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**DEVELOPING A SERVICE QUALITY MODEL FOR AN ACADEMIC LIBRARY: A
CASE STUDY OF THE NORTH-WEST UNIVERSITY- VAAL TRIANGLE
CAMPUS LIBRARY**

BY

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DECLARATION

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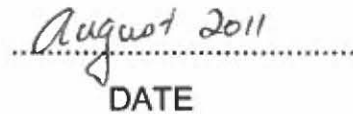
I declare that

The contents of this dissertation, are my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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SOLI DEO GLORIA

ABSTRACT

The shifting focus in the role of academic libraries entail a better understanding, awareness and responsiveness to the needs of the library users. In an environment of change and an age of accountability academic libraries have to determine and demonstrate the impact their resources and services are having on their institutional mission. Service quality is not based exclusively on the perception of the librarians, but also dependent on the perception of users. Only customers judge quality; all other judgments are essentially irrelevant" (Zeithaml, Parasuraman, Berry 1999).

The reason of this study was to assess quality in the library and to determine the perceptions of the Vaal Triangle Campus Library users as they relate to quality service and to develop a model to improve service quality. The aim was to determine library users' minimum expectations for services, their desired level of service and then to identify the extent of service they currently perceive on three dimensions of service quality: affect of service, library as place and access to information.

A triangulation, mixed method research methodology was employed in this study. Data was collected using focus group as well as individual interviews and the LibQUAL questionnaire. Purposive sampling was used to determine participants for the interviews while a total market survey was employed for the questionnaire respondents.

Findings indicate that there is a gap between the users' expectations and perception of service quality. The results indicate that there are variations within the different user groups regarding the expectations and perceptions of service quality at the Vaal Triangle Campus library. In view of the findings, the study concluded by developing a service quality model based on Deming's PDCA cycle, the ISO model and the Hoshin Kanri process.

KEY TERMS: Quality, service quality, customer service, customers' satisfaction, perceptions, LibQUAL®, users'.

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LIST OF ABRIVIATIONS

ALA:	American Library Association
ANSI:	American National Standards Institute
ASQ:	American Society for Quality
ARL:	Association of Research Libraries
ISO:	International Organization for Standardization
NWU:	North-West University PDCA:Plan, Do, Check and Act
TQM:	Total quality management
VTC:	Vaal Triangle Campus

1 INTRODUCTION AND PROBLEM STATEMENT

The shifting focus in the role of academic libraries entail a better understanding, awareness and responsiveness to the need of the library users. The value of academic libraries in the existence of the University cannot be underestimated. The academic library supports the teaching, learning and research needs of the library users and give effect to the teaching, learning and research objectives of the parent body, the university. The academic library is an integral part of the academic landscape and contributes to a retention and throughput rate of students. Therefore the library must be user focused and have to deliver quality service that satisfies user needs. Libraries need to assess and evaluate whether their services are meeting user expectations. Libraries have to explore the different dimensions of library operations and the impact thereof on various elements of the perceived user satisfaction.

1.1 Definitions of key terms and abbreviations

This section gives concise definitions or description of terms and abbreviations used in the study.

1.1.1 American Library Association

The purpose of the American Library Association (ALA) shall be “to promote library service and librarianship” (American Library Association 2009). The stated mission is “to provide leadership for the development, promotion, and improvement of library and information services and the profession of librarianship in order to enhance learning and ensure access to information for all” (American Library Association 2009).

1.1.2 Customer service

Customer service is defined as an “organizations’s ability to consistently meet the needs and expectations of its customers” (Miao & Bassham 2007:54).

1.1.3 Customer satisfaction

Matthews (2007:82) describe customer satisfaction as: “inward and backward looking (a lagging indicator of performance). A customer’s experience with a

library and its services is directed by the formula: Customer satisfaction = Performance – Expectations”.

1.1.4 International Organization for Standardization

“International Organization for Standardization (ISO) is the world’s largest developer and publisher of International Standards” (Praxiom Research Group 2009). Standards guarantee required characteristics and features of products and services such as quality (Praxiom Research Group 2009).

1.1.5 LibQUAL +

“LibQUAL+(TM) is a suite of services that libraries use to solicit, track, understand, and act upon users’ opinions of service quality” (LibQUAL 2009) The LibQUAL+(TM) instrument is developed by the Texas A & M University research team in collaboration with the Association of Research Libraries (ARL). LibQUAL+(TM) is thoroughly tested Web-based survey that helps libraries assess and improve library services, change organizational culture, and market the library” (LibQUAL 2009). This study used the LibQUAL instrument for data collection to determine user perceptions of service quality in the Vaal Triangle Campus Library (See Chapter 2, section 2.4.2.7 and Chapter 4).

1.1.6 North-West University

The North-West University is a multi-campus institution with campuses in Mafikeng, Potchefstroom and Vanderbijlpark. The Institution pursues a decentralised management system and campuses operate as business units and a single set of policies, systems and standards govern the institution (North-West University 2009).

1.1.7 Perception

“Process by which people translate sensory impressions into a coherent and unified view of the world around them. Though necessarily based on incomplete and unverified (or unreliable) information, perception is ‘the reality’ and guides human behaviour in general” (Business Dictionary 2009). In this study perception is used to indicate the views and opinions of library users, how do the user experience library services?

1.1.8 Quality

Quality is determined by what a customer wants. Individuals have different desires and needs with unique standards and leads to a user-based definition: "quality is defined as fitness for intended use" (Evans & Lindsay 2005:13).

The American National Standards Institute (ANSI) and the American Society for Quality (ASQ) standardized official definitions of quality terminology in 1978 and defined quality as "the totality of features and characteristics of a product or service that bears on its ability to satisfy given needs" (Evans 2008:16). This customer driven definition of quality is driven by the need to contribute value to the customer and influence satisfaction of the customer and results in the popular definition: "Quality is meeting or exceeding customer's expectations" (Evans & Lindsay 2005:16). For this study quality means the degree to which the library service meets the stated or implicit needs and expectations of its users.

1.1.9 Service

Kotler (1994:464) defines service as: "any act, performance or experience that one party can offer another: one that is essentially intangible and does not result in the ownership of anything." Collier (1987:79) define service as "any primary or complementary activity that does not directly produce a physical product-that is, the non-goods part of the transaction between the buyer (customer) and the seller (provider)". Hernon and Altman (1998:50) define service as representing the sum of function and their related processes. Hernon and Altman (1998) support the view of Evans and Heft who view service in a library environment as "bibliographic, physical and intellectual access to library materials". For the purpose of this study a service in the library can be defined as all the activities rendered by the library staff to the library user.

1.1.10 Service quality

The International Organization for Standardization (ISO) defines service quality as: "The quality of something can be determined by comparing a set of inherent characteristics with a set of requirements. If those inherent characteristics meet all requirements, high or excellent quality is achieved. If those characteristics do not meet all requirements, a low or poor level of quality is achieved" (ISO 9000 2005).

1.1.11 SERVQUAL

In the early 1980's the need appeared to assess quality in the marketing discipline. Parasuraman, Berry and Zeithaml (1985) developed the SERVQUAL instrument. The motivation for the development of SERVQUAL was to ensure excellence in service delivery to customers. The initial SERVQUAL instrument consisted of 22 pairs of statements or questions that measured customer expectations and perceptions of the service delivered. The SERVQUAL model is a measure of service quality that can identify the aspects of service that need performance improvements (See Chapter 2, section 2.4.2.3).

1.1.12 Users

In the library context the term users refers to the recipients of library services (Heron & Altman 1998:3). The Vaal Triangle Campus library's primary users include students currently enrolled at the NWU University, as well as faculty and staff members remunerated by the NWU.

1.1.13 Vaal Triangle Campus

The Vaal Triangle Campus library was administered as a satellite branch library of the Potchefstroom University for Higher Education before the merger in 2004. In 2004 the Vaal Triangle Campus (VTC) becomes part of a diverse multi-campus university in South Africa, the North-West University. This move formed part of the minister of education's plan to restructure the higher education landscape in South Africa by merging 36 tertiary institutions into 21 institutions.

1.2 Background of the study and key concepts

The academic library is not an independent institution, but belongs to a parent organization and therefore has to play a role in the educational process of the organization in supporting the mission of teaching, learning and research. For the academic library to be able to add value, the library service must be efficient and effective. Libraries have to be organized and managed properly, this implies better decision making (Lakos 1998). For academic libraries to be successful in the information and educational environment they need to become more user-focused in delivering their services. In order to do that, libraries have to take the

responsibility to incorporate a culture of assessment, to make decisions based on facts and analysis.

Hernon and Altman (1998:9) posed the question, "Why assess quality?" Both Miao (2007:4) and Matthews (2007:61) state that libraries traditionally gathered and reported statistics about their collections, funds and staff, they assessed quality of a library by the size of its collection and size of the library. These statistics lack relevance because they do not measure the library's performance in terms of elements important to the user and their needs and demands and the type of service delivered (Nejati & Nejati 2008:571). Both Matthews (2007:61) and Nitecki (1996:181) state that measuring of library quality based solely on collections has become obsolete. Alternatively librarians can adopt a culture of assessment to base decisions on facts and research analysis. Ways to investigate and analyze user needs and to respond to the needs become vital to deliver a quality service in the ever demanding environment.

Service is a key for success, and many experts agree that the most powerful competitive trend currently shaping marketing and business strategy is rendering a quality service (Abdullah 2005:305). Service quality has emerged as a vital strategic issue in the management of an organization. Service quality is a strategic necessity and an essential strategy for success that influences the organization. Service quality can improve the process of work, increase productivity and satisfy the library user. The Library profession is a service profession and service delivery is among the core values of librarianship. In other words, "we provide the highest level of service to all library users through appropriate and usefully organized resources; equitable service policies; equitable access; and accurate, unbiased, and courteous responses to all requests" (American Library Association 2009).

Service quality is considered as a vital element in management strategies in order to succeed and to survive in competitive environments (Parasuraman, Zeithaml & Berry 1985). Attention to customers and the service they want and also the service that they receive gained prominence with the marketing research of Parasuraman, Zeithaml and Berry (1985). They identified elements that are of importance to customers and developed SERVQUAL that measure elements such as reliability, assurance, tangibles, empathy and responsiveness. The work of Parasuraman,

Zeithaml and Berry has been adopted and adapted to examine service quality in various environments. Service is a concept that is fundamental to libraries. The LibQAUL+™ survey evolved from a conceptual model based on the SERVQUAL instrument. LibQAUL+™ is intended to provide a measure of the value of library service quality and measures library user's perceptions of the service (LibQUAL 2009).

The International Organization for Standardization (ISO) defines service quality as: "The quality of something can be determined by comparing a set of inherent characteristics with a set of requirements. If those inherent characteristics meet all requirements, high or excellent quality is achieved. If those characteristics do not meet all requirements, a low or poor level of quality is achieved" (ISO 9000 2005). This definition states quality as a relative concept linking quality to requirements. For that reason the quality of something cannot be established in a vacuum. Quality is always relative to a set of requirements. Another definition assumes that quality is determined by what a customer wants. Individuals have different desires and needs with unique standards and leads to a user-based definition: "quality is defined as fitness for intended use" (Evans & Lindsay 2005:13). Evans (2008:16) mentions that the American National Standards Institute (ANSI) and the American Society for Quality (ASQ) standardized official definitions of quality terminology in 1978 and defined quality as " the totality of features and characteristics of a product or service that bears on its ability to satisfy given needs" (Evans & Lindsay 2005:16). This customer driven definition of quality is driven by the need to contribute value to the customer and influence satisfaction of the customer and results in the popular definition: "Quality is meeting or exceeding customer's expectations" (Evans & Lindsay 2005:16).

With reference to the above definitions quality is defined in terms of service provided, as meeting the customer's requirements. Quality can be seen as relating to the fitness of a service or product to its intended purpose or use, and focus on the expectations of the customer or user. Quality must correspond with the customer's requirements and needs. Service quality is the result of overall excellence of service provided in relation to the quality that the customer expected.

The library user, that is, the customer is the focus point of the library service. Therefore it is important to analyze and examine the needs of the library user and include high standards of customer service and to express accountability. "Only customers judge quality: all other judgments are essentially irrelevant" (Zeithaml, Parasuraman & Berry 1990:16). Customer service is defined as an "organizations ability to consistently meet the needs and expectations of its customers" (Miao 2007:54). Providing outstanding customer service assumes that every effort is done to satisfy the customers' requests. The service that the library gives is access to books and information as well as the advice and assistance the library staff provide to the users (Gupta & Jambhekar 2002a:25). Matthews (2007:82) describe customer satisfaction as: "inward and backward looking (a lagging indicator of performance). A customers experience with a library and its services is directed by the formula: Customer satisfaction = Performance – Expectations".

The students and academic staff on the Vaal Triangle Campus of the North-West University (NWU) have never participated in a large scale assessment and there are no a model in place to constantly improve the service quality in the Vaal Triangle Campus library. For the VTC Library to succeed in the higher education and information environment and to become a beacon on the campus the library must ensure continuous improvement in an ever changing environment. The library needs to become more user-focused in delivering service to the students, researchers and academic staff of the campus. The culture of assessment and willingness to make decisions based on analysis and findings from survey studies will help the library in their strategic planning. Facts will help the Vaal Triangle Campus library to support their services on the expressed needs and requirements of their users and therefore ensure the delivery of a high quality service and to build customer loyalty. The Vaal Triangle Campus Library needs to use a tool for evaluating service quality in order to appropriately assess service quality. It is necessary to use a reliable and valid instrument to determine and measure service quality at Vaal Triangle Campus Library. Results from the survey could help the library to review procedures and policies and adjust if necessary to improve the customer service. The VTC Library will be in the position to make good decisions based on facts and research.

The North-West University: Vaal Triangle Campus became a diverse campus university in 2004 after the Minister of Education announced the restructuring of the higher education sector. The Sebokeng Campus of Vista University was incorporated into the Vaal Triangle Campus. The North-West University consists of the following campuses: Potchefstroom Campus, Mafikeng Campus and the Vaal Triangle Campus. On each of these three campuses is a campus library. The building of the Vaal Triangle Campus library has been expanded during the last two years. The Vaal Triangle Campus is the smallest of the three campuses with 3 013 students in 2008: 2 736 undergraduate students and 277 post-graduate students. The Vaal Triangle Campus library was administered as a satellite branch library of the Potchefstroom University for Higher Education before the merging in 2004. In this study the library users will be studied in terms of their needs, expectations, experiences and perceptions of the library.

1.3 Problem statement

Library service quality is not fully understood from the user perspective. In order to deliver an accountable quality service library management must be able to evaluate the level of service delivery from a user perspective for strategic planning to allocate resources and plan for services and user needs. Library management must be able to evaluate library service from a user perspective in order to plan. To evaluate library service quality it is important to understand the elements of service quality and the interaction of the elements in the university library context from the user perspective.

Academic libraries face pressure to demonstrate impact. In the campus milieu, "every unit is valued in proportion to its contribution to the quality success of the campus" (Nitecki 1996:181). Academic libraries have the responsibility of providing a quality service to the library users. A service that include providing assistance to users and access to scholarly literature and knowledge for the active promotion and support of learning, teaching and research. The question is: are there ways to analyze the needs of library users and ways to respond proactively to the service quality issues of the users of the academic library. Library management must have methods and instruments to assess and evaluate performance and service to determine best practices. Library management have become dissatisfied with

traditional methods of measurement as Nitecki (1996:181) state that measuring of library quality based solely on collections has become obsolete.

To assess service quality in the academic library it is important to determine what create service quality in the mind of the library user. The customer or user is the most important voice in the assessment of service quality. Therefore it is important to examine and determine what service quality include from the user perspective.

1.4 Purpose of the study

The aim of this study was to determine the perceptions of the Vaal Triangle Campus Library users as they relate to quality service and to determine the importance of service quality aspects according to library users Service quality is measured on important service dimensions for example: affect of service; library as a place; personal control and access to information. The study also investigated how far the library has succeeded in delivering quality service to its users since service quality in the library has not been assessed.

A survey that requests the client to assess the quality and utility of the Vaal Triangle Campus Library service affords the library an opportunity to learn what matters to the clients and then to develop a model for theVTC library to improve service delivery, and to play a significant role in students and researchers learning and research productivity. The libraries role is to support the teaching, learning and research mission of the University and increase the effectiveness of educational provision. The institution's mission serves as the basis for assessment efforts of the institutional programme and courses as well as the support services provided by the institution (Matthews 2007:12).

The general objective of the NWU library services is to "be active partners in quality research and learner-centred education at the North-West University by managing, facilitating and interactively providing scientific information" (North-West University 2007:2).

To achieve the above purpose, the following objectives will guide the study:

- To analyze theoretical models that could be used in the understanding of service quality in the library.
- To determine the existing levels of service quality and user expectations.
- To develop a service quality model that meets the user's expectations and that will improve the levels of service quality for the Vaal Triangle Campus Library.

1.5 Research questions

The key question that needs to be answered for consideration of the main topic is:

“Can an appropriate model be developed to improve service quality in an academic library?”

Specific questions that need to be answered:

Question 1

What is the image the current library users have of the VTC library?

Question 2

What are the dimensions that determine the customer's evaluation of service quality in the VTC library?

Question3

How do the VTC Campus library users experience the current service of the library?

Question 4

What are the expectations of the VTC library users?

Question 5

Do the library users' expectations differ from the services of the library?

Question 6

Working with individuals or groups of users, which attributes of service quality equal, exceed or fall short of the user perceptions?

Question 7

What needs of the library customers are not addressed currently?

Question 8

What are the most essential attributes that library managers should allocate resources to, for support of, and to improve excellence in service quality?

1.6 Justification of the study

The university libraries role is to support the teaching, learning and research mission of the parent institution and to increase the effectiveness of educational provision. The institution's mission serves as the basis for assessment efforts at the institutional program and courses as well as the support services provided by the institution (Matthews 2007:12). The Academic library is in the challenging position to demonstrate impact in the campus milieu. It is important for library management to demonstrate accountability and to evaluate the library service that is delivered to library users from the perspective of the user for strategic planning.

A better understanding of user perceptions and expectations may be seen as an opportunity to adjust the library service to improve the service and meet the user's needs. According to Teare *et al.*(1999) it is important for the company in this case the VTC Library to:

- Understand the requirements of the customer (user).
- Understand the internal processes which enable the company (library) to meet these requirements.
- Develop a system and culture which ensures that errors are eliminated.

Service is a basis for success, and many experts agree that the most powerful competitive trend presently shaping marketing and business strategy is rendering

a quality service (Abdullah 2005:305). Service quality has emerged as a key strategic concern in the management of organizations. Library staff must be able to evaluate and assess how well service is provided from a user perspective to plan for services and to allocate resources. To evaluate service it is crucial to understand the elements of service quality and the role it plays in the context of the academic library users.

Measuring library service quality using the LibQUAL +™ survey allows the library staff to identify strengths and weaknesses across the dimensions of library service quality and to act on the information obtained.

The Gaps Model of Service Quality describes five gaps that cause disconnects in service quality (Parasuraman, Zeithaml, Berry 1985:46). Libraries emphasize a user driven perspective hence the study will mainly be focused on the fifth gap: "The quality that a consumer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service" (Parasuraman, Zeithaml & Berry 1985:46).

The assessment of library service and to make decisions based on analysis and findings from survey studies will help the library in their strategic planning. Facts will help the Vaal Triangle Campus library to support their services on the expressed needs and requirements of their users and therefore ensure the delivery of a high quality service and to build customer loyalty.

1.7 Research methodology

Social research is mostly done to explore and describe a specific topic or subject area (Babbie 2001:91). A flowchart of the research process is presented in figure 1(see appendix A). The purpose of this study was to explore the main concepts of service quality, to determine the perceptions of the VTC library users and to develop an appropriate model to improve service quality in an academic library.

This study is based on the mixed method approach to measure and identify the VTC Library service quality. A Mixed method procedure make use of aspects of both quantitative and qualitative procedures. Creswell (2003) define mixed method research as: "a procedure for collecting, analyzing and "mixing" both quantitative and qualitative data at some stage of the research process within a single study to

understand a research problem more completely.” This study triangulated research methods. Triangulation is the combination or mixing of diverse methods, study groups and various perspectives in dealing with the phenomenon, used to illustrate and support the relation between quantitative and qualitative research (Flick 2009: 444).

1.7.1 Quantitative Research

In order to meet the objectives of the study information was gathered via questionnaires which consisted of structured questions. The questionnaire was posted on the VTC Library Webpage and respondents answered electronically on the webpage.

The LibQUAL +™ instrument was used to measure service quality in the Vaal Triangle Campus Library. The questionnaire was used in order to collect the required data for analyzing service quality in the Vaal Triangle Campus Library.

1.7.2 Qualitative Research

Focus group interviews with VTC Library users were conducted to learn about individual perspectives on the topic. Structured and also open-ended questions were used to obtain views and opinions from the participants.

1.8 Development of a Service Quality Model

Traditionally libraries tend to be judged by their facilities and their collections (Miao 2007:54). A quality plan or model in the library may help to plan all the tasks needed to ensure that projects meets the needs of the library users. Customer service must continuously be reinforced and employees motivated to make every effort to deliver better service. In order to better the service to the customers potential areas must be identified and the library should work on those areas to improve the service (Miao 2007: 58).

