on services that added value to teaching, learning, and research, it is worth noting that all the latest developments that were taking place in teaching and learning were exciting to librarians. A couple of librarians from various universities found their contribution to teaching effective.

Librarian C* "Through the e-teaching tools I can now integrate their library online tutorials and resources to Blackboard".

Academic C* "By using the electronic journal section I gain access to most articles".

Academic B* "Yes I am teaching students and we discuss the library and the availability of its services of resources very good, a well-structured good relationship should be very happy with services regular usage".

Academic A* "Yes, I have had a very good personal experience with the library since starting with my studies in 1997".

Academic A* "Our university is quite aware of how technologically challenged academics are and unfortunately it is quite time-consuming to try to stay informed, but it is best to see what your particular students need and make sure you are just up to date as they are". The impressions created by academics indicate that librarians need to take a proactive role in working in conjunction with the e-learning divisions of their universities.

This system will create a platform to effectively integrate library resources where they are needed most by academics to support their teaching activities. The adoption of this service as a quality measurement indicator for higher education libraries would not only assist academics in improving their online teaching, but would also improve access to library resources, while placing the indicator on the library priority in preparation for their accreditation processes.

6.9 Relevant quality measurement indicators for libraries

The present project revealed that, much as the existing measures for quality are still relevant, a series of them require revision. To fully complete this study, the South African higher education library sector requires a single quality measurement instrument that is assessed by diverse categories of library users for diverse purposes.

Indicator	(Relevant QMIs as articulated in the quantitative and qualitative data)
Accessibility	<ol style="list-style-type: none"> 1. Shortened turnaround process of acquiring print and electronic resources. 2. Assessment of electronic resources platforms to guarantee 24/7 accessibility. 3. Library creating and maintaining a simple one-stop-shop for easy access to information. 4. Library creating online user guides with multiple entry points to information access. 5. Missing books clearly stated and withdrawn from the library catalogue. 6. Library online resources accessible on the user desktops and mobile phones. 7. Redundant books should be weeded from the library shelves. 8. All relevant and the latest edition of books should be purchased to support the curriculum.

9. Librarians must develop online guides to provide library users with multiple entry points for accessing information.
10. Librarians must create and maintain interfaces and system architectures such as one-stop-shops to enhance information accessibility.
11. Physical and virtual accessibility of the library 24/7 while at home.
12. Number of links on the library website.
13. Number of pages on the library website.
14. Number of licensed and locally maintained databases.
15. Number of licensed and locally maintained e-journals.
16. Number of licensed and perpetual-maintained e-books.
17. Number of locally maintained digital collection (institutional repository and digitized special collections).
18. Number of images of locally maintained digital collections.
19. Total number and size of locally maintained databases and digital collections.

Accountability

20. Sharing with users (academics and students) new books for courses offered by the university.
21. Feedback mechanisms put in place to assess the accessibility of electronic resources.
22. The library develops an information literacy programme that addresses gaps in the way library resources and services are used to improve learning.
23. Benchmarking of library resources with other institutions to strengthen the case for library funding.
24. Feedback mechanisms are put in place to assess the accessibility of electronic resources.
25. The library develops an efficient feedback system for reporting to academics with respect to materials ordered and received / not received by the library.

Responsiveness

26. Articulate the value and benefit of the library role in teaching and learning support.
27. Training support for downloading electronic books be organized by the library.
28. The library develops an information literacy programme that addresses gaps in the way library resources and services are used to improve learning.
29. Library user satisfaction surveys developed to ascertain the impact of each service introduced by the library.