The implementation model will be based on

- The ISO Quality Management System’s tools model (Quality Policy, Statistical indicators, Nonconformity correction, Customer Satisfaction Survey, Procedures); and

- Deming's PDCA (Plan, Do, Check and Act) cycle with Hoshin Kanri as the main cycle.

1.9 Limitations

Older post-graduate students and teachers that are furthering their qualifications in Education and the students enrolled for the Advanced Certificate in Education are not all acquainted with the internet and not fully computer literate. Copies of the survey questionnaire will be handed out to these students. All paper surveys collected must be manually entered into the online survey form. To assure the respondents of confidentiality a drop box will be available to deposit paper surveys.

1.10 Structure of dissertation: chapter division

Chapter One will introduce and define important key terms that inform the study. Following that will be the research problem, the purpose and research objectives. This chapter will also discuss the importance of the study. Finally, the limitations and structure of the study will be indicated.

Chapter Two will review the literature. Existing quality theories and models will be evaluated. Service quality assessment in academic libraries as well as literature relating to user perceptions and expectations will be reviewed.

Chapter Three will discuss the research design and methodology, data collection instruments and procedures. A triangulation, mixed method, research design approach will be followed for the study. Data analysis procedures, the validity and reliability of the instrument will be discussed.

Chapter Four will present the research findings from the LibQUAL +™ questionnaire and the interviews.

Chapter Five will discuss the research findings.

Chapter Six will draw a conclusion and develop a service quality model for the Vaal Triangle Campus Library and make recommendations.

1.11 Summary

This introductory chapter gave an orientation to the study. The definitions of key terms and abbreviations used in this study were provided. The research problem, a brief outline of the research aims and the research methodology were indicated. The development of a service quality model to improve service at the VTC library was indicated. The limitation, structure and chapter divisions were also indicated.

2 LITERATURE REVIEW

A study of the literature provides an evaluation of the work that researchers have done on a specific topic and provides an integrated overview of the field of research (Taylor 2006). The concept of service quality will be discussed in this chapter. Relevant studies and models used in service quality assessment and the findings of these studies are also discussed.

2.1 The concept of quality in the academic library

Quality is the basic attitude and prerequisite of the library profession. A quality service is one that fully meets the expectations and requirements of the users (Ashok 2007:234). Libraries strive to deliver the highest quality of service and to improve their service in order to survive. In the fast-changing information environment libraries have to ensure that the service they provide is relevant and has an impact for the users and stakeholders. From the literature study it is clear that there has been some development in defining the service quality concept in academic libraries and the assessment of library service quality (Matthews 2007; Ashok 2007; Cronin & Taylor 1992; Herson & Altman 1998). To deliver effective and high quality service it is necessary to assess performance from the library user's point of view (Lakos & Phipps 2004:345). In recent years one can observe an increasing interest in, and different approaches to quality in libraries and information services, especially in the management area (Brophy 2004). Griffith (2003:504) justifies the need for library assessment to support planning, communication of services performed, decision making and resource allocation. The application of quality management in libraries should create a culture of never-ending improvement of quality of products and services. The study of Einasto (2008:12) refers to the use of service quality monitoring as the basis for service development in academic libraries. Management could employ information gathered in the strategic planning processes of the library. Matthews (2007:2) mentions that this development has been the result of the changing emphasis of assessment from input and output to outcomes and the impact of the libraries. It is essential that management skills match the growing demands and threats to library and information services. Academic libraries have to challenge two important threats, the global digital environment and the increasing competition.

Cullen (2001) states the importance of libraries improving the quality of their service in order to survive.

By tradition, the quality of a library has been described in terms of its collection and measured by the size of the library holdings and the statistics of its use. This traditional method no longer satisfies the goals for successfully measuring the user's demands for information and has become obsolete (Nitecki 1996:181). The time has come to evaluate the quality and significance of library service using additional methods and standards. Poll (2003) mentions that new measures are needed to assess not only the input, output and outcome of library services, but also the impact that libraries have on the academic or professional success of their users. The reason for academic library service assessment have been discussed in the literature and it is clear from research that assessment in the academic library is a necessity to provide an excellent service and to avoid errors (Crawford 2000:13; Jankowska, Hartel & Young 2006).). Assessment of quality in the academic library is the only way to keep up with user expectations or needs and to act upon feedback and to keep up with the user expectations. Pindlowa (2002) argues that the concept of quality in the academic library should, in addition to services and products, also include staff, space and facilities.

Academic library service quality assessment can be done from various perspectives that may include that of the librarians or library staff, the users of the library and the parent institution (Griffith 2003:50). Lincoln (2002) suggests that the dimensions of service quality in the library are the library as a place, affect of service and self reliance. Brophy (2004) identified ten quality attributes relevant to library and information services: performance (a library service that meets its basic purpose), features (appearance of the service that is appealing to users), reliability (including the availability of the service), conformance (service that meets the agreed standard, durability (sustainability over a period of time), currency of information, serviceability (the level of help available to users), aesthetics and image (physical library and web-based services), perceived quality (the user's view of the service), and usability (particularly relevant to electronic services). Ashok (2007:234) cites Sharma (2001) who sees a "quality library service" as satisfying the question of each and every library user accurately and comprehensively and providing appropriate information at the right time in the

required from to the right user. Library users see library quality according to their experience with the library service and effective delivery of service. On the other hand library staff rate the quality of a library by their working conditions, clear planning, straight processes, and staff development based on professional knowledge (Poll & Te Boekhorst 2007:15; Walters 2003:98). Therefore it is essential for every library to determine and measure its service quality. The ISO defines library quality as “the totality of features and characteristics of a product or service that bear on the library’s ability to satisfy the stated or implied needs” of the users (Derfert-Wolf, Gorski & Marcinek 2005). It is interesting to note that a common factor of definitions on the concept of quality focuses on user expectations and needs.

The literature study indicates the role that users’ perspectives play in assessing library services. Studies that support this methodology stress the fact that users are the best judge of service quality (Kavulya 2004). The study of Cook and Heath (2001:548) points out that before an assessment of service quality can be made, it is critical to explore what indicates service quality in the minds of the library user. A LibQUAL + project identified the dimensions of service quality and measured the gaps between expected service and perceived service. The study describes the interviews conducted with users of research libraries across North America and affords information about users own behaviours and actions and their perceptions of what a library should offer. The same study also states “service marketing has identified the customer or user as the most critical voice in assessing service quality (Cook & Heath 2001:548). The study of Nejati and Nejati (2008:575) was aimed at determining the perceptions of the University of Tehran Library users as the correlate to quality service and to clarify the importance of service quality features according to library users. Thapisa and Gamini (1999:375) studied the perceptions of the users of the University of Botswana Library as they interact and relate to quality service. The aim of the study was to verify how far the library has succeeded in delivering a quality service to their users. Ashok (2007:191) undertook a similar study of Jawaharlal Nehru University library users in India.

Phipps (2001:637-638) reviewed service quality in the learning organisation and emphasizes the importance of input from trained professional staff and users’ perspectives of service quality assessment to determine the needs of future

libraries and their users. He stresses the need for cultural transformation within libraries. He acknowledges the voice of the users and the library staff, and continuous improvement of methods and processes to ensure effective and efficient service delivery and organisation.

Service quality deals with the interaction between customers and service providers. Customer opinions about the service provided, whether on service quality or satisfaction, might be measured through a passive approach with comment cards. Customers pick the card up and complete it at their discretion. An active approach to measure service quality and customer satisfaction is through a formal survey or interview in which customers are asked to identify those expectations they want the library to meet (Hernon & Nitecki 2001: 692). The SERVQUAL method was developed as a quality management instrument to measure service quality (Nitecki 1996). LibQUAL developed from SERVQUAL to measure library quality (LibQUAL 2008).

The implementation of quality service in libraries improves the image of the library and helps in public relations and marketing (Rajan & Ravi 2001). To understand service quality in the library one needs to start by understanding the essential nature and unique characteristics of library services, taking into account that library services are shifting more and more to the electronic Web environment (Einasto 2009:14). Academic libraries are faced with challenges by the digital environment, the speedy development of information technology, and the changed needs of users, which have all added to the expectations of a service organization (Rajan & Ravi 2001).

The strategic goal of an academic library as a service organization is to maintain a level of service quality that satisfies library users and by this means it ensures funding of activities and proves its worth as an investment to the funding bodies and stakeholders (Poll 2007:15). Stakeholders are all groups that have an interest in the functioning of an institution. Stakeholders of the library are the actual and potential users, library staff and the funding institutions. The university is the parent body of the academic library and as the funding institution or parent body is interested in the library's benefit to the institution and its cost effectiveness. Evans, Ward and Rugaas (2002:242) and Wallace and Van Fleet (2000) argue that accountability to the parent

institution is of importance, as is providing information that will indicate their performance to justify their existence. It is important to note that the academic library exists because of the parent body's existence and that the library supports the mission, vision and goals of the university namely, in teaching, learning and research.

2.2 Theoretical development of service quality

Kang (2006:38) cites Lehtinen and Lehtinen (1982) who define service quality in terms of physical quality, interactive quality, and corporate (image) quality. Physical quality refers to the tangible aspects of a service. Interactive quality relates to the two-way interaction between a customer and a service provider, including both automated and animated interactions. Corporate quality refers to the image attributed to a service provider by its current and potential customers (Kang 2006:38).

Kang (2006:38) refers to Lehtinen (1983) who defines service quality in terms of "process quality" and "output quality". Customers judge quality during service to determine process quality, but output quality is judged by a customer only after a service encounter. Service quality is considered as a vital element in management strategies in order to succeed and to survive in competitive environments (Parasuraman, Zeithaml & Berry 1985). Attention to customers and the measurement of service quality is important in order to manage, control and direct activities in the organization.

Hernon and Altman (1996) stress the fact that it is essential for libraries to evaluate service quality from the user's perspective. In the evaluation of library services the library user is the judge of how well a library succeeds and therefore the library strives to maximize the satisfaction of their users and to exceed the expectations of the library users.

Service quality is "the delivery of excellent or superior service relative to customer expectations" (Zeithaml & Bitner 1996:117). Fundamental to service quality is the need for repeated review of service goals and objectives in relation to customer expectations. By viewing service quality within the context of planning and implementing a service plan, libraries can identify areas for improvement that are central to their mission, goals and objectives (Hernon & Whitman 2001).

It is the liability of management to express commitment to best practices by accepting that they are responsible and accountable for service management and processes. Management need to plan for sustainable improvement in setting a service management plan and service practices. The development of successful service management processes in an organization is a crucial aspect of control and governance in an organization. Practices for planning, arranging, obtaining, implementing, delivering, supporting, examining and monitoring of performance must be determined.

The PDCA cycle represents a basic approach to continuous improvement of activities and processes. The four steps in the cycle for quality assurance consists of four steps: plan, do, check and act. The aim of PDCA is to ensure that a service management process is properly implemented, integrated and continuously improved (Dugmore & Lacy 2006). The advantage of PDCA is that organizational goals for service improvements are created and, secondly, a basis for evaluation with other providers by generating benchmarking information is created and, thirdly, a speedier and enhanced quality of service to customers is established and it creates consistency within the processes. PDCA is a valuable method for monitoring quality assurance because it evaluates conditions and methods used to provide the product or service. The goal is to guarantee that excellence is inherent in every element of the process.

The quality assurance steps within the PDCA are:

- **PLAN:** plan the implementation and delivery of service management, establish objectives and processes required to deliver the desired results.
A plan of action is developed to focus on a problem. Create corresponding control points and control measures. Re-evaluate the plan and agree on the plan.
- **DO:** to implement the service management objectives and plan, to implement the process developed.

- CHECK: to monitor, measure, and review the implemented process by testing the results against the set objectives. The actual results are compared to the expected results.
- ACT: the results achieved are evaluated and examined. Reasons for any differences between expected and actual results are identified, acknowledged and discussed. Identify corrective action.

Service quality has proven to be a difficult concept to understand (Brady & Cronin 2001). The evaluation of the delivery of service and the search for quality will remain subjective because people are unique and every person functions from within his or her own reference framework. Thus the evaluation of the library and its services will also be subjective. Service quality is intangible, heterogeneous and inseparable and elusive (Parasuraman 1985; Zhao 2002). The aim of effective service management is to deliver high levels of customer service and customer satisfaction (Dugmore & Lacy 2006:9).

According to Parasuraman, Zeithaml and Berry (1994) service quality is “a form of attitude, related to, but not equivalent to satisfaction that results from a comparison of expectations of performance. Expectations are viewed as customer’s desires or wants, that is, what they feel a service provider should offer rather than would offer.”

Quality can also be seen as relating to the fitness of a service or product to its intended purpose or use, subject to the expectations of the customer or user. Quality therefore must be in conformity with the customer’s requirements or needs. Quality of service can be a definition of the customer’s perception of what is good or bad. Therefore quality is an ongoing process where the user is a key determinant (Thapisa & Gamini 1999). According to the ISO Standard 11620 Performance Indicators for Libraries, quality means “totality of features and characteristics of a product or services that bear on the library’s ability to satisfy stated or implied needs”. For this reason quality assessment depends not only on the product or service as it is but also on a person or institution involved in the assessment process (ISO 11620 1998).

Definitions from quality gurus such as Deming (1982), Crosby (2006) and Juran (1989) indicate that there are two levels in the concept quality. Level one where quality means “conformance to specifications” and the second level where quality means “satisfying the customer” (Hoyer & Hoyer 2001:54).

Shaun (2007:235) cites Oldman and Wills () who defined the concept of service quality in 1977 as the difference between library user’s expectations and the perceptions of service performance. Services were viewed from the customer’s (user’s) point of view and meeting the user’s expectations for service. Service quality in the context of the library can be defined as the difference between a user’s expectations and perceptions of service performance and the reality of the service (Sahu 2007:235).

There are various discussions on the quality concept in the literature. Crosby (2006) stated that “there are many, many definitions of quality” and Kara, Tarim and Zaim (2005) stated “there are no universal definitions”. Every quality specialist defines the term in another way, and this differs between manufacturing and service industries because of the intangible nature of the elements linked with quality. Crosby (2006) focuses more on conformance to specifications and defect avoidance (see 3.3). Juran (1989) introduces a customer focus and defines quality as fitness for use (see 3.2). Parasuraman, Zeithaml and Berry (1994) introduce customers’ expectations and perceptions into the definition of service quality (see 4.2.2). The concept of quality in the services literature focuses on perceived quality, which is defined as a consumer’s judgment about a unit’s overall excellence or pre-eminence (Zeithaml, Berry & Parasuraman 1987). This approach differs from that of objective quality, which involves an objective assessment of a thing or event. Perceived quality is a form of “attitude”, resulting from a comparison of expectations with perceptions of performance. Perceived service quality has remained an elusive concept (Brady & Cronin 2001; Parasuraman, Zeithaml & Berry 1985).

2.3 Traditional quality management approaches

The concept of quality and the application thereof in organizations management is traced back to the work done by Deming and Juran during the nineteen fifties in

Japan to assist and support in the process of industrial reconstruction and reform after World War II (Ghobadian & Speller 1994:54).

2.3.1 W. Edwards Deming

Deming's definition of quality is that of "satisfying the customer, not merely to meet his expectations, but to exceed them" (Ghobadian & Speller 1994). Deming focuses on the customer's needs and for him quality is anything that the customer needs or wants to add value. Customer's needs are always changing and their needs should be anticipated to stay ahead of the customers.

Deming is associated with statistical process control and problem-solving methods which measure performance at all levels in the organization (Ghobadian & Speller 1994:55). The method to improve quality is to control and manage systems. Deming makes it clear that top management is responsible to lead quality in changing processes and systems and to provide standards for what is considered as acceptable work, and also to provide the required tools to achieve the work. Deming supports employee participation and sets it out in 14 points for managers (Deming 1982; Oakland 1995:444).

1. Create constancy of purpose for improvement of product, service and innovation. An organizational vision and long-term perspective must guide the corporate culture and provide a focus to the organization. Measure commitment and benchmark how the organization is doing.
2. Adopt the new philosophy or viewpoint and adopt and agree to a management style which supports continuous improvement.
3. Stop being dependent upon inspection to achieve quality and focus on process and how to improve the process.
4. Minimize total cost by working with fewer suppliers.
5. Improve constantly and forever every system and process, seek constantly for problems in all the processes.
6. Introduce training on the job to utilize human capital to the best. Training applies to all levels of the organization.

7. Adopt and institute leadership and contemporary methods of supervision. Leadership derives from knowledge, expertise and interpersonal skills, not authority.
8. Drive out fear to allow employees to work more effectively and efficiently.
9. Teamwork - break down barriers between staff and different departments to work as a team.
10. Eliminate numerical goals for the work force, remove slogans, exhortations and targets for the work force and set reasonable and realistic requests for employees.
11. Eliminate work standards and numerical quotas and focus on quality and support the workers.
12. Remove barriers that rob people of pride of workmanship for example poor tools and lack of support.
13. Institute a vigorous training program of education and self improvement for the workforce.
14. Create and invest in a top management structure to drive every day on the 13 points to move forward. Top management is responsible for quality.

2.3.2 Joseph. M. Juran

Juran first set out his approach in his book "Managerial Breakthrough" in 1964 and defines quality as "fitness for purpose" and is applicable to all organizations and is judged by the user (Juran 1964).

Fitness for purpose has five main dimensions or quality characteristics or features:

1. Quality of design -- the design idea, model or concept and specification of the design.
2. Quality of conformance — how does the actual product match the intended design?
3. Availability -- reliability and maintainability.
4. Safety - the possibility or risk of injury due to product hazards or threats.

5. Field use -- product conformance and condition after it has reached the customer.

2.3.2.1 The Juran Trilogy

The managerial processes of planning, control and improvement apply also to managing for quality. Managing for quality is done by quality planning, quality control and quality improvement (Juran 1989:20).

Juran (1989) identified a process for planning to meet quality goals:

1. Identify and classify the customers.
2. Determine and confirm the customers' needs.
3. Develop product types which can meet the customers' needs.
4. Develop processes which are capable of producing the product types or features under working conditions.
5. Hand the process over to the operational forces.

Juran (1989) is of the opinion that quality planning should involve those people who will be impacted by the plan. People involved in the plan should be trained in the use of methods and tools of quality planning.

2.3.2.2 Juran's methodology for quality control

The reason for quality control is to guarantee that the process is running effectively.

1. Evaluate actual, true quality performance.
2. Compare actual performance with the quality goals.
3. Take action on the difference.

Juran supports delegating control to the lowest level and positions, through putting workers into a state of self-control. He also support the idea of training workers in the collection of data and analysis to enable them to take decisions based on facts

Quality improvement is the process of raising performance to exceptional levels ("breakthrough").

1. Establish the infrastructure needed to obtain annual quality improvement.
2. Identify the definite needs for improvement - improvement projects.
3. Establish a project team for each project with clear responsibilities.
4. Provide resources and training needed by the teams and motivate the team.

2.3.2.3 Ten steps to quality (Oakland 1995:444)

Juran promotes ten steps to quality improvement. These are as follows,

1. Create awareness of the need and opportunity for improvement. Mandate quality improvements: write it in the job description of all the staff members.
2. Set goals for improvement.
3. Organize to reach the goals (establish a quality council, identify problems, select projects, appoint teams and designate facilitators).
4. Provide training.
5. Carry out projects to solve problems.
6. Review progress regularly and report the progress.
7. Give recognition to the winning teams.
8. Communicate results.
9. Keep score.
10. Maintain momentum by making annual improvement part of the regular systems and processes of the company.

2.3.3 Philip B Crosby

Crosby defines quality as "conformance to requirements" a supply-led definition, therefore making *quality* tangible, manageable and measurable. The requirements of a product must be defined and specified clearly. Crosby stated that *quality* is measured by the cost of *quality* and defines this as the 'expense of non-conformance that is the cost of doing things wrong'. His categories of *quality* costs are prevention, appraisal and failure. The aim is getting it right the first time with zero defects and the emphasis is on prevention. Crosby's statement that "*quality*

is free” is based on the judgment that *quality* improvements will lower the total costs and as a result increase profitability (Crosby 1979).

Crosby proposed a 14 step programme for quality improvement (Crosby 1979:112-119):

1. Management commitment - make it clear that management is committed to quality.
2. Quality improvement teams - form teams with representatives from different departments to improve quality.
3. Quality measurement - determine where quality problems and potential quality problems lie and how to measure these problems.
4. Cost of quality evaluation - evaluate the cost of quality and illustrate how it is used as a management tool.
5. Quality awareness increases quality awareness of employees, raises the personal concern felt by employees towards service/product conformance.
6. Corrective action - take official actions to correct the identified problems, methods to resolve problems.
7. Establish a committee for the zero defects program.
8. Train supervisors prior to implementation. Train workers in order to carry out their work in the quality improvement process.
9. Zero defects day - organize a zero defects occasion to indicate to employees that there has been a change and that zero defects are set as the performance standard.
10. Encourage employees to set improvement goals for the group as well for themselves.
11. Error cause removal encourages employees to communicate to management regarding obstacles they face in achieving the set improvement goals.
12. Recognition - recognizes and appreciates employees who participate in the program.
13. Quality councils - establish quality committees or councils to communicate.