30. Timely review of current library services to determine the extent of their relevance to user needs.
31. Library usage statistics interrogated to identify redundant learning materials and the need for new resources.
32. Library putting systems in place to determine the needs of the students and other users before changing existing services or introducing new services.
33. Timely review of current library services to determine relevance to library users' needs.
34. Interrogation of library usage statistics to determine resource need /collection gap for funding.
35. Benchmarking of library resources with other institutions to strengthen the case for library funding.
36. The library conducts stock-audits to determine the scope, age, and redundancy of books on the shelves.
37. Library hours be reviewed constantly to take into consideration the changing needs of library users.
38. Partnership fostered between librarians and academics for the effectiveness of library services and programmes that support the curriculum.
39. The library should keep an updated list of articles and journals at the disposal of the faculties and students.
40. Align library resources to the teaching and learning programmes.
41. Library plans integrated into teaching, learning, and research plans.
42. Faculty–library collaboration.
43. Library reports explicitly communicating value to the university core business.
44. The library develops a programme on how it plans to support research in a digital environment.
45. Library develops a structured training programme for electronic resources for academics and students.
46. Library supplier efficiency.

Reliability

47. Librarians must develop systems to enable users to discover information in all formats through effective use of technological tools.
48. Libraries must provide spaces and facilities where users interact with resources in both physical and virtual environments.

49. Librarians must take responsibility in advocating for Wi-Fi and bandwidth prioritization to enhance virtual support.
50. Funding for libraries must be adequate to support the institutional mission of teaching, learning, and research.
51. Provides sufficient user education (briefings /courses/workshop, orientation programmes) for effective use of its services.

Tangible Infrastructure

52. Adequate seating facilities.
53. Librarians must provide a clean, inviting, and adequate space.
54. The space must be conducive for study and research, with suitable environmental conditions.
55. Adequate and well-trained staff who understand their roles.
56. Friendly and approachable staff.
57. Staff who deal with users in a caring fashion.
58. Modern technology and equipment that lets me access information easier
59. Giving users individual attention.
60. Making information easily accessible.
61. Library staff who understand the needs of their users.
62. Tools / equipment in working order or constantly maintained.
63. Easy-to-use access tools that allow users to comfortably find the information.
64. A comfortable and inviting location.
65. Adequate numbers of computers and printing workstations.

6.8.8. Database training workshops for students and academics

The academic participants in this study found that access to library resources online saved them time by reducing visits to the library. Librarians also see their support for academics and students as invaluable; especially in terms of guidance and training for referencing and database used for research purposes. A study conducted by Blixrud (2003:2) assessed new methods and models of assessing libraries and revealed that, amongst the issues that must be measured in library quality, how they use training to maximize the use of resources should be included. Information literacy outcomes assessment according to Rodriguez (2011:2) is the most fully developed approach libraries can use to demonstrate library contribution to undergraduate

students' success. Literacy encompasses skills for locating and evaluating information sources and ethically using such information, which skills are transferable to the mastering of research and the interrogation of relevant literature.

According to Poll (2012:121), traditional data is still relevant to measure the quality for libraries; however, ISO 2789 suggests that user training should be viewed to be as important as investment placed on library resources. As a practising librarian in South Africa, gauging from the current activities I foresee higher education libraries changing their traditional approaches towards the establishment of digital repositories and online theses and dissertations, open access advocacy, and participation in hosting online journals. A report from a Danish research library describes the situation as follows:

The shift from collections to connections and the changes in the information environment from a situation of information scarcity to information overload as witnessed by Coyle (2007:414) has together with the increased use of search engines created a new breed of self-sufficient users who do not see the library as the centre of their information environment. Furthermore, the study by Bawden and Vilar (2006:346.), Gonçalves, Moreira, Fox, and Watson (2007:1416) see the users' experiences influencing or advocating for a ubiquitous digital information environment and digital libraries. The view of Saracevic (2004:13) on digital libraries revealed that quality evaluations of operational digital services of libraries were missing in literature. As most libraries are not entirely digital, but at a somewhat hybrid stage where most of their service offerings are on the web, different approaches must be used to devise evaluation plans.

A study conducted by (Association of Research Libraries), ARL (2018) underlined the importance and relevance of the five service dimensions, namely, once more, reliability, assurance, empathy, responsiveness, and tangibles. However, what must be amended are services within each indicator that should address the new reality of technological infusion in recognition of the “new normal” that emerged due to the COVID pandemic, while this was found relevant to the South African higher education library sector. The present study is significant because it contextualizes the idea of incorporating digital scholarship support into revised quality measurement indicators for libraries. This study also confirms the need for rigorously reviewing support for teaching in a digital era as services that should be incorporated in the new quality measurement model.

6.10 Conclusion

The relative degree of importance of GAT around minding the gap between the services offered by the library and what academics and students expect, was found to be relevant in terms of research questions one and two. The three quality management frameworks that were adopted for the study - TQM, GAT, and CKCM – each confirmed not only the relevance of its use in this work, but also the need for a study of this nature, as academics and students had definitive opinions on how the library could serve their needs. When viewing the results of the present study in terms of the emerging new quality measurement indicators, it is apparent that there is a disconnection between what librarians assume as relevant for academics and students on the one hand, and their actual needs and expectations on the other. The issues that were mentioned as quite critical for the success of a library included adequate funding and reliability of the internet and connectivity.

The integration of the library to teaching and learning as well as learning and research in the digital era can facilitate these processes. As the academics' and students' responses suggested, there is a need for libraries to be proactive by paying closer attention to user needs and feedback on services they offer. Regarding accountability, librarians need to improve their user communication, especially on services that should place them in the spotlight. A closer look at the existing quality measurement indicators for South African higher education libraries and their ranking by librarians suggests ignorance or lack of knowledge on the librarians' side. Mostly all the quality measurement indicators that subjects them to self-review or assess what they do against the users' needs were ranked low, despite their high ranking by students.

While access to the library might be considered a thing of the past by academics, students put pressure on libraries to consider balancing the two. The variables "shelving of printed materials" and "access to online resources" were emphasized, each of them, as components of ten indicators. While the quality service measurement indicators for libraries have been reviewed to include information systems such as library websites and electronic resources, these adaptations, according to Cook and Thompson (2000:394), have not dealt with digital libraries, digital content management, and digital scholarship as quality measurement indicators. Furthermore, while the newly revised LIBQUAL incorporated quality measures associated with the performance of digital libraries, a lacuna continues to exist in extant literature on this subject. Around the emerging new quality measurement indicators, it becomes easy to deduce that there is a closer relationship between them and the existing service

statements. What becomes clear is that the existing quality service statements need to include simplified language when addressing the user's point of view. To conclude, while the existing quality measurement indicators are still relevant, some indicators need to be reviewed.

In my opinion, given the period of their adoption ten years ago, it is worthwhile to design a revised quality measurement instrument that incorporates users' views. One could deduce that, when the existing quality measurement indicators were developed, the position and role of libraries at universities were not clear. It is on that note that the 22 quality measurement indicators for libraries that were reviewed are relevant. Furthermore, for the quality of a library to remain a relevant aspect, continuous review of these indicators is important, especially when considering the eight quality measurement indicators that were engendered by this research.

6.11 Recommendations

To improve the process of acquiring print and electronic resources, librarians need to keep academics in the loop concerning their order, something which would not only improve the quality of the service but will also guide them to prepare their teaching programmes. According to Snowhill (2001:3), the process of acquiring electronic resources is not pursued in the same manner as print collection, yet the processes are not clear to most academics. Electronic resources, unlike printed collections, are acquisitions made by librarians through participating in national consortium deals that exclude recommendations by academics. Recent developments in acquisitions as outlined by Coghill (2019:25) with patron-driven approach and lease-a-chapter or pay-per-view, prompt librarians to find ways of structuring their budgets for readiness for this new dispensation are of significant importance in ensuring efficiency, quality, and effectiveness of the library. It is only after the electronic-resource deals for databases related to the university are acquired those academics are exposed to their assessment through trial access. According to Armstrong, Edwards, and Lonsdale (2002:216), there are new models of acquiring electronic resources that could include their acquisition processes such as patron-driven acquisition that should be sought around pricing structure and allocation of a set budget before academics can be encouraged to take part in electronic resource subscriptions. Allowing library users an opportunity to drive the process of acquiring library resources does not only guarantee relevance around collection, but also promotes its use and enhances, liaising between librarians and academics. The issue of electronic resources licensing, according to Armstrong, Edwards, and Lonsdale (2002), remains one of the major

barriers to electronic-resources acquisition. Based on this, the process of acquiring print and electronic resources, ranked irrelevant as a measure for quality by academics, could involve them so as to make this an indicator worth considering as part of a quality measurement tool.