14. Do it over again - start the process all over again to emphasize that the quality improvement program never ends.

2.4 Conceptualizations of the service quality

A study of the literature on the concepts and measurements of service quality to provide a view of service quality as conceptualized in the service chain.

2.4.1 Service Quality Measurement

In the literature there has been progress as to how service quality perceptions should be measured (Cronin & Taylor 1992; Parasuraman, Zeithaml & Berry 1985 & 1994; Teas 1993) but little progress as to what should be measured. The foundation of service quality theory lies in the product quality and customer satisfaction literature. Service quality is "the delivery of excellent or superior service relative to customer expectations" (Zeithaml & Bitner 1996: 117).

Although there is general agreement that service quality has many dimensions (Grönroos 1982; Parasuraman, Zeithaml & Berry 1985), there is no consensus on the exact nature and content of these dimensions (Brady & Cronin 2001). Conceptualizing service quality in the service sector is difficult and has been considered to date as the most disputed topic in services marketing literature (Brady & Cronin 2001:34). There have been attempts to determine service quality in terms of theoretical models. For the purpose of this study the Perceived Service Quality Model/The Nordic Model, Disconfirmation of Expectations Model, the Three-Component Model, the SERVQUAL/Gap Analysis Model of Service Quality and the Multi-Level Model with the Hierarchical Structure of Service Quality and the LibQUAL Model will be discussed. The motivation for choosing these models and studies is to explore the methods used in evaluating and assessing service quality, to benchmark and to use the results as a guide in interpreting the results of the current study.

2.4.2 The origin and conceptualizations of the service quality theory

Early conceptualizations by Grönroos (1982) and Parasuraman, Zeithaml and Berry (1985) are based on the disconfirmation paradigm and imply that quality results from a comparison of perceived performances with expected performances and seminal conceptualization of service quality that puts the perceived service

against the expected service (Grönroos 1984:37). The two dominant schools of thought that exist are the European school of thought and the United States school of thought.

The United States school of thought identifies five service quality dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Reliability refers to the ability to perform the promised service consistently and accurately. Responsiveness is the willingness to help customers and provide prompt service. Assurance refers to the employee's knowledge and courtesy, and their ability to inspire trust and confidence. Empathy refers to giving caring and individualized attention to customers. Tangibles refer to the appearance of physical facilities, equipment and personnel. This conceptualization of service quality is measured with the SERVQUAL instrument and despite criticism it is the most popular measure of the construct to date.

The European school of thought claims that customers judge the quality of services on two broad aspects which defines two dimensions of service quality in global terms and consist of functional and technical quality known as the "Nordic" perspective (Grönroos 1982). Grönroos (1984) noted that service quality is composed of both technical and functional qualities.

2.4.2.1 Perceived Service Quality Model/ Nordic Model

Grönroos (1984) identifies functional and technical service quality dimensions in his Perceived Service Quality model/The Nordic model.

The Nordic conceptualization of service model was developed by Grönroos in 1984 and represents the service experience on the basis of functional and technical elements. The concept of technical quality refers to what the customer receives from the service. The functional quality of the service refers to the way the service is delivered as reflected through the consumer's perception of interactions that occur during the service encounter. Within this model Grönroos (1984) believes that customers compare the expected level of service and the actual service performance they receive in forming service quality perceptions. A clear distinction is drawn between the service itself and how it is delivered. Technical quality brings to light how well the core service meets the customers'

expectations and functional quality expresses the impact of the interaction process or how the service production and delivery process itself is perceived (Grönroos 1984). Technical quality expresses the outcome of the service act, or what the customer receives in the service encounter, what service is provided. Functional quality represents how the service is delivered, it defines customers' perceptions of the interactions that take place during service delivery, and how the service is provided.

The perceived service is determined primarily by the customer's evaluation of the relationship between corporate image, technical quality and functional quality.

Grönroos also stresses the significance of the gap between perceived and expected quality, as also indicated in Gap 5 of the Gaps model of Parasuraman.

Grönroos (1988:12) presents six criteria for good service quality:

1. Professionalism and skill: Customers see the service provider as knowledgeable and able to solve their problem/enquiry.
2. Attitude and behaviour: Customers perceive a friendly concern for them.
3. Access and flexibility: Customers feel they have timely and easy access to service and that the service provider is prepared to adjust to the needs of the user.
4. Reliability and trustworthiness: Customers can trust the service provider to keep to their promises.
5. Recovery: If anything goes wrong the customer knows that corrective action will be taken by the service provider.
6. Reputation and credibility: The customer believes that the brand image stands for good performance and accepted values.

2.4.2.2 Disconfirmation of expectations model

Parasuraman, Zeithaml, and Berry (1985) represent the American school of thought. The Disconfirmation of Expectations model specifies three different types of service expectations: desired service, adequate service, and predicted service. Seventeen propositions about service expectations and their antecedents are provided. Customers have some standards, or expectations in their minds after a

transaction/visit to an organization and the performance of the service is compared to this pre-visit standard (Parasuraman, Berry & Zeithaml 1993). The higher the expectations in relation to actual performance, the greater are the degree of disconfirmation and the lower the level of satisfaction to be achieved. The model also implies that if the customer's expectations for a service are relatively low, they may be satisfied with a service experience even if the performance is poor.

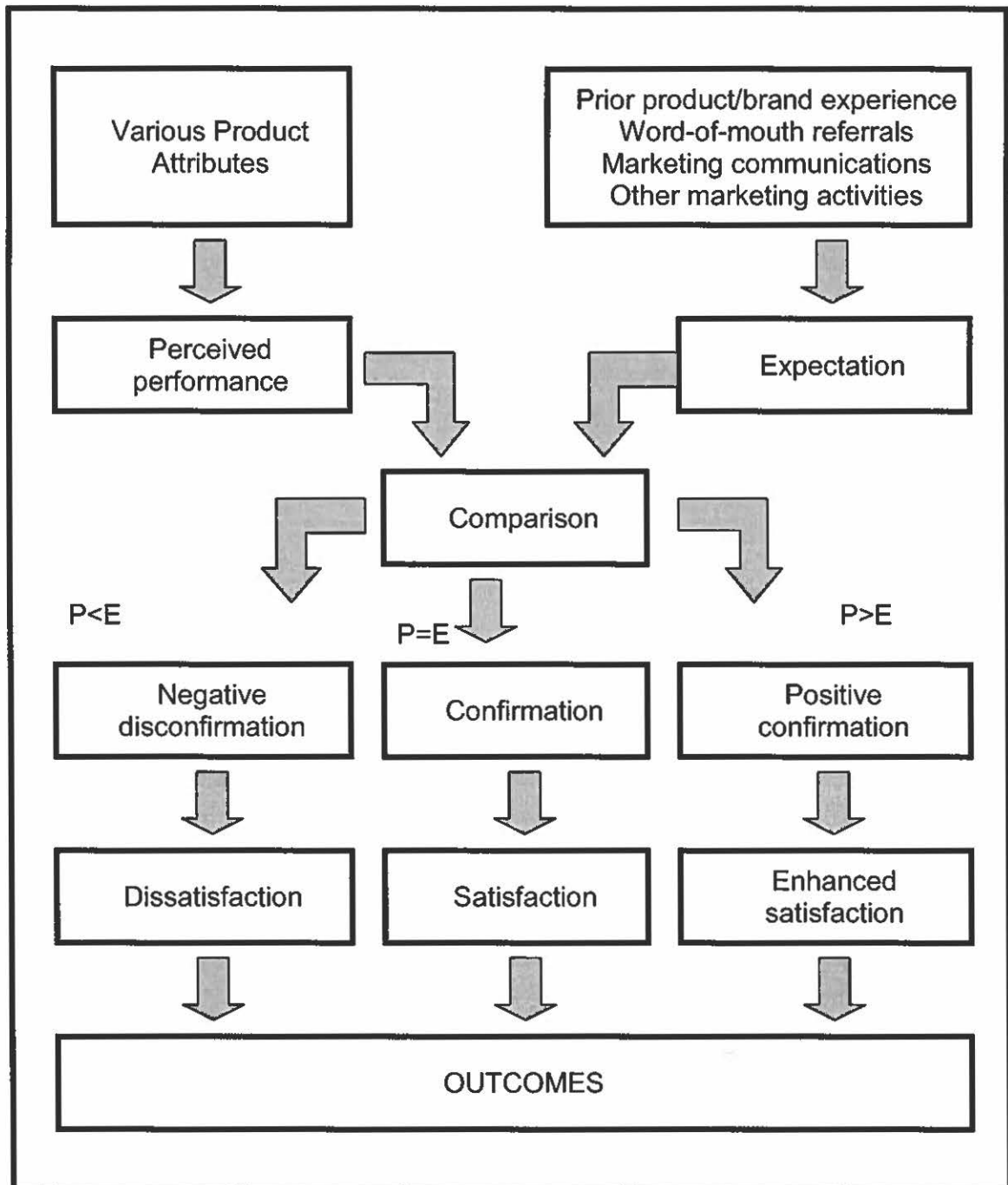


Figure1:Disconfirmation of Expectations Model (Patterson, Van Fleet & Wallace 1992)

The disconfirmation paradigm is the basis for Parasuraman, Zeithaml, and Berry's SERVQUAL model (Brady & Cronin 2001:35). SERVQUAL views service quality as the gap between the expected level of service and customer perceptions of the level received (Parasuraman, Zeithaml & Berry 1988). Grönroos (1982) suggests two dimensions of service quality and Parasuraman, Zeithaml, and Berry (1988) propose five dimensions.

2.4.2.3 The SERVQUAL/Gap analysis model of service quality

In the early 1980s the need appeared to assess quality in the marketing discipline. Parasuraman, Berry and Zeithaml (1985) did groundbreaking research and developed the SERVQUAL instrument. The motivation for the development of SERVQUAL was to ensure excellence in service delivery to customers. The initial SERVQUAL instrument consisted of 22 pairs of statements or questions that measure customer expectations and perceptions of the service delivered on the Likert scale. The SERVQUAL Model is a measure of service quality that can identify the aspects of service that need performance improvements, assessing the extent to which each aspect needs improvement and evaluating the impact the improvement affords.

According to Parasuraman, Berry and Zeithaml (1994) customer expectations are based on two levels. Desired service is the level of service the customer expects and wishes to receive, consisting of what the customer thinks should and could be provided by an excellent service organization. Adequate service is the minimal level of service the customer will expect and agree to.

Parasuraman, Berry and Zeithaml (1988) identified ten dimensions of service quality:

1. Reliability
2. Responsiveness
3. Competence
4. Creditability
5. Access
6. Courtesy

7. Security
8. Communication
9. Understanding/knowing the customer
10. Tangibles

In a later study Parasuraman, Berry and Zeithaml (1990) combined the ten dimensions into five dimensions which they claimed “capture facets of all ten originally conceptualized dimensions” (Zeithaml, Parasuraman & Berry 1990:26). Figure 2 provides an overview of the five dimensions in the SERVQUAL model. The five dimensions of service quality are:

1. **Reliability:** The ability to perform the promised service both consistently and accurately.
2. **Assurance:** Employees who have the knowledge to answer customer questions and politeness of employees as well as their ability to express and encourage trust and confidence (competence and credibility).
3. **Tangibles:** The appearance of physical facilities, equipment, personnel and communication. Modern, visually appealing equipment and facilities. Employees who have a neat professional appearance.
4. **Empathy:** The provision of caring, individualized attention to customers and good communication and understanding the needs of the customer.
5. **Responsiveness:** The enthusiasm to help customers and to provide timely service. Promptness to respond to customer’s request. Keep customers informed as to when services will be performed

Parasuraman, Berry and Zeithaml (1990) concluded that quality could be viewed as the gap between perceived service and expected service and their research resulted in the Gap Theory of service quality (Cook & Thompson 2000). SERVQUAL operationalises service quality by comparing the perceptions of received service with the expectations of the users (Abdullah 2005:306).

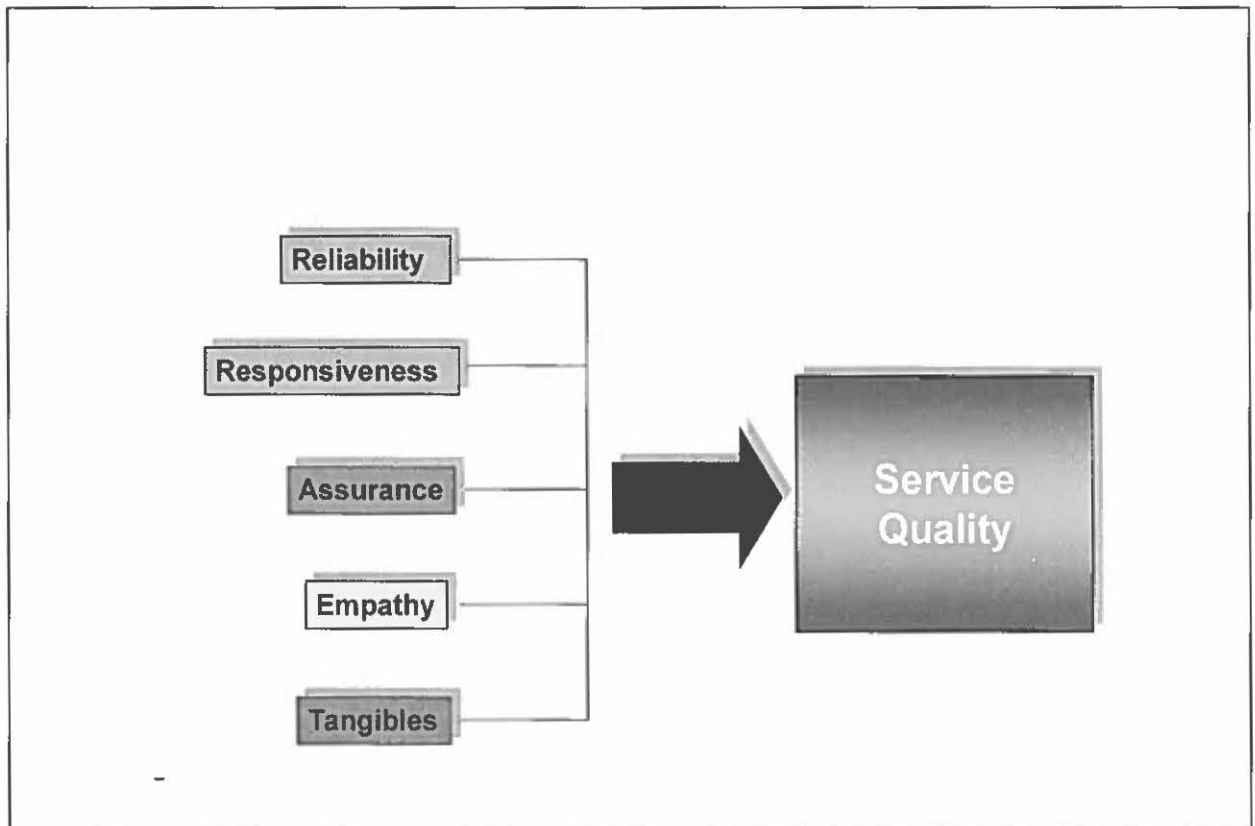


Figure 2: The SERVQUAL Model of Service Quality (Parasuraman, Zeithaml & Berry 1985; 1988)

The SERVQUAL/Gap Analysis Model of Service Quality identifies five “gaps” or discrepancies which may develop in the service supply process and may interfere with the service experience.

Figure 3 provides an overview of the five service quality gaps as identified by Zeithaml, Berry & Parasuraman (1988:37-44) in the The Gap Analysis mode

- Gap 1: Difference between consumer expectations and management perceptions of consumer expectations.
- Gap 2: Management perception - service quality specification gap
- Gap 3: Service quality specification - service delivery gap
- Gap 4: Difference between service delivery and external communications.

- Gap 5: Difference between the service quality perceived and that expected by the customer.

The first four gaps are the key contributors to the service quality gap that customers may perceive. The fifth gap is the basis of a customer-orientated definition of service quality: the discrepancy between customer's expectations for excellence and their perceptions of actual service delivered. This discrepancy is the conceptual basis for the SERVQUAL instrument (Niitecki 1996). The smaller the gap, the better the service quality.

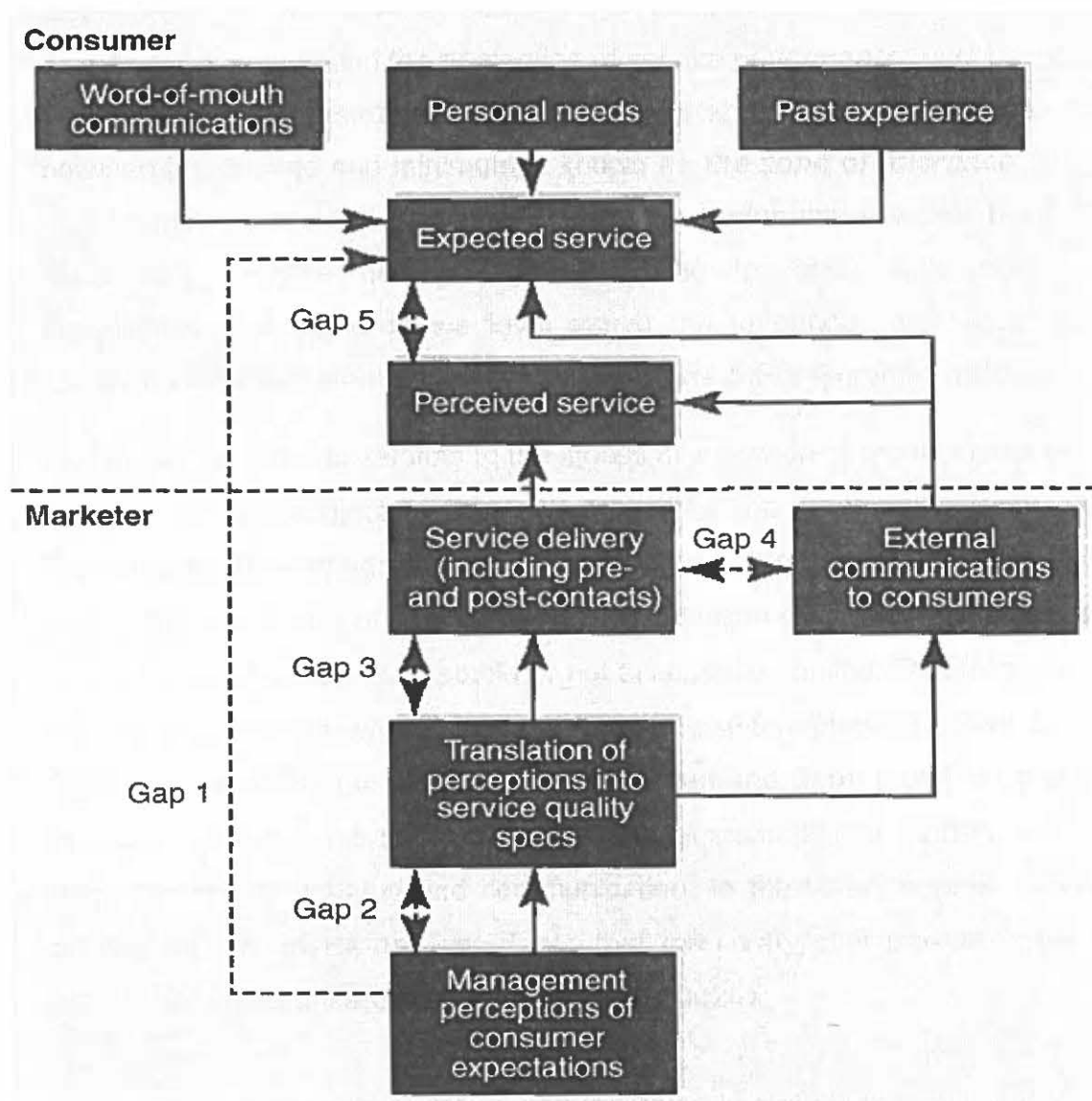


Figure 3: The Gap Analysis Model (Zeithaml, Parasuraman & Berry 1990)

Gaps are calculated between desired, perceived and minimum expectations of service. In order to determine where the gaps in service delivery are, it is necessary to conduct a study to determine what causes the gaps and determine how to address these gaps so that the users' expectations are satisfied.

The gap variation or difference between the two scores is calculated for each pair of questions. According to Parasuraman Berry & Zeithaml (1994) service is good if perceptions meet or exceed expectations and problematic if perceptions fall below expectations. SERVQUAL (Parasuraman, Berry & Zeithaml, 1994) requires respondents to rate service quality in a three-column layout. The minimum, desired expectations and the perception of service performance must be indicated. The minimum and desired service expectations appear at each end. The zone in between the desired and minimum is known as *the zone of tolerance*. The zone of tolerance exists for the range of service performance which user's judge satisfactory. Service performance below the tolerance zone could create dissatisfaction. A performance level above the tolerance zone would surprise users and therefore strengthen their loyalty (Berry & Parasuraman 1991).