While quality measurement indicators such as relevance and value-adding are multi-dimensional, libraries that wish to understand how they are performing must according to Guillen, Montferrer and Moliner (2020:268) examine how their resources are faring by assessing their environment to their user's satisfaction with their services. As the goal of social science research is to produce an accumulating body of reliable knowledge, such knowledge enables us to explain, predict, and understand empirical phenomena that interest us. Cox (2007:193) states that, "librarians need to actively and assertively engage in research to make sense of library statistics, to assess the success of library instruction and information literacy programmes and to determine the true effectiveness and efficiency of library tools". In the library and information science (LIS) field, researchers should pay more attention to qualitative methods. LIS has already accepted widely-used qualitative methods, but we need to relate more of our research to a broader framework – one that contributes to the advancement of institutional change or its practice. Practice means contributing to institutional change. The outcome of this type of research as outlined by Hernon and Altman (2001:224) is knowledge that heightens the members' awareness of what is occurring within their institutions and increases their motivation to effect change. South African based studies by Sayo (2006), De Jager (2006), Ubogu and Walker (2007), and Rapp (2007), did not solicit the input of academics, nor do they suggested their importance in ensuring the relevance and value-adding of library services, whilst also they did not pay sufficient attention to the importance of user involvement during library quality reviews and development of library quality review framework.

6.11.1 Recommendations for improving this study

The following recommendations are offered as possible ways to improve this study: when conducting research on quality measurement indicators for libraries, the term “quality measurement” requires a more precise definition, as it can be subjected to misinterpretation and mislead study outcomes. Making use of an online questionnaire distributed by email as a medium of communication can be a factor determining low and poor response rate: the system therefore needs to be properly monitored to reach the set target market.

6.11.2 Recommendations for library practitioners

Given the findings engendered here, which outlined a gap between those which libraries offer and what users of the library expect, the following recommendations are offered towards quality improvement and meeting user expectations. Given the pace of developments taking place in higher education libraries, librarians should take a step back and conduct a user needs analysis. The user needs analysis study will not only improve library quality but will ensure the relevance of the service to the needs of library users. While this study discovered that there is value in using library customer knowledge in improving quality or assessing the relevance of the service to their needs, there is a further need for user involvement from the initial stage of service planning to avoid misguiding them around that do not make sense. There is a need for keeping librarians abreast of developments so as to enable them to monitor and evaluate their impact on service improvement. Ongoing research on this study direction will always place the library on a high radar alert when it comes to the fulfilment of their users' needs.

6.11.3 Recommendations for further research

Given the importance of the library in supporting teaching, learning, and research in a university setting, it is recommended that the following research would add value to the body of knowledge in this subject.

1. Careful scrutiny of the extant literature revealed a lack of articles that pursued development or the evaluation of library quality measures using the views of library users, be they academics nor students. There is a vast literature around attempts to assess user satisfactions, assessing their perceptions and expectations with a view to the existing services, while little has been done around library-user involvement in the design of a quality measurement instrument. For libraries to add value to their university, there should be studies conducted in this line of thinking in professional journals or in educational research to frame what they need to strengthen in their services for continuous improvement of quality.
2. Local research related to user perceptions and expectations of the library would be of benefit to the management and design of library-quality evaluation.
3. The study also revealed that higher education library quality is a complex subject; it should not be viewed in the context of its role only, but also in terms of how it affects teaching and learning around student learning outcomes.

6.12 Contribution to research

The approach this study undertook towards incorporating the views and opinions of academics and students in the design-thinking of what library quality measurement indicators must include to satisfy their needs and expectations will, to a larger extent, contribute to a body of knowledge in shaping quality and accreditation processes of higher education libraries.

The fact that this study used the views of academics, librarians, and students in the design phase of what could be a quality measurement instrument for higher education libraries, makes it new in the South African library and information field. While it is acknowledged that libraries have embarked on user satisfaction studies and needs analysis, there is still a void in the development of quality measurement tools using the views of academics, librarians, and students. In addition to the provision of some future research in the field of library quality management and library performance measurement, my study has made three major contributions to South African higher education library literature. Firstly, my respondents were early adopters of the existing quality measures for libraries. Amongst the elements picked from this study, librarians appointed post-2005 were never formally inducted in the CHELSA measures for quality.

My study therefore should contribute particularly to the understanding of what academics and students should assess when library quality is assessed. Secondly, my study aimed to assess how relevant services offered by the libraries are supporting their universities' teaching and learning endeavours, and to ascertain the extent to which library services contribute around the quality of teaching in universities. The study also observed limitations or scarcity of research when it comes to this study direction, hence this research does have the potential to contribute to the body of knowledge in library quality evaluation. Although quality measurement indicators as stated by Kadjan (2007:148) have been used in the business world, the concept and its impact in higher education libraries remain unfamiliar to academics and librarians, who are expected to partner in guiding students in terms of understanding the processes in this regard. I therefore hope that the findings of this study will attract the attention of other librarians in higher education institutions and other sectors.

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Appendix A: Covering Letter

May 2013

COVER LETTER

Dear Faculty Academic /Librarian/Student

RE: PHD RESEARCH TOPIC: INVESTIGATING THE RELEVANCE OF QUALITY MEASUREMENT INDICATORS FOR SOUTH AFRICAN HIGHER EDUCATION LIBRARIES

I am Pateka Ntshuntshe- Matshaya presently enrolled for a Doctoral programme in Library and Information Science which focusses on Educational Management offered by the University of the Western Cape in collaboration with Fullerton State University, California. I am working alongside Dr Gavin Davis, my main supervisor with Dr Dawn Person as a co-supervisor. The study aims to investigate the relevance of quality measurement indicators for South African higher education libraries using the views of faculty academics, librarians, and students. While permission has been granted for doing research, I am dependent on your input and participation to complete this study.

Please be assured that all the information you share for the benefit of this study will be treated as STRICTLY CONFIDENTIAL and will only be used for this study. You are not required to write your name or any personal information on the questionnaire. All data will be kept completely anonymous and will be directed to me. Please also note that your participation is voluntary.

I would like to take this opportunity to thank you for your cooperation.

Sincerely

PATEKA NTSHUNTSHE-MATSHAYA

Appendix B: Questionnaire sample: Faculty academics, librarians, and students

Investigating the relevance of quality measurement indicators for South African higher education libraries

Demographic Information

Top of the Form

Portfolio at the University

- Faculty Academic
- Librarian
- Student

University Affiliation

- Durban University of Technology
- University of the Free State
- University of Fort Hare
- University of Witwatersrand
- University of the Western Cape

MIXED QUANTITATIVE AND QUALITATIVE QUESTIONS

2. Acquiring of print and electronic resources

Irrelevant 1 2 3 Undecided

3. Library providing relevant resources and up to date to add value to teaching, learning and research

Irrelevant 1 2 3 Undecided

4. Assessment of accessibility of electronic resources

Irrelevant 1 2 3 Undecided

5. Sharing new books acquired for courses offered

Irrelevant 1 2 3 Undecided

6. Create one-stop-shop online platform to information access

Irrelevant 1 2 3 Undecided

7. Online user guide with multiple points to access information

Irrelevant 1 2 3 Undecided

8. Library hours responsive to changing user needs

Irrelevant 1 2 3 Undecided

9. The tangible appearance of the library facility and equipment as a measure for quality

Irrelevant 1 2 3 Undecided

10. Librarian's ability to perform promised services dependably and accurately

Irrelevant 1 2 3 Undecided

11. Staff willingness to help users and provide prompt service

Irrelevant 1 2 3 Undecided

12. Librarians knowledge and courtesy

Irrelevant 1 2 3 Undecided

13. Timely review of library services for relevance to user needs

Irrelevant 1 2 3 Undecided

14. Use of library statistics to determine resource needs and funding

Irrelevant 1 2 3 Undecided

15. Feedback mechanisms to assess the accessibility of electronic resources

QUESTIONS FOR FACULTY ACADEMICS AND LIBRARIANS (ONLY)