Quality can be seen as relating to the fitness of a service or product to its intended purpose or use, subject to the expectations of the customer or user. Quality therefore, must be in agreement with the customer's requirements or needs. This means that the quality of a service can be a definition of the customer's perception of what is good or bad, acceptable or not acceptable service. Therefore, quality is an ongoing process where the user is a key determinant (Thapisa & Gamini 1999:374). According to Zeithaml, Parasuraman and Berry (1991) four elements must be addressed in order to exceed customer expectations, namely, assurance, responsiveness, empathy and communication. In the library context information as well as the advice and assistance that the library staff provide to the users are of vital importance (Gupta & Jambhekar 2002b).

Zeithaml, Parasuraman and Berry (1991) stated in a study that all five dimensions are important. But when respondents were asked to rank the relative importance of these dimensions, reliability appears as the most important dimension, followed by responsiveness, assurance and empathy and tangibles as the least important.

Studies that made use of SERVQUAL in libraries also discovered reliability to be the most important dimension and tangibles the least important (Hernon & Nitecki 2001). Some studies, on the other hand, questioned the applicability of SERVQUAL dimensions to library services. Library services are shifting more and more to the electronic Web environment with the speedy development of information technology. Edwards and Browne (1995) mention that dimensions should also address technological features of service and suggested that the five dimensions of SERVQUAL may not grasp for information services in a university library. Nitecki (1996) studied the relevancy of SERVQUAL dimensions to a university library service through exploratory factor analysis and tested three aspects of library service (i.e. interlibrary loan services, reference services and reserve services). Nitecki (1996) found three dimensions namely tangibles, reliability and responsiveness were combined with items of assurance and empathy.

Buttle (1996) in an evaluation of SERVQUAL, identified shortcomings, specifically the process orientation and the dimensionality of SERVQUAL. A number of researchers have argued that SERVQUAL measures only the service process dimensions (i.e. interaction quality) but not the perceived quality of the service outcome. Buttle (1996) questions the adequacy of the overall model and suggests that the dimensionality is context- specific (that is dimension importance depends on service type). Teas and De Carlo (2004) tested the effect of service quality on perceptual outcomes and found that consideration of the zone of tolerance increased the explanatory power of performance-based models that have been preferred by previous researchers (Cronin & Taylor 1992; Brady & Cronin 2001).

SERVQUAL developers argue that SERVQUAL "provides a basic skeleton or framework which can be adapted or supplemented to fit the characteristics or specific research needs of a particular organization" (Parasuraman, Berry & Zeithaml 1988:31). SERVQUAL played a core role in the evaluation of service quality in marketing research and practice. To use it in a university library environment, it is important that we take the service attributes unique to the university library system into consideration in measuring its quality. Cook and Thompson (2000) also found three dimensions to apply to library services namely tangibles, reliability or service efficiency, and affect of service (responsiveness,

assurance and empathy). Nitecki and Herson (2000) noted that there might be other dimensions for library services, such as users' preference for self-sufficiency or self-reliance. Cook and Heath (2001) mentioned that library service quality may include the following six dimensions:

1. Affect of service (empathy, responsiveness and assurance)
2. Ease of access (formats, timely access to resources, and physical location)
3. Self-reliance
4. Reliability
5. Comprehensive collections
6. Library as place (utilitarian space and symbol of the intellect).

Nagata et al., (2004) studied two universities in Japan and two universities in England and Finland. They used exploratory and confirmatory factor analysis to analyze the survey data. Satoh et al., (2005) conducted focus group interviews afterwards at these university libraries. The results of these studies conclude that the university library service quality may include the following four dimensions:

1. Effect of service which relates to the attitude of library staff to the customer;
2. Library as *ba* (place), which consists of items related to tangibles as well as those related to the environment of the library;
3. Collections and access; and
4. Effect of service (organizational), which is concerned with services planned and offered by the library as an organization.

2.4.2.4 The three-Component ModelC

Another argument involves the interest in the technical and functional quality dimensions that Grönroos (1982) identified. The Three-Component model was developed by Rust and Oliver (1994) and includes factors relating to the service product, service environment and service delivery. According to Rust and Oliver (1994) the overall perception of service quality is based on the customer's evaluation of three dimensions of the service encounter:

- The customer-employee interaction-functional or process quality (Grönroos 1982)
- The service environment (Bitner 1992)
- The outcome - technical quality (Grönroos 1982)

The service product is the customer's general perception of the service. The service delivery dimension refers to the interaction between the organisation and the customer within the service setting. The service environment is the external and internal environment as illustrated in figure 4.

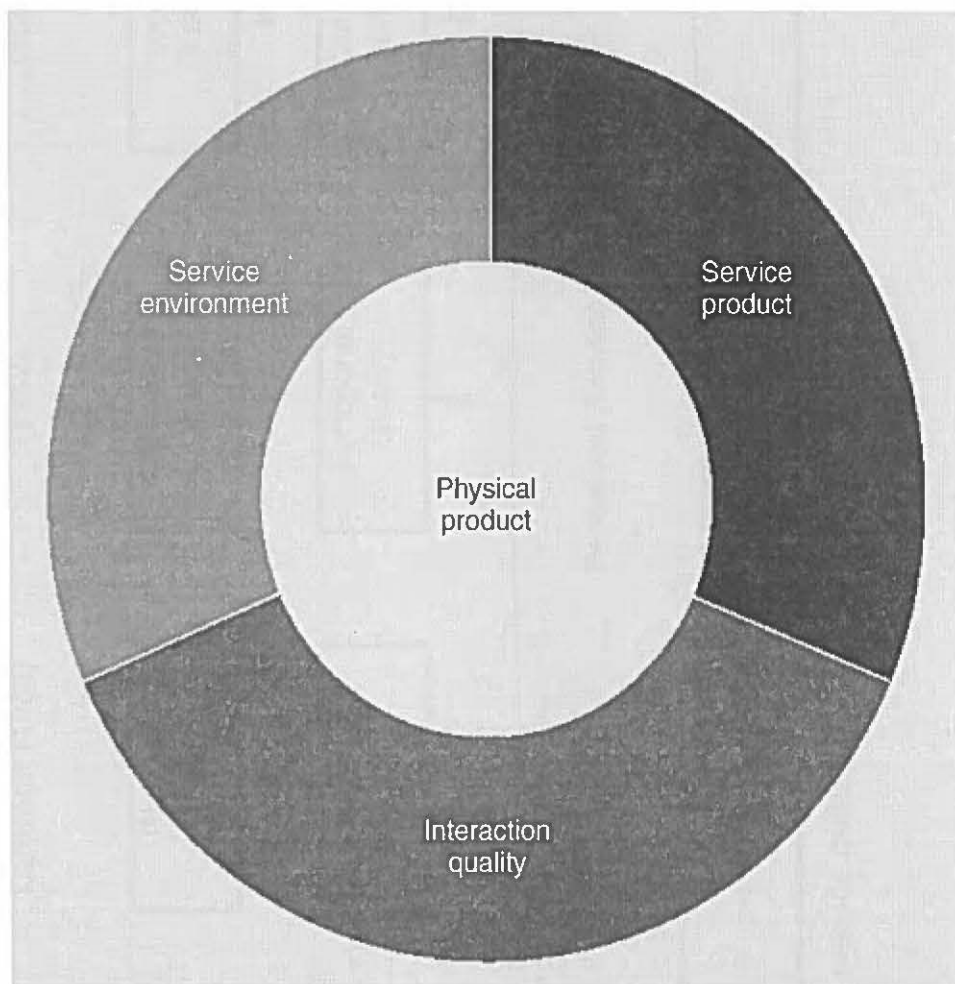


Figure 4: The Three-Component Model (Rust & Oliver 1994: 11)

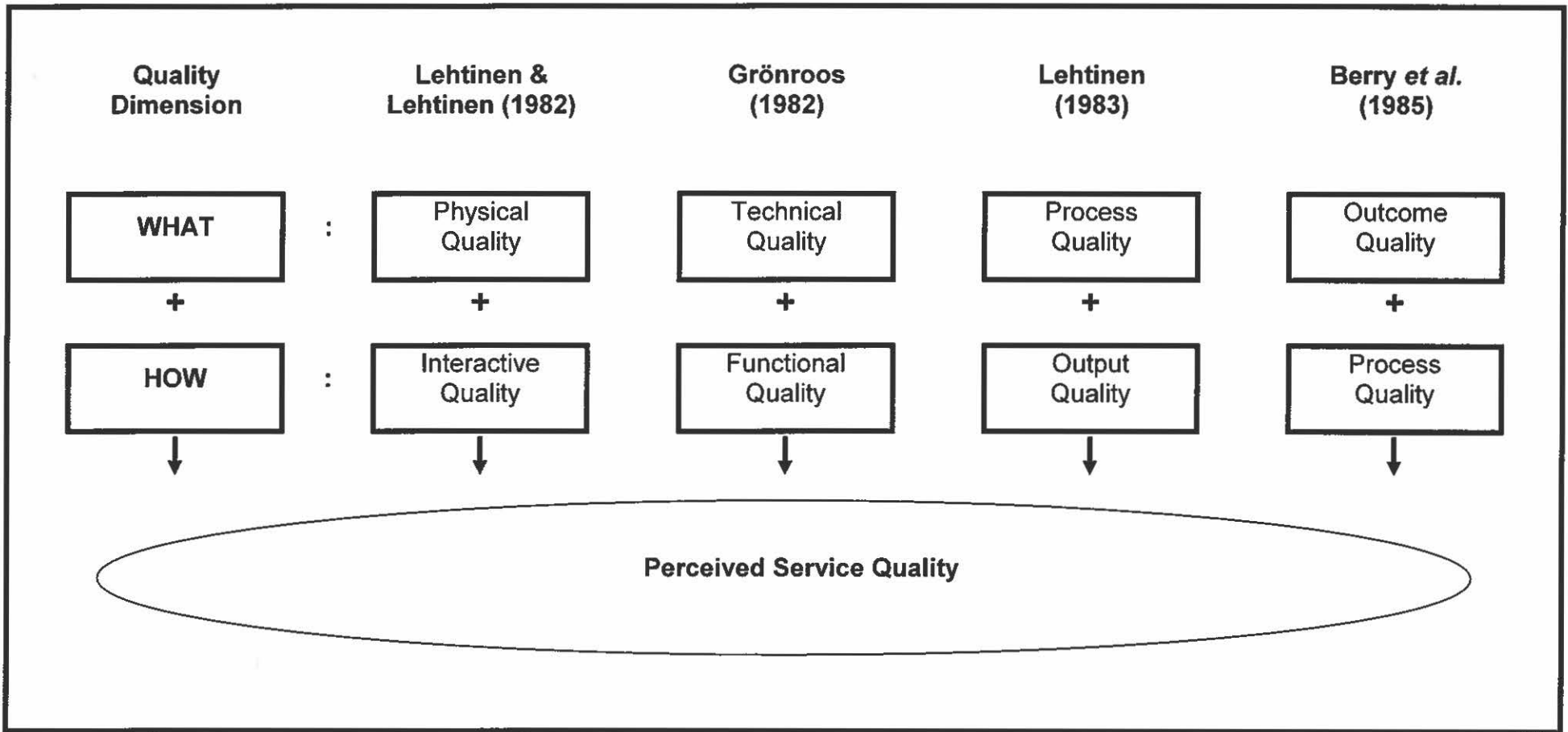


Figure 5: Dimensions of service quality (Kang 2006: 42)

2.4.2.5 Hierarchical structure of service quality as an alternative conceptualization of service quality

Developing a hierarchical model involves the identification of the dimensions of service quality (both technical and functional) and the components which add up to each dimension.

Dabholkar, Thorpe, and Rentz (1996) proposed that perceptions of service quality are multileveled and proposed a framework for service quality on the basis that service quality has a hierarchical structure and recognized a conceptualization of the retail service quality and they proposed three levels.

1. Customer's overall perception of service quality
2. Primary dimensions
3. Sub-dimensions

This multilevel model acknowledges the many aspects and dimensions of service quality perceptions and view service quality as a higher-order factor that is defined by two additional levels of attributes (Brady & Cronin 2001:36).

Service quality is defined by either or all of a customer's perception regarding:

1. an organization's technical and functional quality,
2. the service product, service delivery, and service environment, and
3. the reliability, responsiveness, empathy, assurance and tangibles associated with a service experience (Brady & Cronin 2001:36).

Under the higher order concept of "overall perception of service quality", a level of five dimensions was projected:

1. Physical aspects
2. Reliability
3. Personal interaction
4. Problem-solving
5. Policy

On the next level some dimensions are more complex and have sub-dimensions:

1. Appearance
2. Convenience

Brady and Cronin (2001) proposed a measure by integrating the various previously suggested perspectives on service quality into one model. Their hierarchical service quality model (HSQM) consists of three primary dimensions, interaction quality, outcome quality and physical environment quality. Brady and Cronin (2001:37) reposition the SERVQUAL factors as modifiers of the nine sub-dimensions as illustrated in Figure 6. The sub-dimensions provide the foundation. Every dimension has three sub-dimensions that identify the basis of service quality perceptions. For each of these sub-dimensions to contribute to improved service quality perceptions, the quality received by consumers must be perceived to be reliable, responsive, and empathetic (Brady & Cronin 2001).

Customers use their combined or collective evaluations of the sub-dimensions to form their perceptions of an organization's performance on the three primary dimensions, outcome, interaction, and environmental. The perceptions formed lead or direct to an overall service quality perception. Customers formed their perceptions of service quality on the basis of an evaluation of performance at multiple levels and then combine these evaluations to come to a general service quality perception.

Reliability, responsiveness, and empathy are the variables maintained but they are not recognized as direct determinants of service quality. These variables serve as descriptors of the nine sub-dimensions that reveal the combined set of factors customers consider when they evaluate the quality of the service interaction, environment, and outcome. For each of these sub-dimensions to contribute to improved service quality perceptions, the quality received by consumers must be perceived to be reliable, responsive, and empathetic.

The reliability, responsiveness, and empathy variables are kept in a revised model but they are not identified as direct determinants of service quality. The variables act as descriptors of the nine sub-dimensions.

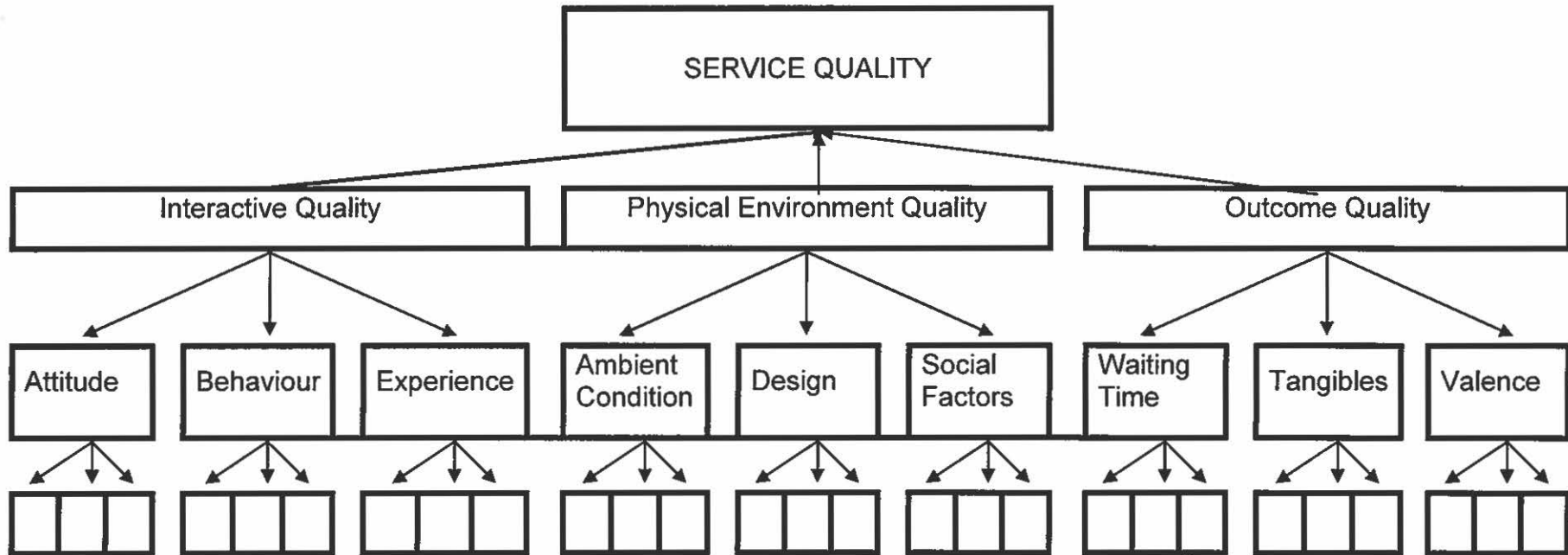
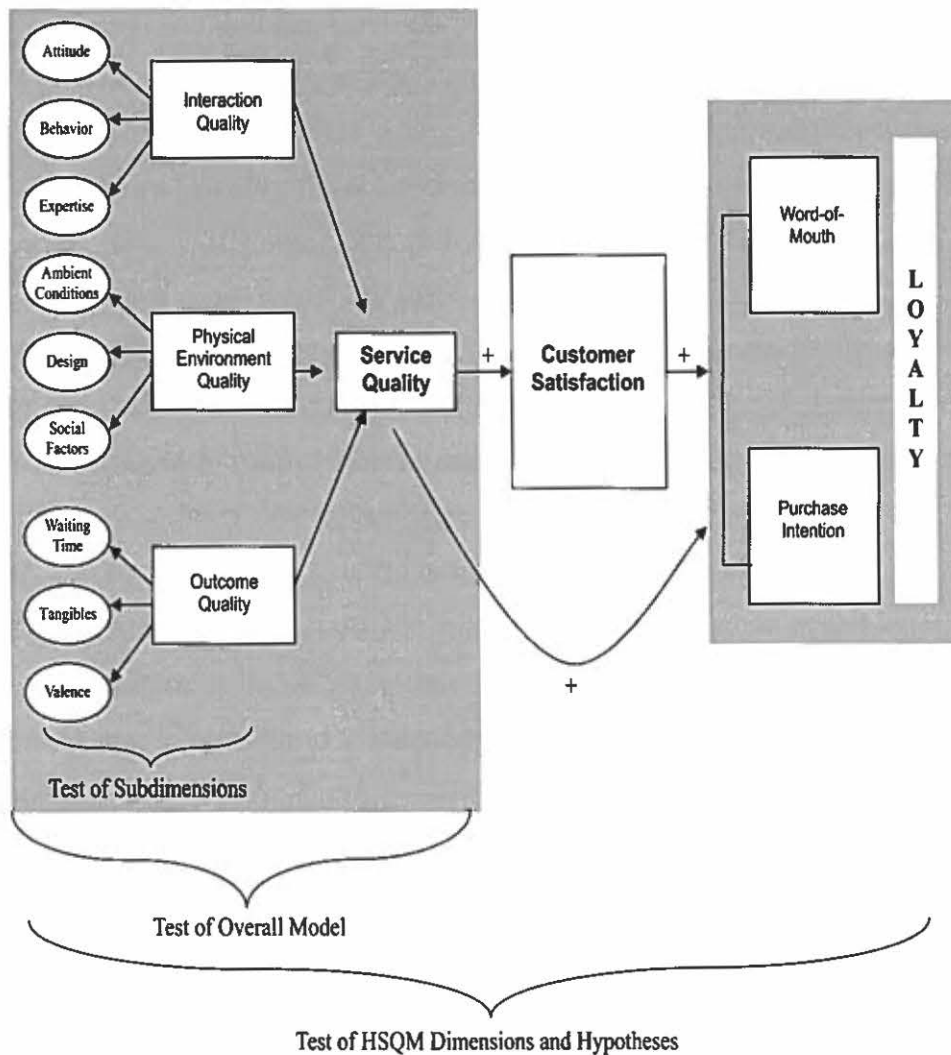


Figure 6: Research Model (Brady & Cronin 2001:37)

2.4.2.6 Hierarchical service quality model

The different constructs of service quality and their interaction are graphically depicted in figure 7 in the Hierarchical Service Quality model and its outcomes (Pollack 2009:43).



Note: The left portion of this model represents the HSQM
 Source: Advanced by Brady and Cronin (2001)

Figure 7: Hierarchical Service Quality Model (Pollack 2009:43)

2.4.2.7 LibQUAL +™

The LibQUAL+™ survey is the first service quality assessment instrument that has been tested for reliability and validity that is available to libraries for use (Thompson, Cook & Kyrillidou 2005).

The LibQUAL+™ survey developed from a conceptual model based on the SERVQUAL instrument, a tool to assess service quality in the private sector (Brophy 2005:191). In 1999 a project to develop a standardised measure of library service quality was undertaken by the Association of Research Libraries (ARL) in collaboration with Texas A and M University. Over the years libraries used modified SERVQUAL instruments. The ARL joined with TAMU to develop, test, and refine a tool to serve the specific requirements of libraries, after years of review on data collected from library users. The survey is translated into many languages and used throughout the world. Since 2000, more than 1,000 libraries have participated in LibQUAL+®. During 2007 LibQUAL+® collected data from the 1,000,000th library user from the 1,000th institution! LibQUAL+® now has been used in the United States, Canada, Australia, New Zealand, the United Kingdom, France, Ireland, the Netherlands, Switzerland, Germany, Denmark, Finland, Norway, Sweden, Egypt, the United Arab Emirates and South Africa (<http://www.libqual.org>).