Irrelevant 1 2 3 Undecided

16. Missing books clearly stated on the library catalogue

Irrelevant 1 2 3 Undecided

17. Library survey of users to determine value-adding services supporting teaching and learning

Irrelevant 1 2 3 Undecided

18. Benchmarking with other libraries resources and funding

Irrelevant 1 2 3 Undecided

19. Course-embedded information literacy programme

Irrelevant

1 2 3 Undecided

**TRIANGULATION OF STUDENTS' VIEWS TO THOSE
FACULTY ACADEMICS AND LIBRARIANS**

20. Acquiring useful printed material and accessibility of electronic resources

Irrelevant 1 2 3 Undecided

21. Timely review of library services to ensure relevance to user needs

Irrelevant 1 2 3 Undecided

22. Interrogation of library usage statistics to determine resource needs for funding

Irrelevant 1 2 3 Undecided

23. Feedback mechanisms put in place to assess the accessibility of electronic resources

Irrelevant 1 2 3 Undecided

24. Interfaces and systems architectures such as a one-stop-shop platform to enhance information accessibility

Irrelevant 1 2 3 Undecided

25. Develop online guides to provide users with multiple entry points to access information

Irrelevant 1 2 3 Undecided

26. Library hours responsive to changing user needs.

Irrelevant 1 2 3 Undecided

27. Appearance of the library facilities, equipment, staff, and marketing materials

Irrelevant 1 2 3 Undecided

28. Library's ability to perform promised services dependably and accurately

Irrelevant 1 2 3 Undecided

29. Librarians willingness to help users and provide prompt service

Irrelevant 1 2 3 Undecided

30. Knowledge and courtesy of the librarians and their ability to inspire trust

Irrelevant 1 2 3 Undecided

31. Caring and individualized attention the library provides to each user.

Irrelevant 1 2 3 Undecided

32. Platforms developed for discovery and accessibility of library materials in various formats (libraries must provide spaces and facilities where users can interact with resources in physical and virtual environments).

Irrelevant 1 2 3 Undecided

33. Librarians must create and maintain interfaces and systems architectures, such as one-stop-shop platform, to enhance information accessibility

Irrelevant 1 2 3 Undecided

34. Feedback mechanisms to be developed for reporting on materials ordered and received

Irrelevant 1 2 3 Undecided

29. What are your perceptions of postgraduate 'students' usage of library services and programmes?

30. What are your perceptions of academic staff usage of library services and programmes?

31. What are your perceptions of academic staff postgraduate students' satisfaction with library services and programmes?

32. What is your perception of faculty/library relationships and collaborations?

33. Are there any other aspects of the library that add value to the quality of services offered to support teaching, learning and research?

34. What are the most critical services of your university library that needs major improvement?

35. Please tick the most appropriate number that corresponds most closely to your desired response on each statement of the six dimensions of library quality that support institutional support of the mission of teaching, learning and research.

a) Resource Provision: The library's ability to provide relevant and up-to-date materials for teaching, learning and research.

Irrelevant 1 2 3 Undecided

b) Tangibles: The appearance of the library facilities, equipment, staff, and marketing materials.

Irrelevant 1 2 3 Undecided

c) Reliability: The library's ability to perform promised services, dependably and accurately.

Irrelevant 1 2 3 Undecided

d) Responsiveness: The library's willingness to help users and provide prompt services.

Irrelevant 1 2 3 Undecided

e) Assurance: Knowledge and courtesy of the librarians and their ability to inspire trust.

Irrelevant 1 2 3 Undecided

f) Empathy: The caring and individualized attention the library provides to each user.

Irrelevant 1 2 3 Undecided

Submit

Bottom of Form

Appendix C: Questionnaire Sample: Students

Investigating the relevance of quality measurement indicators for South Africa higher education libraries: A holistic Approach

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Gender

- Female
- Male

2. Faculty Representation at your university

- Arts
- Economics and Management Science/ Business
- Health Sciences
- Law
- Education
- Other:

3. University Representation

- Durban University of Technology
- University of the Free State
- University of Fort Hare
- University of Witwatersrand
- University of the Western Cape

4. How many years have you been at university?

- 0 to 3 years
- 4 to 7 years
- 8 to 10 years
- 11 and over

5. How often do you visit the library?

- At least once a week
- Once every fortnight

- Once a month
- Once every six months
- Once a year
- Never

6. Reasons for not visiting the library

- I did not have time
- The library hours were not convenient
- I buy books and read them at home
- I get all the information I need elsewhere
- I get the information I need from the Internet
- The library is too noisy and uncomfortable
- In the past, I did not find what I needed
- The library would not have what I needed
- I do not know where the library is
- I do not need a library for my study
- It is too difficult for me to get to the library
- I do not feel welcome at the library
- The service at the library is not very good
- The library is not handicap accessible
- Other reasons

7. Areas for improvement in the library

- More computers to access the collection
- More Internet access
- More printing workstations
- Improved access to books on the shelves
- Friendly librarians to respond to my information needs
- More online databases
- More seating Facilities
- Air conditioning System
- Other

8. Computer availability in support of Teaching and Learning

- Excellent
- Good
- Average
- Poor
- Never Use

9. Internet accessibility in the library

- Excellent
- Good
- Average
- Poor
- Never Use

10. Knowledgeable staff

- Excellent
- Good
- Average
- Poor
- Never use librarians

11. Accessibility of books

- Excellent
- Good
- Average
- Poor
- Never Use

12. Accessibility of Online journals

- Excellent
- Good
- Average
- Poor
- Never Use

13 Adequacy of seating facilities

- Excellent
- Good
- Average
- Poor
- Never Use

14. Printing and photocopying facilities

- Excellent
- Good
- Average
- Poor
- Never Use

15. Effectiveness of library hours

- Excellent
- Good
- Average
- Poor
- Not Sure

16. Material relevance to your study

- Excellent
- Good
- Average
- Poor
- Never Use

17. Are there any other aspects of the library that add value to the quality of services offered to support teaching, learning and research?

18. What are your perceptions of library services in relation to postgraduate student support?

19. What is your perception of the importance of faculty/ library relationships in relation to postgraduate studies?

20. What are the most critical services of your university library that needs major improvement?

21. What is your perception of postgraduate student's satisfaction with library services and programmes?

22. What are your perceptions of postgraduate student's usage of library services and programmes?

23. Would you consider your perception useful?

- Yes
- No

24. If yes, why would you say so?

25. If no, please explain why?

26. Please circle the most appropriate number on each statement of the six dimensions of library quality with reference to institutional support of the mission of teaching, learning and research.

a) Resource Provision: The library's ability to provide relevant and up-to-date materials for teaching, learning and research.

Irrelevant 1 2 3 Undecided

b) Tangibles: The appearance of the library facilities, equipment, staff, and marketing materials.

Irrelevant 1 2 3 Undecided

c) Reliability: The library's ability to perform promised services, dependably and accurately.

Irrelevant 1 2 3 Undecided

D) Responsiveness: The library's willingness to help users and provide prompt services.

Irrelevant 1 2 3 Undecided

1 2 3 4 5
Strongly Agree Strongly Disagree

e) Assurance: Knowledge and courtesy of the librarians and their ability to inspire trust.

1 2 3 4 5
Strongly Agree Strongly Disagree

f) Empathy: The caring and individualized attention the library provides to each user.

1 2 3 4 5

Strongly Agree Strongly Disagree

STUDENT PRIZE: ON COMPLETION OF THIS SURVEY, YOU QUALIFY TO ENTER ON RAFFLE TO WIN A USB HARD DRIVE WITH 2 GIGABYTES.

FOR ME TO BE ABLE TO CONTACT YOU, PLEASE SUPPLY ME WITH YOUR NAME, EMAIL ADDRESS, YOUR INSTITUTION AND YOUR MOBILE NUMBER ON THE COLUMN BELOW.

100%: You made it.

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