LibQUAL +™ is a suite of services that libraries use to seek, understand, and act upon users' opinions of service quality. These services are offered to the library community by the Association of Research Libraries (ARL). The program's focus is a tested Web-based survey that helps libraries measure and improves their services and markets their library. The LibQual+™ questionnaire adopted the dimensions of accountability, assurance, reliability, responsiveness and tangibles from the SERVQUAL model. The dimensions of access to collections and the library as place, which focus on the library context, were added in the LibQUAL questionnaire to assess library service quality (Hiller 2001). One of the crucial matters that LibQUAL +™ attend to is

the need for a balance between the understanding of users' needs and a local understanding related to specific services or user groups.

LibQUAL +™ is a web-administered library service quality assessment protocol that has been used internationally (Snyder 2002:4). Survey participants access the survey via a URL link in an e-mail announcement. Respondents complete the survey form and their answers are sent to a central database in the USA. The data are evaluated and analyzed results are presented to you in reports revealing your users' minimum, desired, and perceived expectations of service.

The LibQUAL+™ survey has developed into a protocol consisting of 22 questions and an open-ended comments box. The 22 core survey items measure user perceptions of service quality in three dimensions:

1. Affect of Service
2. Information Control
3. Library as Place

Users indicate their minimum service level, desired service level, and perceived service performance for each item. Additional items that address information literacy outcomes, library use, and general satisfaction are also captured. An open-ended comments box offers an opportunity to comment and raise concerns and suggestions about library services. Participants also have the option to select five additional questions to add to their survey.

Roszkowski (2005:426) also measure service quality on four important dimensions, namely: affect of service, library as place, personal control and access to information. According to Heron and Whitman (2001:349) service quality focuses on the interaction between the customer (library user) and the service provider (library). Perhaps the most useful role that the LibQUAL'S desired and minimum scores can play is diagnostic and helps to put the

perceived rating into context, thereby helping the manager to prioritize interventions (Parasuraman 2002:38).

LibQUAL +™ is a procedure that is useful for planning and decision making (Kyrillidou & Hipps 2000).

The goals of LibQUAL +™ are to:

- Encourage a culture of excellence in providing library service;
- Help libraries to understand user perceptions of library service quality;
- Collect and unravel library user feedback systematically over time;
- Provide libraries with similar assessment information from peer institutions for benchmarking; identify best practices in library service; improve library staff members' logical skills for interpreting and acting on data (LibQUAL 2008) .

2.4.2.8 ISO Quality management system

ISO quality management system has proved to be a powerful instrument for improving performance and increasing user satisfaction (Sacchetti 2007:88). To determine the drivers of continuous improvement the correlation methods in Sacchetti (2007:88) may be used to prioritise the intervention on the basis of improving the overall quality of the library. This is an improvement on the approach to improve everything that needs attention, to give attention to those specific issues that may make a difference to the overall quality of the library. The users don't want to tell you their requirements all the time, the users want the service to satisfy certain minimum levels, but they will be happier if these minimum levels are exceeded. On the other end of the scale are the desired levels of service, which may be thought of as maximum levels of service desired.

The concepts of the quality management system's tools: (Sacchetti 2007: 89) are:

- Quality Policy
- Statistical indicators
- Nonconformity correction
- Customer Satisfaction Survey
- Procedures

2.4.2.9 Hoskin Kanri Management System

Hoshin Kanri is a systems approach to the management of change using a step-by-step planning, implementation, and review process. Hoshin Kanri improves the performance of business systems. "For every business system there are measures of performance and desired levels of performance. Hoshin Kanri provides a planning structure that will bring selected critical business processes up to the desired level of performance" (<http://www.mcts.com/Hoshin-Kanri.htm>).

Hoshin-Kanri is a strategic management and planning method, developed by Dr. Yoji Akao, "that uses a Shewhart cycle (Plan-Do-Check-Act) to create goals, choose control points (measurable milestones), and link daily control activities to company strategy (<http://www.qualitydigest.com/may97/html/hoshin.html>). Hoshin Kanri is in essence a process that seeks to apply the plan, do, check, act (PDCA) cycle of Quality Control to managing change and to deploy a policy.

Hoshin Kanri provides an opportunity to constantly improve performance by disseminating and deploying the vision, direction, targets, and plans to all employees so that people at all job levels can continually act on the plans, and evaluate and give feedback on results as a part of a continual improvement process. The Hoshin-style planning technique can result in fundamental improvements in organizational performance by aligning the work activities of all individuals within an organization behind its strategic goals. Involving employees in planning how their work will contribute towards achieving organizational goals increases their commitment to achieving these goals, so increasing the likelihood that these goals (and the underlying strategies reflected in these goals) will be

realized (Marsden 1998:167). The intention is that, everybody is aware and informed of management's vision, departments don't compete against each other, but work together towards the vision. Projects are seen as a set of synchronized processes.

Roberts and Tennant (2003) believe that Hoshin Kanri can be applied in any type or size of organization and describes how the quality and reliability team of the Warwick Manufacturing Group (WMG) at the University of Warwick has applied Hoshin Kanri to create an intense knowledge and understanding of customer requirements, the team vision and strategic goals. Deployment has led to success of team harmony and commitment to deliver and review the plan and has confirmed that the Hoshin Kanri technique works well in a small team within the service sector.

2.5 Summary

Assessment models brought challenges to academic libraries to not only focus on the traditional methods of quality assessment but to focus and involve the library users. "Libraries do not exist for people who work in them, but for people they serve" (Zhan & Zhang 2006).

In this chapter the service quality concept was discussed in more detail. Relevant models used in service quality assessment and related studies on service quality in the academic library context were identified. Methodologies and findings were also identified and discussed. The literature shows that there are various approaches to measure service quality and no single or right way of assessing service quality exist. Quality assessment is the responsibility of library management, thus the best combination of assessment methods should be employed to provide a useful method of assessment in their library.

3 RESEARCH METHODOLOGY

3.1 Introduction

Chapter 2 provided a theoretical basis for the empirical research of this study. Chapter 3 seeks to review the theoretical research methodology issues relevant to this study. This chapter states the aim of the research. The procedures, instruments, sampling and techniques that were followed in conducting the research are discussed. The three recognised approaches to conduct research, according to Ivankova, Creswell and Clark (2007:255) are quantitative, qualitative and mixed methods and the choice of an approach depends on the researcher's theoretical orientation and the type of knowledge the researcher is looking for.

Research is a thoroughly planned, structured action, mostly done to describe, investigate and explore a specific topic. Monette, Sullivan and DeJong (2011:3) describe social research as the "systematic examination (or re-examination) of empirical data" personally collected relating to social forces effective in a certain situation. The purpose of research is to extend knowledge and to assist in decision making (Ngulube 2005:127). According to Ngulube (2005:127) the "production of valid knowledge rests upon the method of research used". Research procedures include determining the procedures for data gathering and data analysis.

3.2 Aim of the research

The purpose for this study was to determine the perceptions of the Vaal Triangle Campus library users as they relate to quality service and to develop a quality model for service delivery in the Vaal Triangle Campus library.

3.3 Survey research design

Research design is a scheme of action for answering the research questions and systematically collecting and analysing the data. It directs the researcher to the required information needed for a chosen study, thereby making research as useful

as possible. The research design is the detailed plan or map that outlines the way in which observations will be made (Monette, Sullivan and DeJong 2011:3). The research design indicates the way in which data will be collected and analysed in a logical and systematic way. The researcher also needs to assess the design of the research to verify if ethical procedures were followed (Tharenou, Donohue & Cooper 2007:317). According to Babbie (2007:244) survey research is most likely the best method available in collecting and gathering original data, measuring attitudes and for describing a population. The researcher asks questions of participants and summarises the response with percentages and frequency counts. The purpose is to generalise from a sample to a population and to draw conclusions about a particular population from the responses of the sample (Leedy & Ormrod 2005:183-184). Surveys help create information to describe and compare information based on what the respondent experiences and expresses. According to Babbie (2007:102) and Welman, Kruger and Mitchell (2005:95) surveys are characterised as cross-sectional or longitudinal designs. A cross sectional study entails the observations of a sample or cross-section of a population that are made and, at more or less the same time, the longitudinal design allows observations of the same phenomenon over an extended period.

3.3.1 Research design for this study

The research methods in this study consist of a literature review and an empirical study. The research design of this study is based on triangulation, a mixed-method design approach. Qualitative research methods were employed to validate the results of the quantitative research. The researcher was interested in the perceptions, opinions, views and experiences of the library users with regard to the quality of library service on the Vaal Triangle Campus.

Quantitative and qualitative research differs in the way that knowledge is gathered, but both can be applied to study the same research problem. The qualitative approach searches for understanding in the individual's experiences and the

quantitative approach looks at the relationship between the variables to get a specific view of the research problem (Ivankova, Creswell & Clark 2007:259).

The quantitative approach measures phenomena using numbers in combination with statistical procedures to process data and review results (Bertram 2004:59). Quantitative methods engage the process of collecting, analysing, interpreting and writing the results of a study. Quantitative researchers use theory to provide a broad explanation and this becomes the framework for the entire study. According to Powell (1999) and Kim (1996), as cited by Ngulube (2005:130), quantitative research “includes descriptive studies, exploratory and/or explanatory studies, operation research studies, citation analysis, bibliometrics, experiments and quasi-experiments.”

Teddlie and Tashakkori (2009:6) define qualitative methods as “the techniques associated with the gathering, analysis, interpretation and presentation of narrative information.” According to Tharenou, Donohue and Cooper (2007:17) qualitative analyses provide “detail, process, richness and sensitivity to context and are suitable to use if the goal is to understand meaning and to build hypothetical explanations from participant perceptions.” Qualitative researchers use an interpretative and constructivist approach and believe that researchers individually and collectively, or in a group, construct the meaning of phenomena under investigation. According to Ngulube (2005:130) qualitative data collection methods include unstructured in-depth interviews, focus-group interviews and observation. The researcher is involved and interacts in the research situation. Qualitative data enables researchers to move beyond initial conceptions and to generate revised conceptual frameworks (Miles & Huberman 1994:10).

Creswell and Clark (2007:5) define mixed method research as “a procedure for collecting, analysing and ‘mixing’ both quantitative and qualitative data at some stage of the research process within a single study, to understand a research problem more completely.” Descriptive research provides the researcher with a clear, accurate profile of the situation or group studied through the description of

relationship and a clear picture of the population, including the background and the context in the qualitative research method (Neuman 2000).

This study triangulated research methods. Triangulation is the combination or mixing of diverse methods, study groups and various perspectives in dealing with the phenomenon, used to illustrate and support the relation between quantitative and qualitative research (Flick 2009: 444). The researcher relied on quantitative data gathered from the LibQUAL+® questionnaire and qualitative procedures. The researcher employed the mixed methods approach in this study to enhance the overall strength of the study. Creswell (2009:4) refers to Creswell, Plano and Clark (2007) who state that the mixed methods approach is more than “simply collecting and analyzing both kinds of data” because it requires the use of both quantitative and qualitative approaches with the intention that the overall strength of the study is greater than either the qualitative or quantitative research approach. Qualitative data in this study appear in the form of words and expressions of the participants, as obtained in focus group interviews and semi-structured interviews. Qualitative research methods allow researchers to follow an open and flexible research strategy to explore phenomena in their natural environment (Mouton & Marais 1990:43) and are in line with interviews with open-ended questions used in this study. The researcher was interested in the experiences, views and perceptions of the library users.

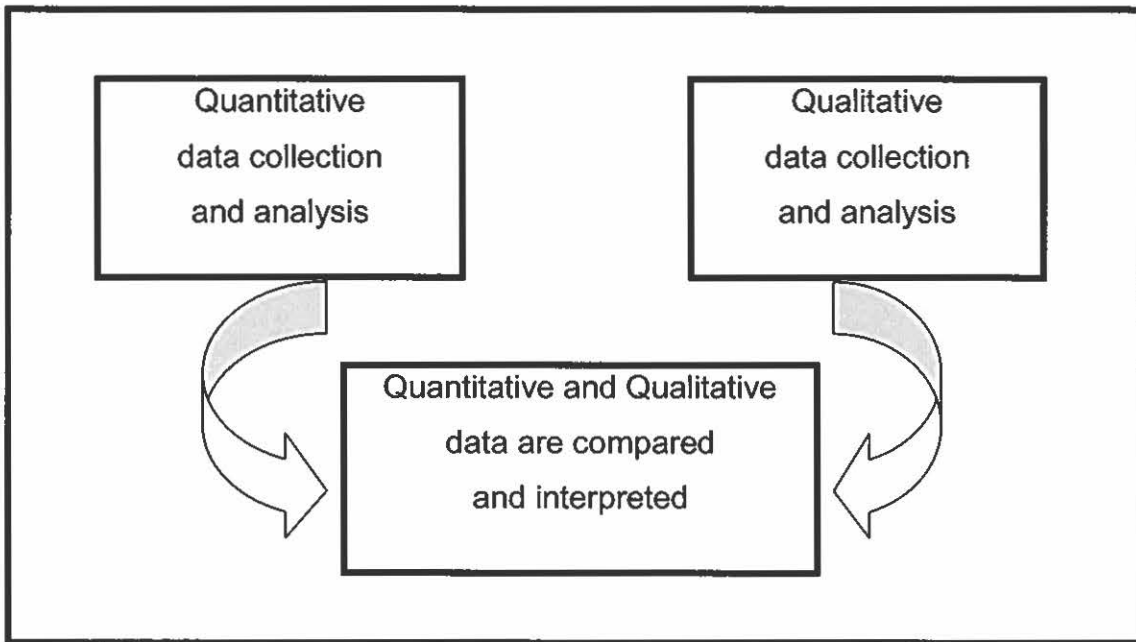


Figure 8 - Triangulation mixed methods design (Ivankova, Creswell & Clark 2007: 267)

Mixed methods helped to fit together the insights provided by qualitative and quantitative research in answering the research questions, as illustrated in Figure 8. The motivation for using triangulation research methods is that no one method is perfect. The response rate for the quantitative research methodology was low and it was necessary to validate the quantitative results and to explore the topic deeper to gain an in-depth understanding of the research problem. Greater confidence can be placed in the validity of the conclusion if different methods lead to the same answer and therefore more certainty can be placed on the validity of the findings and conclusions (Ngulube 2005:136).

3.4 Population and selection of participants for this study

The researcher has to define the population according to the survey objectives and according to Ngulube (2005:133), the population must be carefully and completely defined before the sample is collected. A researcher may study the whole population or a sample that is a subset of the population depending on the size of the population and the purpose of the study (Ngulube 2005:129).

3.4.1 Quantitative research: LibQUAL+®

The population for the LibQUAL+® study includes the post-graduate students and undergraduates of North-West University: Vaal Triangle Campus and the academic staff (see Table 1).

User Group	Size of Population	Per cent
Undergraduate	2736	89%
Post-graduate	267	9%
Academic Staff	84	3%
Total:	3091	100%

Table 1: Vaal Triangle Campus population

The LibQUAL +® study was a total market survey (Davis & Kyrillidou, 2009:32) in the LibQUAL +® questionnaire. Thomas, Kyrillidou and Cook (2006:3) refer to Berry (1995) who describes the total market survey as one of the 11 ways of listening to users with the intention of understanding user and non-user perceptions of the library to improve service quality.

3.4.2 Qualitative research: Interviews

The researcher employed individual interviews and focus group interviews in this study. The interviews were conducted to gather qualitative data and the questions were based on the LibQUAL+® dimensions. The researcher conducted focus group interviews and individual, one on one interviews after the questionnaire has been analysed to verify facts. The researcher considered focus group interviews important for this study, since participants shared issues related to the study.

A small representative sample was used for the interviews. Warren (2002:87) mentions three approaches to sampling: theoretical sampling, snowball sampling and convenience sampling. Henning, van Rensburg and Smit (2007:71) adds

purposive sampling and has elements of theoretical sampling. The researcher requires people who can help to build the theory further.

Participants were selected by the researcher using non-probability, "purposeful" sampling. The researcher selected homogenous groups that share common traits, with a specific purpose in mind (Krueger & Casey 2009: 204; Creswell & Clark 2007:112). Participants who have special knowledge or experiences that are helpful in the study, who formed homogeneous groups (i.e. with something in common that is relevant to the study) were grouped together. Participants with specific characteristics, according to user groups were selected, namely, undergraduate students, post-graduate students, academic staff (researchers and study leaders) for the interviews. Non-probability samples do not select individuals at random. Non-probabilistic samples are as suitable and valid as probability samples (University of Florida 2010:1).

3.4.3 Response rate: quantitative research

The response rate is the guide to the representativeness of the respondents (Babbie & Mouton, 2001:261). A high response rate diminishes the chance of non-response bias. Low response rates increase the likelihood of biased results. Bias implies that if the non-respondents had replied, their responses would have significantly changed the results. Creswell (2009:151) cites Fowler (2002) who describes response bias as "the effect of no responses on survey estimates". Although certain measures were taken in an attempt to determine reliability, the reliability could not be determined due to the low response rate and the non-response bias. The LibQUAL +® response rate was low as indicated in Table 2. That was despite that the respondents standing a chance to win an iPod, external hard drive, 2 USB flash drives and a bookstore cash voucher as an incentive for their participation. Consequently, this researcher decided to employ qualitative research for this study. The rationale was to use mixed methods research for triangulation purposes. The current researcher undertook the quantitative phase of this study with colleagues and went on to the qualitative phase as an individual

partly to find out whether or not that the results obtained from the quantitative phase might have been affected by the low response rate and partly to find out whether or not the triangulation of methods have the advantages that are peddled in the extant literature.

User Group	Size of Sample	Number of Respondents	Response rate
Undergraduate	2736	90	3%
Post-graduate	267	28	10%
Academic Staff	84	23	27%
Academic Support Staff	4	4	100%
Total:	3091	145	5%

Table 2: VTC user response rate

It is important to note that the researcher was responsible for quality control in the VTC Library and decided to research the library quality by means of the LibQUAL +® questionnaire. The researcher gained permission from the VTC Campus management to engage in the project and led the project. The researcher organized the registration of the NWU Vaal Triangle Campus with the ARL to run the questionnaire. Once results from the questionnaire were available the researcher decided to research the library quality in depth and registered for the current study.

3.5 Data-collection instruments and procedures

Data collection is essential and fundamental in the implementation of research design. Observation, questionnaires, interviews and indirect methods are four frequently used techniques for data collection (Kreitner & Kinicki 2001: 28). A combined methods approach, triangulation for data collection was followed. Triangulation as explained above requires the collection of data in different ways, thus the use of different research methods to test survey findings is a valuable research strategy and enhances the validity and reliability of the study (Babbie

2007:113; Babbie & Mouton 2001:275; Creswell 2009:191; Henning 2004:103; Ivankova, Creswell & Clark 2007: 267).

3.5.1 Quantitative research : LibQUAL questionnaire

A questionnaire is a method of gathering self-reported information from respondents. Participants use self-reporting to communicate their thoughts, attitudes and opinions about a topic of interest (Teddlie & Tashakkori, 2009:232). Questionnaire items may be open-ended or closed-ended. An advantage of questionnaires is that they can be mailed to respondents; however these must be followed up with reminders or emailing of the questionnaires to respondents.

LibQUAL+® methodology was used to measure service quality in the Vaal Triangle Campus Library. The most important goals of The LibQUAL+® project were to identify specific service perceptions of users and to identify best practices in providing library services. The LibQUAL+® instrument measures the gaps between minimum, perceived and desired levels of service. The LibQUAL +® survey instrument provides libraries with data and is intended to help the library to inform service quality improvements.

LibQUAL+™ was administered in 2000 for the first time. “Today, over 1,000 libraries has participated in LibQUAL+, collecting over 1,000,000 library user responses. LibQUAL+® has been implemented in libraries in over 17 countries and the project supports over 12 language translations” (LibQual 2009).

3.5.1.1 Questionnaire design and content

The instrument used to collect and analyse quantitative data was the existing LibQUAL+® questionnaire as it was designed and developed by the Texas A & M University research team in partnership with the Association of Research Libraries (ARL) (see Appendix B).

The LibQUAL+® was designed with specific questions that are important to libraries to seek, understand, and act upon users' opinions of service quality. The dimensions covered are about the *affect of service, information control, library as*

place, local questions, information literacy outcomes, general satisfaction and demographics: background information.

3.5.1.2 Sections of LibQUAL +® Questionnaire

Sections covered in the questionnaire are core questions, information literacy outcomes, questions, and general satisfaction and background information questions.

3.5.1.2.1 Core questions

Twenty-seven closed-ended questions are the core of the LibQUAL+® instrument. Twenty-two items or questions are divided into three dimensions that have been administered since 2003 (Davis & Kyrillidou 2009). The VTC library selected 5 questions related to local issues to form part of the core items. The 27 questions that cover the three dimensions - *affect of service, the library as place and information control* - and the 5 local questions are in no specific order and are intermingled in the existing ARL LibQUAL +® questionnaire (see Appendix B).

The ***service affect dimension [AS]*** relates to the perceptions of customers about library staff competency, abilities and support. The *service affect* attempts to answer the question: "How is the user treated in the library?" It is about the warmth, empathy, reliability and assurance of library staff. The service affect is measured by 9 LibQUAL +® core items (see Appendix C). The ***information control dimension [IC]*** explores the library's collection, whether the collections are sufficient to meet the needs of the users. *Information control* is about the extent of the collection and ability of users to find, use and administer information needed for their study and/or to do research, and the ability to control the information in an effective way. The information control is measured by 8 LibQUAL +® core items (see Appendix C). The ***library as place [LP]*** is the physical environment, the library as space. The *library as place* dimension is concerned with the facilities of the library: are the facilities acceptable and sufficient? The overall appearance, practical use and experience of the building and its facilities are measured by 5

LibQUAL +® core items (see Appendix C). Local questions are included in the core collection. A hundred additional items are listed and the participating library could choose up to five of these additional questions for inclusion in the survey to deal with local issues of relevance. The VTC Library selected five questions that were mixed within the 22 core questions on the survey to construct the questionnaire with 27 core questions (see Appendix C).

The respondents must rate the statements included in the core question section on a nine-point scale (1 is lowest, 9 is highest) by indicating *minimum* - the number that represents the minimum level of service that the user would find acceptable, *desired* - the number that represents the level of service that the user personally wants, and *perceived* - the number that represents the level of service that the user believes the library currently provides.

3.5.1.2.2 Information literacy

The respondents were asked to indicate the degree to which they agreed with 5 statements related to information literacy (see appendix C).

3.5.1.2.3 General satisfaction questions

The respondents were asked to indicate the degree to which they agreed with 3 statements related to general satisfaction (see appendix C).

3.5.1.2.4 Demographics: background information

The background information section requested information about the user that includes the user group, gender and usage of the library (see Appendix C).

In addition LibQUAL+® has a box for comments that become a source of qualitative data and about 40% of respondents made use of the comment box to add detail to their answers, to address problems and offer suggestions (Davis & Kyrillidou 2009:29). The comments gave real-time access to the comments provided by respondents in the comments box on the LibQUAL+® survey (Appendix D).

The survey includes a field in which respondents can enter their e-mail addresses in order to enter for a prize drawing. Incentive prizes included an iPod, external hard drive, 2 USB flash drives and a bookstore cash voucher.

3.5.2 The process

- Prior to the survey, approval was obtained from the VTC Campus Management to conduct the LibQUAL+® survey to gain a better understanding of users' expectations, desires and perceptions of the service of the VTC library. The data obtained will be used to identify the strengths and to identify areas that require improvement.
- The VTC Library ran a publicity campaign to reach the Campus community and introduce and announce the upcoming survey to assess library service quality. Posters and fliers were distributed on Campus. Pre-survey e-mail messages were sent out to announce and promote the library assessment, asking for assistance in improving library services by completing the survey (see Appendix E).
- A cover letter was drafted to accompany the questionnaire, explaining the purpose and need for participation in the survey and ensuring confidentiality (see Appendix F).
- The LibQUAL+® questionnaire was posted on the VTC Library webpage (see Appendix B). An e-mail with the link to the survey was sent to the whole population of the Campus. Respondents answered electronically on the webpage and submitted their questionnaires electronically to the ARL database.
- Survey follow-up reminders were e-mailed and participants were thanked in the event that they had already completed the questionnaire.

3.6 Qualitative Research Methods

Qualitative research is a method to investigate and realize the value that individuals or groups assign to social problems (Creswell & Clark 2009:4). The

researcher is interested in the experiences, views and perceptions of the library users, interviewees express themselves in words.

3.6.1 Qualitative research: interviews

Monette, Sullivan and DeJong (2011:182) describe the interview as a "social relationship" with the intention to exchange information between the interviewer and the interviewee. The interview is a data collection method where the interviewer asks questions to the respondent. Interviews can be used for gathering and verifying facts (Ngulube 2003:222). Research interviews assume that the viewpoints of individuals are important in the knowledge of social processes (Henning 2007:50). The aim of the interview is to collect information about a specific issue, directed by focused questions to help one to understand the topic of interest. Interviewees express their opinions and experiences on a specific topic. Interviewing is a flexible method and can produce data of more depth and it is more likely to produce a fuller representation of the perspectives of the participants in a two-way communication. Open-ended questions permit participants to determine the nature of the response and interviews provided the opportunity for follow-up questions and to explore issues in-depth. The interviewer may request further elaboration to solicit a more complete answer to a question (Babbie 2007:267). The researcher will be able to explore the needs and problems of the library users in depth.

King and Horrocks (2010:3) refer to the characteristics of the standard interview as: "flexible and open-ended in style", focus on the experiences of people and the relationship between the interviewees and interviewer is critical in interviews. Interview data bring to our attention what individuals think and feel, giving the researcher their subjective reality in a "formatted" and directed discussions (Henning, van Rensburg & Smit 2007:52). Gubrium and Holstein (2002:9) refer to this concept as "the mediation of contemporary life".

A concern with interviews is that interviewer bias or prejudice can distort the results, but it is possible to limit prejudice if the interviewer maintains consistency

throughout the interview (Gravetter & Forzano 2009:371). The researcher took ethical principles into considerations, the rights and dignity of research participants and research governance and proper management (King & Horrocks 2010:105).

Krueger and Casey (2009:70-71) offer general steps to guide the selection process which the researcher used. Firstly the characteristics of the people were identified to answer the research questions in the different group of users, academic staff (researchers and study leaders), post-graduate students and undergraduate students.

3.6.1.1 Focus group interviews

Focus groups are small, structured group interviews. Krueger and Casey (2009:2) describe a focus group interview as "...a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment". The focus group is a special group in terms of purpose, size, composition and procedures. The focus group interview is a focused discussion of a specific topic of interest and through group interaction widens the range of responses. The interviewees are similar in some way and participants have certain characteristics in common.

Four focus group interviews were conducted with each lasting between 60 to 90 minutes. Each interview was led by an interviewer or facilitator as suggested in the literature (Krueger & Casey 2009:2; Teddie & Tashakkori 2009:228;, Nieuwenhuis 2007:91). Structured and also open-ended questions were used to encourage participants to share perceptions and obtain views and opinions from the participants. Participants interact and debate with each other and the facilitator. It is the responsibility of the moderator to remain neutral and not provide personal feelings or opinions on what is being discussed. The moderator must be a good listener and observer to notice when participants want to speak, and when to ask probing questions.

The aim with the focus group interviews was to encourage self-disclosure among participants and to gain the real feelings of participants without any judgement. According to Douglass (2002) the purpose of focus groups is to develop a broad and deep understanding rather than a quantitative summary and is a highly effective method for listening to participants and taking note of issues. Focus groups can provide insight on organizational matters and issues like customer satisfaction, organizational development, planning and goal setting, needs assessment, quality movements and policymaking (Krueger & Casey 2009:10-12).

Babbie (2007:309) refers to Krueger who mentions the advantages and disadvantages of focus group interviews. The focus group interview can be a cost-effective method, since a large volume of information is gathered at once and the participants are interviewed at the same time. Participants stimulate each other to share opinions and bring more in-depth opinions into the open. It has flexibility and has high face validity. On the other hand focus groups interviews permit the researcher less control than individual interviews and data are difficult to analyse. Groups are difficult to assemble and discussions must be conducted in a constructive environment. The process followed for conducting interviews are discussed in section 3.6.2.

3.6.1.2 Semi-structured individual interviews

Semi-structured individual interviews followed the standard questions from the interview guide but allowed the researcher to ask individually personalized questions to get clarification or explanations to investigate interviewees reasoning to retrieve valuable information (Leedy & Ormrod 2009:188). Face-to-face semi-structured interviews is time consuming but have the advantage of allowing the interviewer to establish rapport with the interviewee and to gain their cooperation and support (Leedy & Ormrod 2009:188). The individual, on-on-one interview process are discussed in section 3.6.1.

Narrative information about opinions, experiences, beliefs or perceived norms from the interviews were evaluated to acquire feedback from the library users in their

own words about the strengths and weaknesses of the library. In-depth understanding of a certain topic or issue was gained as well as information to support and expand on the findings from the LibQUAL +® survey.

The researcher conducted fifteen individual, semi structured interviews, each interview last for 40 to 50 minutes. Five interviews per user group were conducted and included undergraduate students, post-graduate students and academic staff members. Individual interviews are conducted in a private setting, face-to-face with one person. The interviewer posed open-ended questions that allowed interviewees to reconstruct their experiences and perceptions of the library service. The participants were open, direct and honest. Individuals expressed themselves with confidentiality guaranteed.

3.6.2 The process followed for focus group interviews and individual, one-on-one interviews.

The interviewer needed a procedure according to which the interviews were conducted.

3.6.2.1 Protocol before the interview

- Written permission was obtained from the VTC Campus Management to conduct interviews.
- The researcher determined a time and booked a non-threatening, convenient venue, private and isolated from noise, and then sent invitations out (see Appendix G & I).
- The researcher took ethical considerations into account to protect the privacy of participants. Informed consent forms were sent to focus group participants to inform them of the nature of the project as well as noting measures to maintain confidentiality (see Appendix H).
- A interview discussion guide was constructed, the discussion guide outlines and covers the topic and issues to be discussed and provides the framework for the interviewer to ask questions and explore issues.

Questions were prior- tested to make sure that they were understood to ensure accuracy of the results. Carefully crafted questions help to keep the discussion focused to the topic. General introductory questions help participants to think about the topic.

- Transition questions that get participants to move from the introduction topic to the ideas contained in the key questions to get the information one wants to collect. The final questions provide expression and reflection. The summary question summarizes the major themes heard and asks the participants if the summary is a true reflection of the points covered.

3.6.2.2 Protocol during the interview.

- The interviewer provided the questions to the participants to focus and structure the discussions
- The moderator welcomed the participants. Rapport was established and the purpose and format of the discussion was summarized at the beginning of the session and the group were set at ease, to create mutual interest and trust. An overview of the project and the kind of information required was outlined as well as the fact that the VTC library users will benefit from what is learned.
- Basic guidelines and ground rules were given to the participants during the interviews. The interviewer guarantees the confidentiality of the interviews and the comments of participants.
- The consent forms were collected and filed.
- The interviewer encouraged spontaneous participation in a trusting environment.
- The questions were asked and the interviewer listened carefully to the participants, observing and asking for clarification on areas of vagueness and uncertainty. The interviewer was neutral and applied empathy and acceptance.

- At the end of the interview the interviewer summarized the comments and asked participants to verify the comments. Debriefing took place. Systematic analysis procedures were followed.
- An independent person was introduced to the focus groups that took detailed notes only and did not participate in the session. The note-taker wrote up all the comments, aided by tape recordings. The note-taker observed the group's interactions and summarized points and observations that were not captured by the audio tape. The same note-taker took notes at the individual interviews. The notes are extensive and reflect the content of discussions. Discussions were reported in participant's own language, retaining their phrases and grammatical use.

3.6.2.3 Protocol after the interview.

- The interviewer thanked the participants as soon as possible after each interview.
- The note-taker was also asked to code the interviews independently of the interviewer. Discussions took place between the note-taker and interviewer. Systematic analysis procedures were followed. After each focus group the moderator and note-taker went through the notes, organizing qualitative data into major categories and made additional notes and wrote additional comments.
- The procedure for individual interviews followed the same process, only now with the one participant.

3.7 DATA ANALYSIS

Ngulube (2005:138) cites Kerlinger (1986), who described data analysis as a process that involves categorizing, ordering, manipulating and summarizing data to find answers to the research questions.

3.7.1 Data analysis of quantitative data

The LibQUAL +® Data capturing and analyses were done by the ARL. When the survey data are entered into the database, the respondents' answers are separated from their e-mail addresses before they are stored, to ensure confidentiality (Davis & Kyrillidou 2009: 17). Survey data is stored on secure servers at the ARL. The VTC library received access to the complete raw survey data in Excel format on the ARL server. All records—partial, invalid, and completed—are included in this Excel file. The results, notebooks and Excel data files are processed by the ARL and are made available to the participating libraries. Results notebooks are produced in Adobe PDF format and made available to the participants. The researcher used data from the note book in this study.

Responses from the Comment box were content analysed and coded. According to Aleck and Settle (1995:271), cited in Ngulube (2003:229), content analysis is the systematic collection and classification of information in a standard format that permits analysts to draw conclusions about the characteristics and meaning of recorded material. The ARL provided a list of 50 respondent e-mail addresses that they selected randomly for the incentive prizes. The VTC library selected five incentive prize winners randomly from this list.

3.7.2 Data analysis of the qualitative data

During the data analysis process of these interviews, participants remained anonymous and confidentiality was ensured, and identifying information was kept in a locked cabinet.

The tape recorded interviews were transcribed and the unabridged version of the transcript was analysed. Content analysis was employed to convert text into a quantifiable form through coding the oral communication of the interviews, which was categorized, classified and coded according to a conceptual framework. Information was categorized by themes, according to the 3 service dimensions, *Affect of service, Information control and Library as place.*

The researcher analysed the data of the focus group and individual interviews personally, for the reason that the researcher spends time with the library users and understood the research objectives. The following procedure, which is compiled and based on the guidelines proposed by Kerlinger (1986:477-481), and Strauss and Corbins's approach as discussed in Flick (2009 :307), will be followed to analyse the data and to ensure that the study is trustworthy:

Step 1: Reading of transcriptions. The data explication process starts with the reading of the data and the separation of the data into meaningful, significant groups. The researcher read the transcriptions to gain a holistic view and a clear picture of the responses. The researcher attempted to set aside any preconceived ideas and focussed on the responses obtained in the transcriptions.

Step 2: Line by line explication. The researcher read all the transcriptions for a second time and underlined relevant responses. The researcher listed the relevant responses.

Step 3. Labelling the phenomenon. Data were divided into small units of meaning and then systematically named per unit (Henning 2004:102). The researcher conceptualized the data during this action, and gave each idea a name or label.

Step 4: Identification of categories and description of categories and sub-categories. The researcher grouped labels which appear to belong together according to the service dimensions used in the LibQUAL +® survey.

Step 5 Integration of categories. The data of the interviews with the library users were integrated into the categories and sub-categories levels.

Step 6: Coding of data. Coding is the procedure of converting raw data into a standardized form (Babbie 2007:325). Flick (2009:306) cites Charmaz (2006), who refers to grounded theory coding as the procedure for analysing collected data in order to develop a grounded theory. The researcher compared ideas and concepts that are addressed (Flick 2009:307).

Step 7 Interpretation of the data. The researcher interpreted the data and developed several themes across the data and interview questions. The raw data were converted to final patterns of meaning. Conceptualization and

operationalization was used to specify ideas and then interpreted. The interpretation was checked and verified with the members of the focus groups. The results are presented in Chapter Four.

3.8 EVALUATION OF THE RESEARCH METHODOLOGY

Evaluation and assessment of the research method is essential to judge and to determine if it measured what it was intended to measure. Evaluation involves assessing the reliability and validity of the research method and the research instruments that were used in the research. Once data were collected for a survey one cannot simply believe that the quantitative numbers or the qualitative comments from interviews have adequate integrity. No data are perfect, the question is: are the data reasonably sufficient to answer the research questions? (Thompson, Kyrillidou & Cook 2008:4). "Validity and reliability are the key considerations that researchers take into account when instruments of data collection are constructed" (Babbie & Mouton 2001: 119). Reliability and validity address issues about the quality of the data and suitability of the methods in carrying out a research project. The validity and reliability of instruments are critical in research (Ngulube 2005). A questionnaire should "examine the full scope of the research question in a balanced way" to be valid (Williams 2003:249). Reliability is an essential prerequisite of validity (Neuman 2000:171). The purpose of research is to extend knowledge and Ngulube (2005:135) argues that measurement validity is a necessary foundation for social research and if a research project lacks validity it cannot add value to society's knowledge base.

3.8.1 Validity

To determine validity it is necessary to examine the procedures followed to ensure that the results are trustworthy (Krueger & Casey 2009:202). The validity of an instrument refers to the degree to which the instrument measures what it is supposed to measure - it is the degree to which a measure measures what it is expected to measure (Tharenou, Donohue & Cooper 2007:151). Can the results from the research help in determining something significant about the population?

In the human sciences this is very difficult because instruments need to measure human emotion (Maree & Pietersen 2007: 216).

In this study the researcher used the existing LibQUAL+® questionnaire. The LibQUAL+® survey is an approved and tested survey instrument available to libraries to measure and assess their service quality. According to Williams (2003) LibQUAL+® ensures criterion validity. The criterion-related validity of survey instruments refers to the degree to which a measure correlates to external criterion or conditions (Creswell 2009:147). LibQUAL+® has been continuously tested as psychometrically valid (Thompson, Kyrillidou & Cook, 2008 & Thompson, Thompson, Cook & Kyrillidou, 2005:517). The 22 core survey questions measure user perceptions of service quality in three dimensions: *Affect of service*, *Information control*, and *Library as Place*. Each dimension is measured through at least five questions, to guarantee the validity of the responses. Respondents may for that reason observe redundancy (Davis & Kyrillidou 2009:28).

3.8.1.1 Qualitative validity

The researcher checks for the accuracy of the findings from the focus groups by employing certain strategies. Creswell and Clark (2009:191-192) lists strategies such as using members of the interview team to check the accuracy of the qualitative findings, take the report back to the participants and to determine whether participants feel that the report is accurate. This procedure can mean follow-up interviews must take place. One should develop an in-depth understanding of the study; spend a lot of time in the field, debrief with peers after the interview to increase the accuracy.

The researcher pre-tested the focus group questions to ensure that the questions were clearly understood. The researcher developed an in-depth understanding of the study and spent a lot of time with library users. During the interview the interviewer listened carefully and observed how the participants answered the questions and asked for clarification on vague areas. The interviewer debriefed the groups after the focus group interviews and verified the comments from the focus

group for accuracy. The researcher took the report back to the members of the interview teams to check the accuracy of the qualitative findings and to determine whether they felt that the report is accurate. The researcher used descriptions to convey the findings.

3.8.2 Reliability

According to Williams (2003:249) reliability is “an assessment of the reproducibility and consistency of an instrument”. Reliability seeks to establish the extent to which data or measurement is consistent and reliable. Consistency refers to the extent to which the same results are produced from different samples of the same population or to what degree an instrument measures the same each time it is used under the same circumstances. Tharenou, Donohue and Cooper (2007:150) cite Smithson (2005): “reliability refers to the extent to which a measure is free of random measurement error”. Reliability address issues like credibility, transferability, dependability and conformability (Hernon & Schwartz 2009:73).

The LibQUAL+® was developed by the Association of Research Libraries (ARL) and argues that LibQUAL+® is the first assessment instrument to produce reliable benchmarks for service quality in libraries (Cook, Heath & Thompson & Thompson 2001a). Several studies have examined the LibQUAL+® instrument for score reliability (Cook, Heath, Thompson & Thompson 2001a; Cook, Heath, Thompson & Thompson 2001b; Thompson, Cook, & Thompson, 2002).

To ensure reliable results from the focus group interviews the researcher checked the transcripts of the recorded interviews to trace obvious mistakes made during the transcription process. The researcher verified the codes and cross-checked that the coding was done correctly.

Limitations of this study need to be acknowledged. A limitation in this study was the non- response and low response rate in the LibQUAL +® survey. The low response rate in the LibQUAL +® questionnaire made it difficult to generalise results. The Excel files in the LibQUAL +® repository include all records, partial, invalid, and

completed questionnaires indicate that 803 respondents started to fill out the questionnaire, but in the end only 145 valid questionnaires could be included in the data analysis. The question why so many respondents stop answering the questions or fail to answer all the questions is debatable. Could it be attributed to the fact that respondents did not understand the LibQUAL +® questions, were the questions too difficult (“technical language)?” Was the questionnaire too long? Did respondents start completing the questionnaire merely to be included in the incentive prize draw? There was no explanation as to why the respondents did not complete the questionnaire.

Would random sampling of existing library users’ result in a better response rate in the LibQUAL +® survey? The question of the inclusion of first years is also a valid question. Did the first years have enough experience and contact with the library in the first three months that they were on campus?

Krefting (1991:214) and Denzin and Lincoln (1998: 187) argue that validity and reliability in qualitative research are not appropriate, since validity and reliability indicate a definite philosophical and epistemological orientation. Flick (2009: 392) refers to Lincoln and Guba (1985) and suggests that qualitative research should be assessed in terms of the credibility, transferability and dependability of its data.

3.8.3 Trustworthiness

Ethical guidelines were adhered to during the research process. Participants completed informed consent forms, which guaranteed confidentiality and provided for feedback on the project - if a participant required any feedback.

Credibility

Leininger (1994:105) states that credibility refers to the truth as it is known, experienced, perceived and understood from a viewpoint of those involved in the study. Flick (2009: 392) mentions that credibility will be produced by a “prolonged engagement and persistent observation in the field and the triangulation of different methods.” To ensure triangulation, the researcher used different data-collection

methods (focus-group interviews and individual interviews) in this study to validate the quantitative research results. Different participants took part and the selection procedures differ. Questions were repeated in the same format in all the interviews.

3.8.4 Transferability

Transferability relates to fact, if conclusions made from one inquire can be transferred to another (Miles & Huberman 1994:279). The interviews in this study were conducted under the same circumstances as far as possible. The some assessment procedures took place for all the interviews. A review question guide was used with pre-test questions.

3.8.5 Dependability

Dependability refers to the issue of whether the study reveals consistency and reasonable stability over time and across researchers and methods (Miles & Huberman 1994:278). The research took place over a period of time. The quantitative research took place first, and the LibQUAL +® questionnaire was distributed. The researcher therefore based the interview questions on the LibQUAL +® dimension and compiled a question guide that was pre-tested and used in all the interviews.

3.9 Summary

In this chapter the researcher described the research methodology, the survey research design and procedures used in this study. The researcher regarded a triangulation research design as the most appropriate and suitable paradigm that best served the requirements and needs of the research problem. The population used in this study were introduced and described.

The data collection instruments and procedures used to collect data for the study were explained. The data analysis methods for the quantitative and qualitative research methods were discussed. The LibQUAL+® questionnaire design and content were discussed. The interview process and protocol for focus group interviews and semi-structured, one-on-one interviews were discussed. The data

analysis process for the qualitative and quantitative data were described. The research methods employed in this study were evaluated in this chapter.

4 RESEARCH RESULTS

The theory described in Chapter 2 gives an historical overview of quality measurement in the academic library. Specific objectives were described in Chapter 3, as well as the approach used in collecting the data. This chapter presents the results of the survey to determine the perceptions of service delivery in the VTC Library.

The unique feature of LibQUAL +® is the set of 27 core questions that include the local questions, designed to measure the affect of service, information control and the library as place as well as information literacy questions and general satisfaction questions.

Semi-structured individual interviews and focus group interviews were also held with selected groups of undergraduates, post-graduate students and academic staff to obtain more information and to validate the LibQUAL +® results of the target groups of this investigation.

In order to achieve the above purpose, the following objectives guided the study:

- To analyze theoretical models that could be used in the understanding of service quality in the library.
- To determine the existing levels of service quality and user expectations.
- To develop a service quality model that meets the user's expectations and that will improve the levels of service quality for the Vaal Triangle Campus Library.

4.1 Background information

Results for the LibQUAL +® survey general background information includes demographic questions, frequency of use of the library and search engine questions.

4.1.1 Population and response rate

The LibQUAL+® study is a total market survey to help the library to understand user perceptions. The questionnaire was sent out to the whole population, 84 permanent academic staff members, 267 post-graduate students and 2 736 undergraduate students of the Vaal Triangle Campus. The overall response was 5%. The undergraduate students had the lowest response (90 out of 2736), followed by the post-graduate students (28 out of 267), with the response rate of the academic staff members (23 out of 84) the highest. . From this we may conclude that the findings reported for the academic staff are based on a better response rate than those for the students.

4.1.2 Gender

The gender distribution represents population distribution, as there were more females on the VTC than males (1 171 males vs. 1 876 females at the time of the study). The gender distribution of 82 (57%) females and 63 (43%) males who participated in the survey is shown in Figure 9. From this we may conclude that the findings reported for the academic staff are based on a better response rate than those for the students.

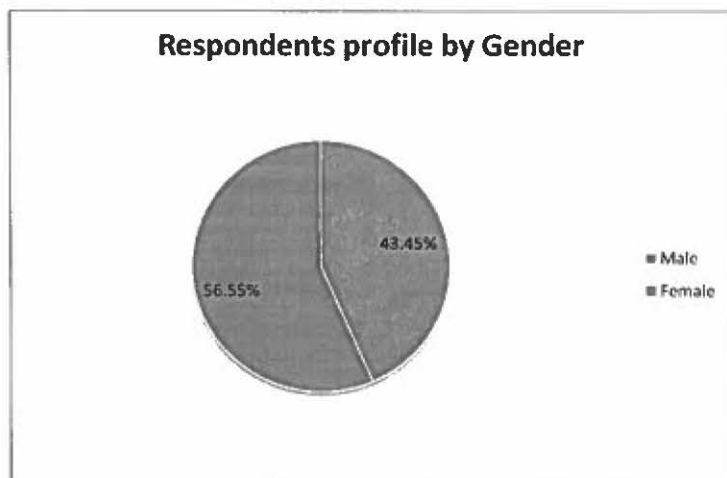


Figure 9: Respondents profile by gender

4.1.3 Library use

Questions 36 – 38 in Appendix B dealt with the issue of library use. Respondents were asked how frequently they used the library (on the premises and electronically) and how frequently they used non-library information gateways such as Google. The usage patterns of the library and the resources by the respondents are shown in Figure 10. Students have a tendency to use the internet through gateways like Google to access instant information, as 51% gain daily access to information via non-library gateways, while 34% of the respondents used the library on a daily basis. It is interesting to note that 2% of the respondents never used resources from the library.

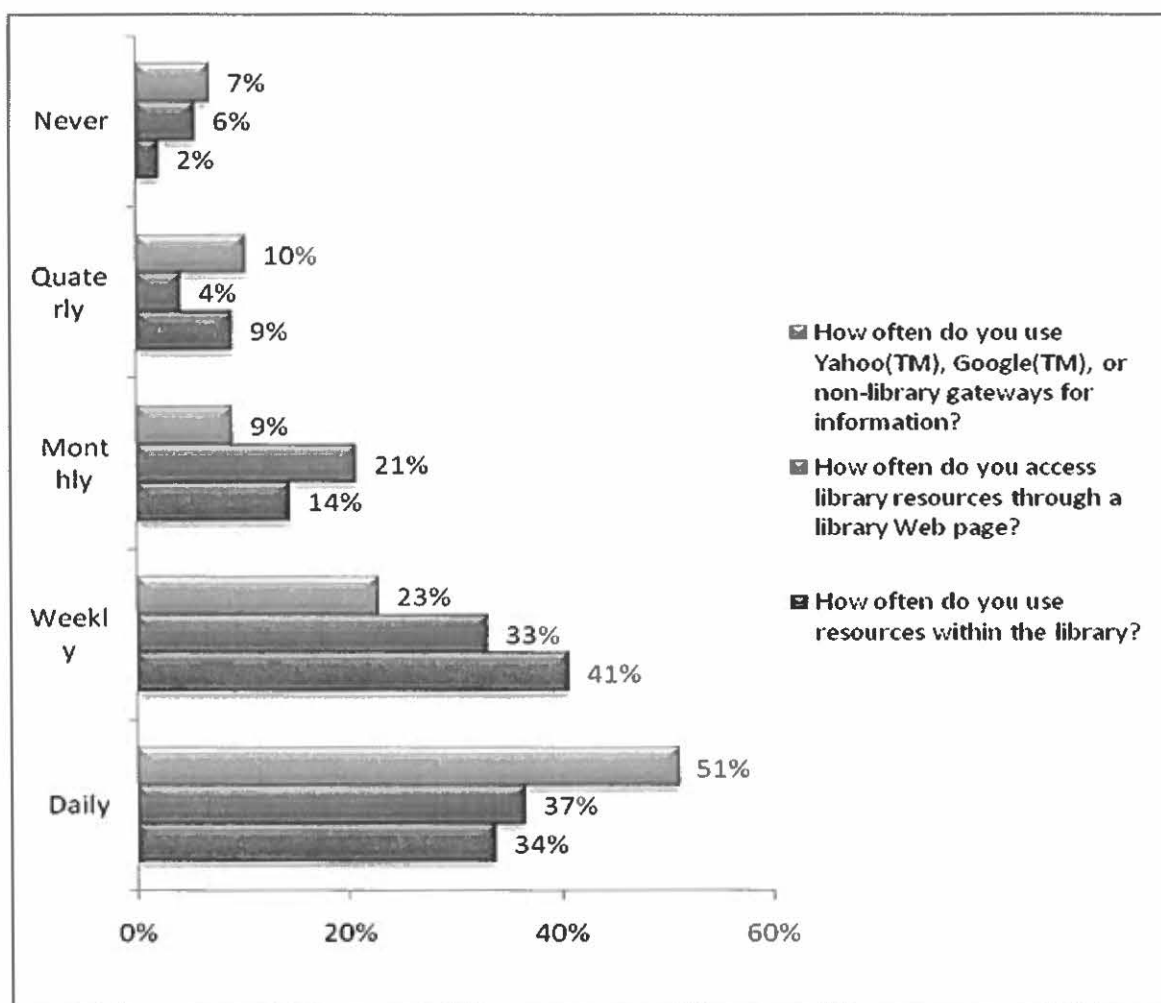


Figure 10: Library use: Frequencies for all respondents

4.2 Library image

The library image relate to overall satisfaction with the VTC library. The perceived scores were collected on a scale from 1-9, and these scores were analysed by service dimensions and the overall satisfaction compared with the VTC library means. In question 33 in Appendix B the participants had to respond to statement :In general, I am satisfied with the way in which I am treated at the library. The statement in question 34 in Appendix B relate to the support for learning and teaching. Respondents had to rate the rate the overall quality of the service provided by the library in question 35. The results have been summarized in Figure 11 and display the mean score for each question. The average of the responses ranged from 6.09 to 6.18.

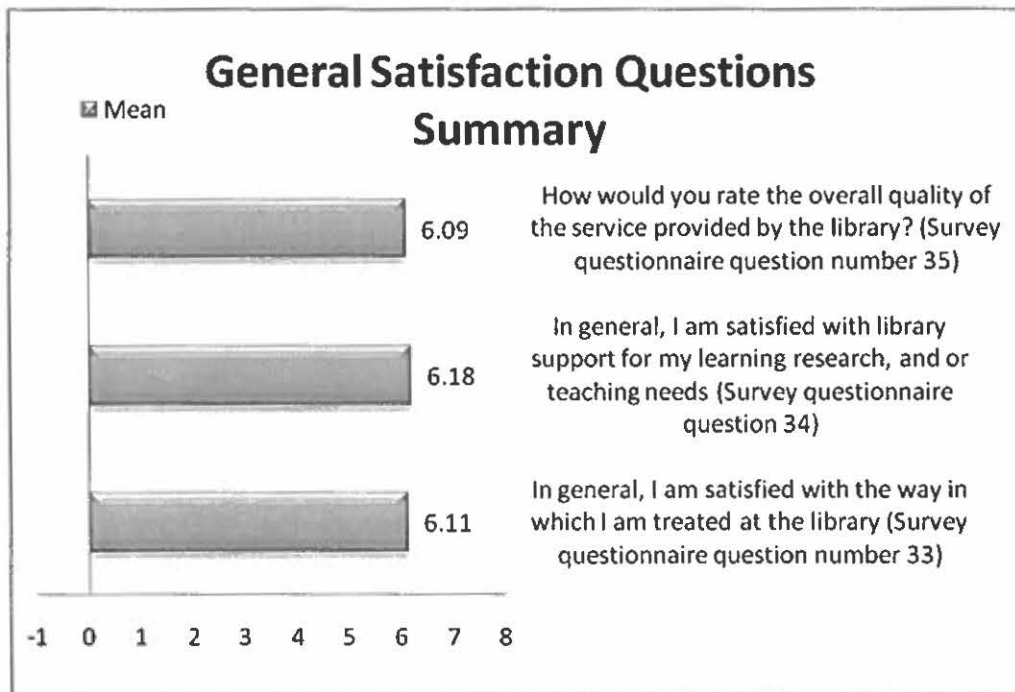


Figure 11: General satisfaction

4.3 The gap between users' expectations and perceptions for the

I

The 22 core survey items (See Appendix C) measure user perceptions of service quality in three dimensions. Figure 12 displays the gaps in the dimensions Affect of Service, Information Control and Library as Place. Respondents provide three answers on a 1-9 point scale: the minimum level, the desired level and the perceived level of service provided by the library for the three dimensions.

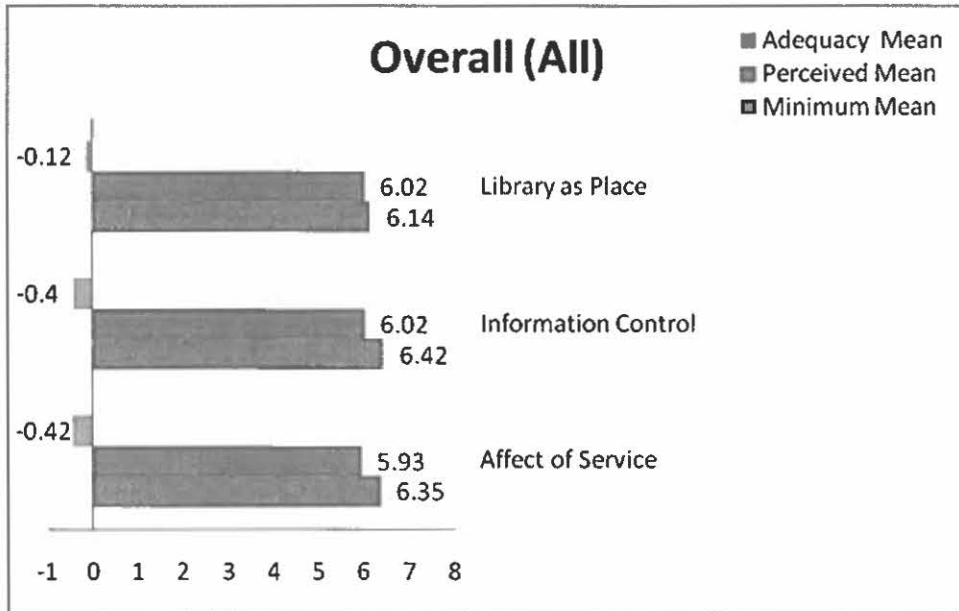


Figure 12: LibQUAL dimensions for all respondents

4.3.1 LibQUAL +® results: Affect of service

The *service affect dimension* relates to the perceptions of customers about library staff competency, abilities and support (See Appendix C).

All the respondents' perceptions of *Affect of service* are reflected in Figure 13. The biggest gap (-0.73) is for variable AS-7, library staff who understand the needs of their users. The second biggest gap is -0.59 for variable AS-5. (Library staff who have the knowledge to answer user questions)

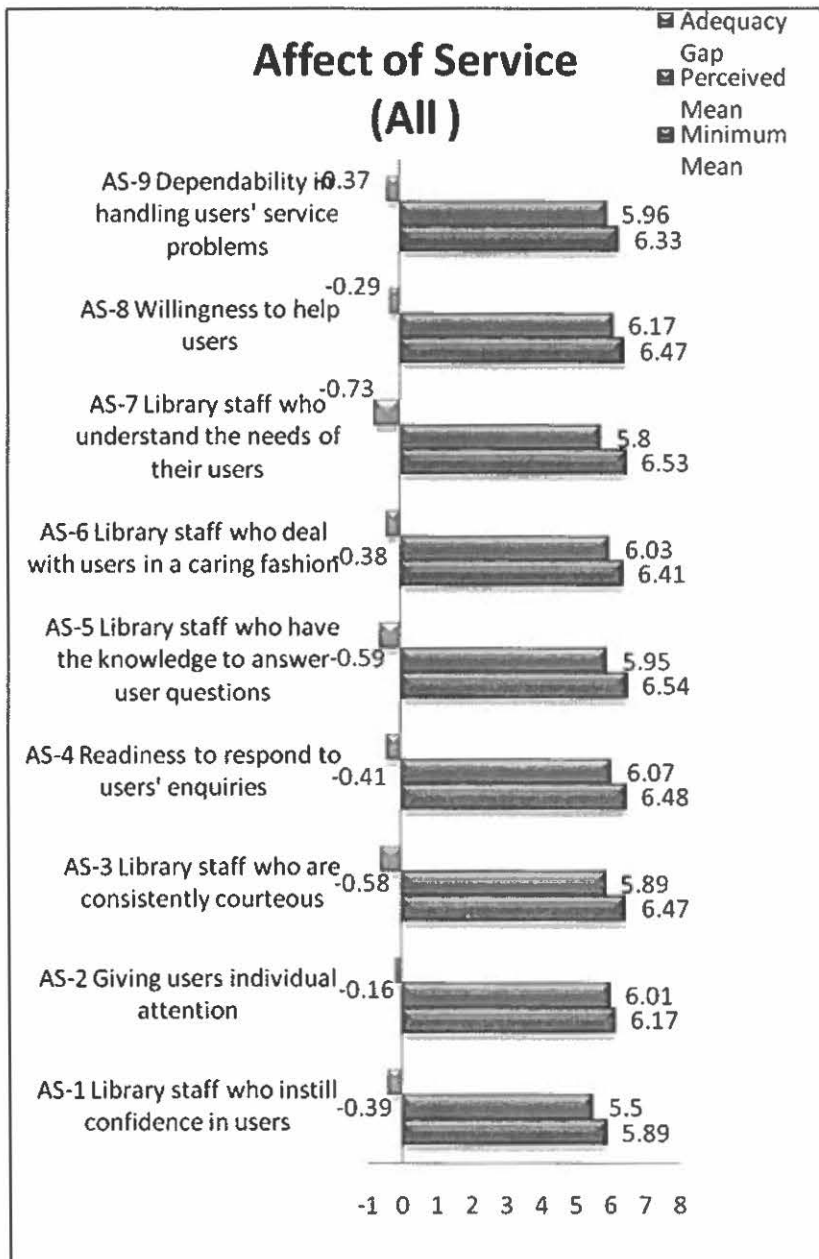


Figure 13: Affect of service for all respondents

4.3.2 LibQUAL +® results: Information control

The *information control dimension [IC]* explores the library's collections, whether the collections are sufficient to meet the needs of the users. *Information control* is about the extent of the collection and ability of users to find and use information

needed for their study and/or to do research, and the ability to control the information in an effective way. Statements included in this dimension are summarized in Appendix C.

Figure 14 indicates the overall perceptions of *Information control* and indicates that the perceived level of service for four questions was lower than their minimum acceptable service level and the average gap between perceived affect of service and minimal acceptance fell outside the zone of tolerance, but not higher than -0.5.

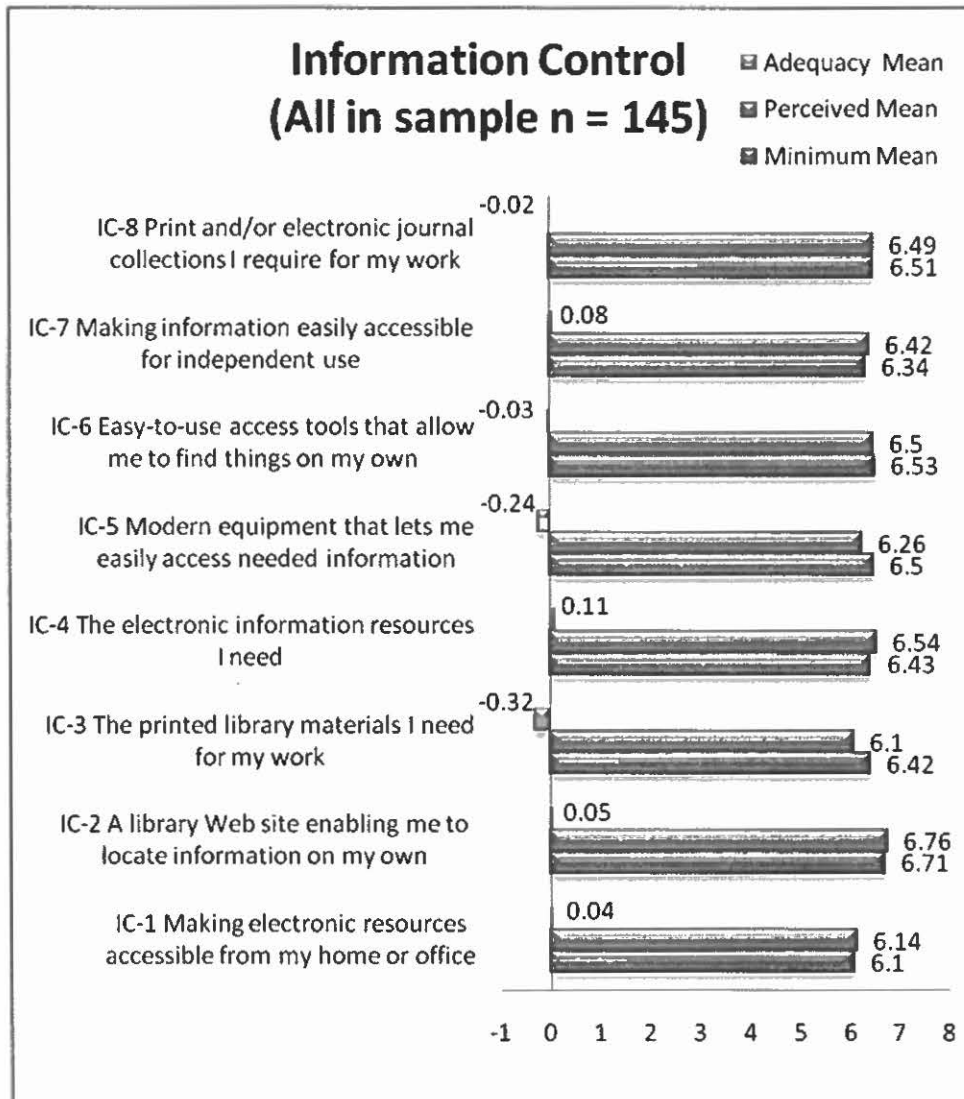


Figure 14: Information control for all respondents

4.3.3 LibQUAL +® results: Library as place

The *library as place [LP]* is the physical environment, the library as space. The *library as place* dimension is concerned with the facilities of the library: are the facilities acceptable and sufficient? Statements included are summarized in Appendix C..

All the respondents' perceptions of *Library as place* are reflected in Figure 15. The biggest gap is for variable LP-2 (Quiet space for work). The second biggest gap is -0.18 for variable LP-5 (Space for group learning and group study).

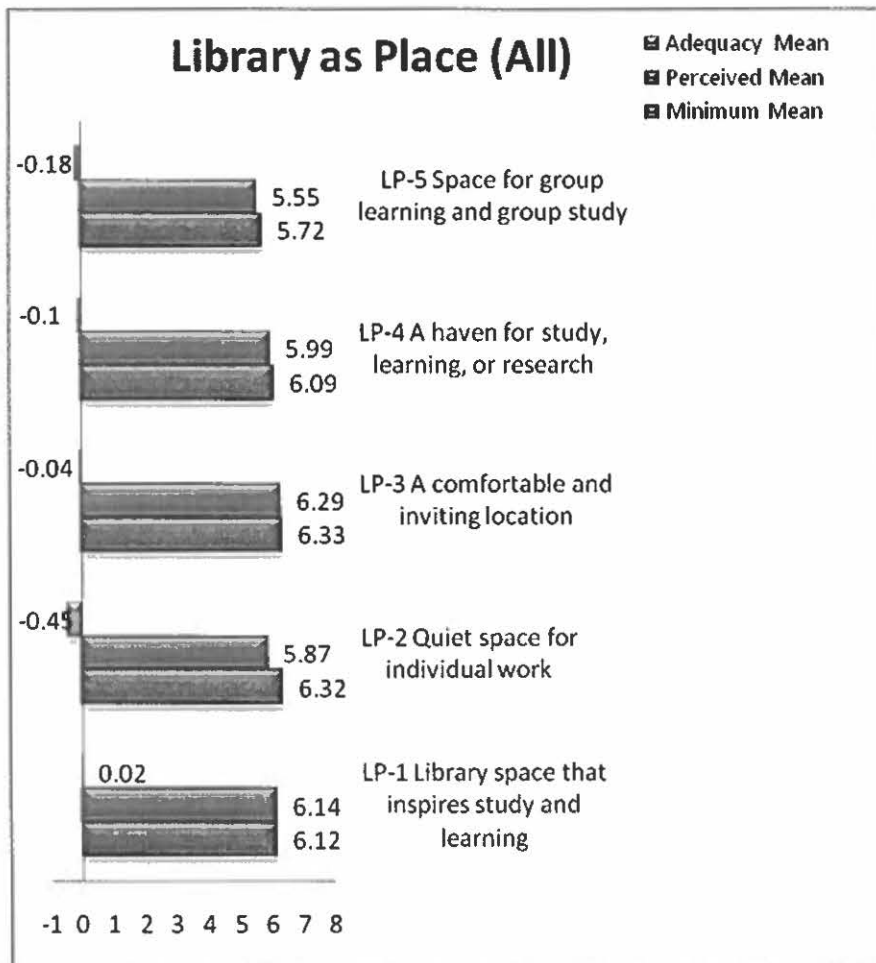


Figure 15: Library as place for all respondents

4.4 LibQUAL+® dimensions for user groups

In this study the focus is on the adequacy gaps as it is important to satisfy the customers in the different user groups. The service adequacy gaps indicate the extent to which the library is meeting the minimum expectations of the users in the different user groups.

4.4.1 LibQUAL +® results: Affect of service

Undergraduate students rate the affect of service negatively for all nine questions and affect of service were lower than their minimum acceptable service level and thus fell outside the zone of tolerance. Post-graduate students also experienced negative affect of service.

The academic staff were generally satisfied with the quality of service delivery provided by the library staff and the service delivery of the VTC library staff met their minimum requirements.

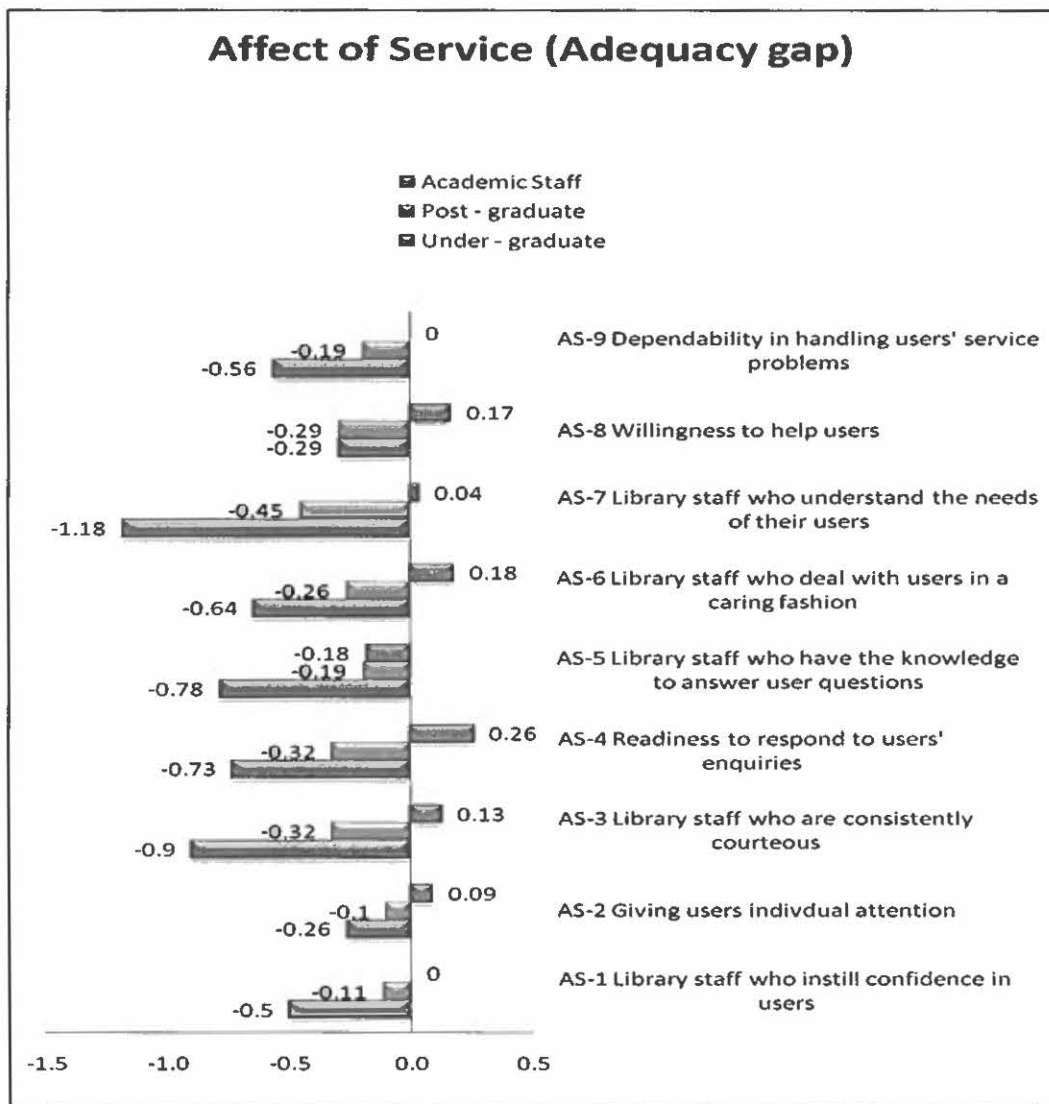


Figure 16: Affect of service: Adequacy gap

4.4.2 LibQUAL +® results: Information control

Figure 17 illustrates that the undergraduate students were unhappy with the *Information control* dimension, their perceived level of service for six questions in this dimension was lower than their minimum acceptable service level and thus fell outside the zone of tolerance with a negative gap.

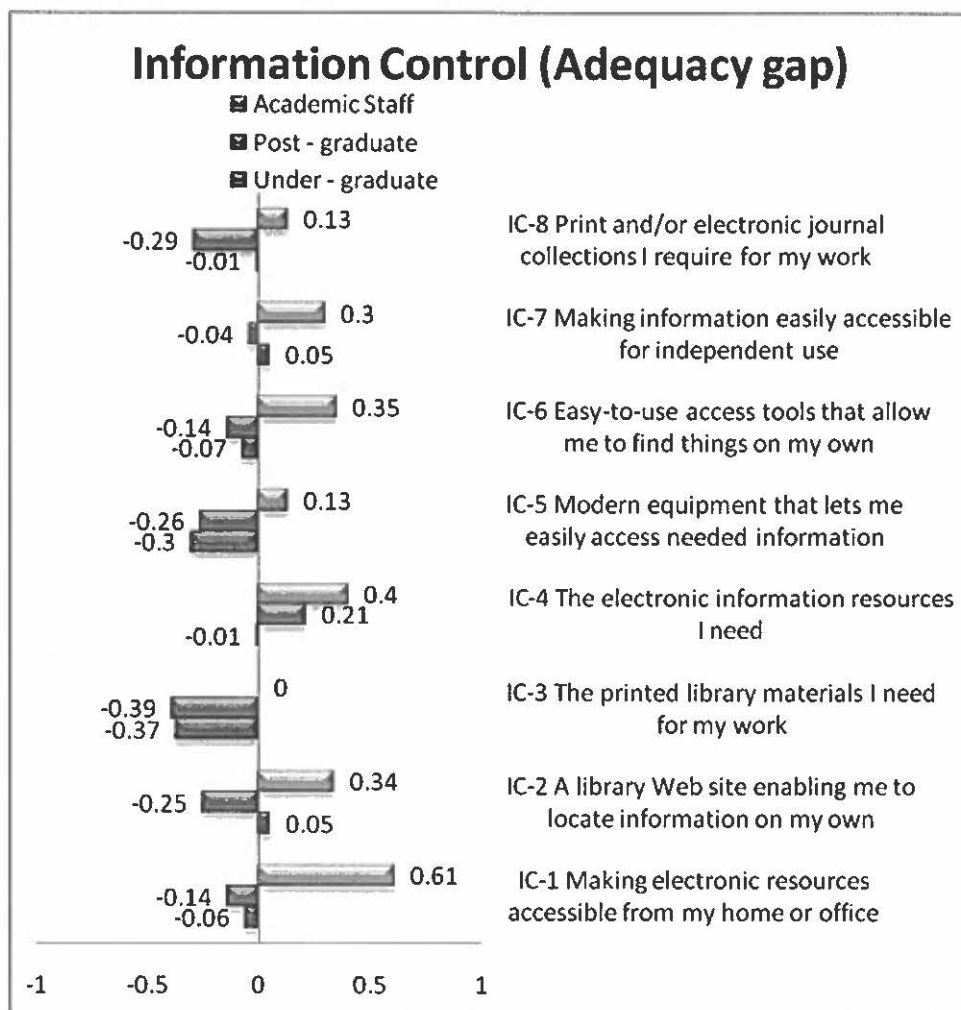


Figure 17: Adequacy gap: Information control for user groups

4.4.3 LibQUAL +® results: Library as place

The undergraduate respondents' perceptions of service quality in this category are reflected in Figure 18. The undergraduate respondents perceived the dimension *Library as place* for four questions lower than their minimum acceptable service level and it thus fell outside the zone of tolerance with a negative gap.

Post-graduate students were dissatisfied as they regard existing library facilities as falling below their minimum requirements and minimum acceptable service level for all five the questions fell outside the zone of tolerance.

The academic staff were in general satisfied with the *Library as place*. Quiet space for individual work (-0.06) falls below the minimum mean as illustrated in Figure 18.

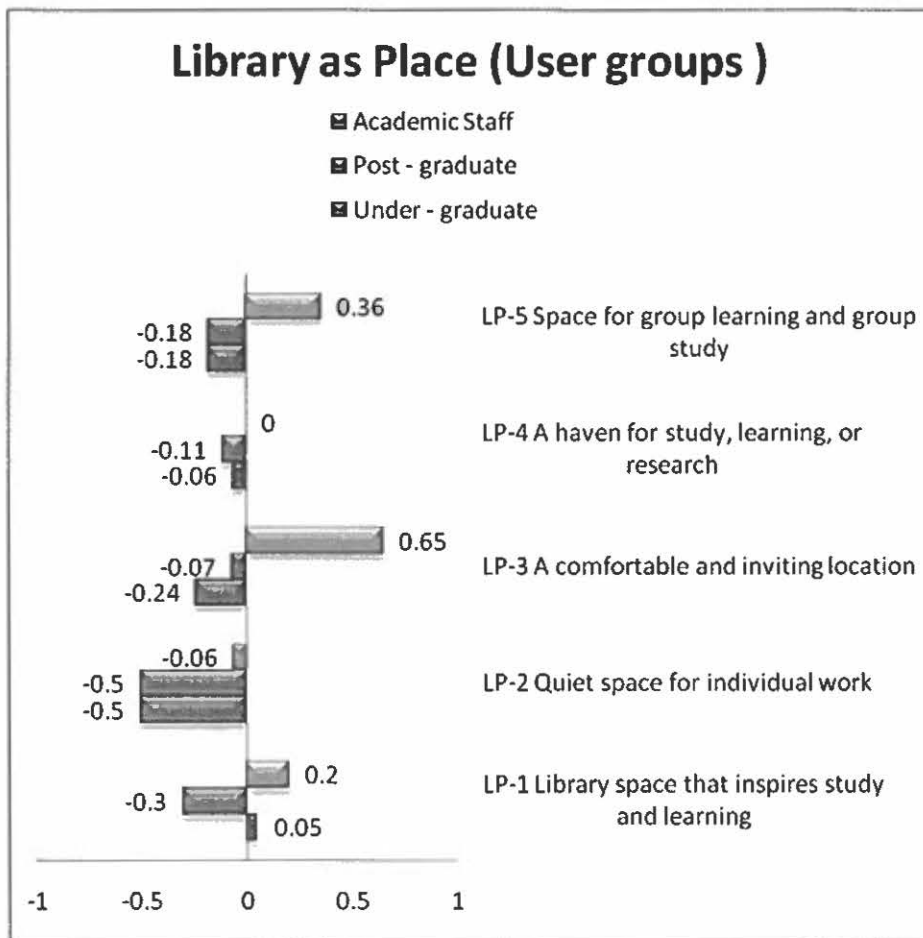


Figure 18 Library as place: Adequacy means for user groups

4.5 Information literacy outcomes questions

A set of five questions dealt with information literacy outcomes. Respondents were asked to rate information literacy outcomes on a 9 point scale (1 = Strongly Disagree, 9 = Strongly Agree). The scores were analysed by specific aspect of information literacy, compared with the VTC means.

The results from the question have been summarized in Figure 19. Most patrons felt their institution did a fairly good job in meeting the expectations. It is noteworthy

that questions 29 and 30 had higher ratings (aiding advancement in academic work and enabling efficiency in academic work), question 28 was rated the lowest (The library helps me stay abreast of developments in my field(s) of interest).

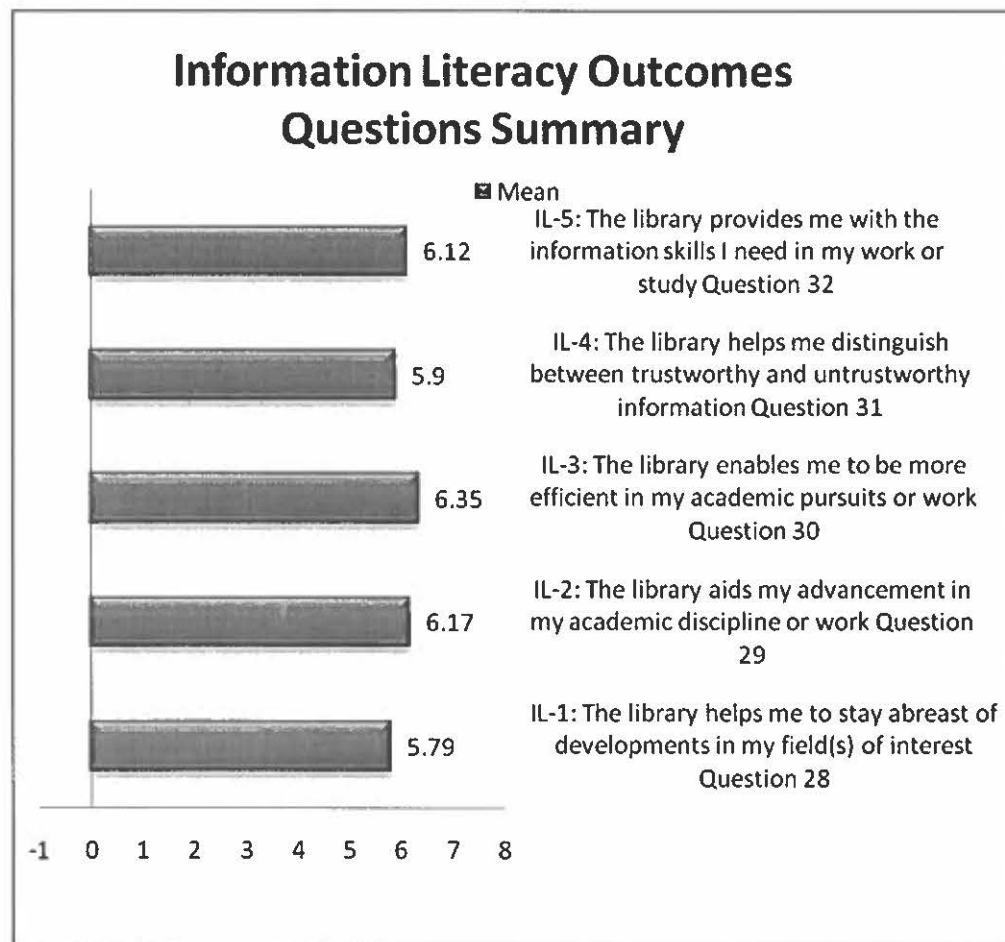


Figure 19: Information literacy outcomes

4.6 Interview results

As indicated in Chapter 3 the study conducted used interview discussions to validate and supplement the data from the LibQUAL questionnaire. The intention of the interview discussions was to determine the perceptions of library users. Participants were asked about their experiences in the library - the dimensions

included for discussion were the affect of service, information control and library as place.

Four focus group interviews were conducted with participants and between six and ten participants were selected purposively from the library user population at the VTC library. Twenty individual interviews were conducted with five interviews for each user group (that is, undergraduate students, post-graduate students and academic staff).

4.6.1 Affect of service

The researcher explained the *Affect of service* dimension as well as the questions included for discussion to the respondents. The questions were:

- Do you feel that you receive individual attention from the library staff and do they deal with users in a caring fashion?
- Do you experience the library staff as consistently courteous and considerate; are they willing to help and to respond to users' questions?
- Do you feel that library staff have the knowledge to answer user questions and that they understand the needs of their users?
-

4.6.1.1 Affect of service: Undergraduate students

Some representative statements from the interview transcripts are listed in Table 3(p.91).

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<ul style="list-style-type: none"> • “They are friendly and they know how to help us.” • “Personnel are not supportive , in any case that is my experience.” • “I am concerned about the friendliness of the staff when one needs help.” • “Staff does not greet in an inviting and friendly manner and they send users from pillar to post for service.” • “Communication is also a barrier; library users could not understand some of the staff members-pronunciation.” 	<ul style="list-style-type: none"> • “I like the friendly responding staff.” • “...staff is approachable and always there for me when I need help.” • “Helpful when you ask them.” • “Staff struggle to give out reserve books.” • “Staff treat students with respect” • “Staff not always consistent in their actions.”

Table 3: Affect of service: Undergraduate students

4.6.1.2 Affect of service: Post-graduate students

Representative statements from the interview transcripts are listed in

Table 4.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<ul style="list-style-type: none"> • “We are treated in a well mannered way and the Information sciences personal do a great job. Unfortunately the library need additional staff to help efficiently.” • “Our library is operating well in my point of view and I think our library is growing in terms of service provision and discipline.” • “Certain staff members are friendly. The library needs to have assistants.” • “I found it very difficult to find a book on a shelf as those numbers meant nothing to me; no one was there to help me figure it out. Please get some assistants at the library. More friendly staff should be hired.” 	<ul style="list-style-type: none"> • “Information sciences personal do a great job, unfortunately the library needs additional staff to help efficiently.” • “Staff do instil confidence and students do not feel lost.” • “Staff do understand my needs and are helpful, I never experience anything negative.” • “Provide good service and necessary service. Information staff are knowledgeable.” • “Staff sometimes give attitude, but mostly they are fine.” • “Sometimes 2 or 3 staff members at the counter, why is only 1 helping the students, give the impression of incompetence, why do we need to queue to take a book out, why can’t the other people help?”

Table 4: Affect of service: Post-graduate students

4.6.1.3 Affect of service: Academic staff

Representative statements from the interview transcripts are listed in Table 5.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<ul style="list-style-type: none"> • "Information staff are knowledgeable and clued-up." • "Library staff are patient, friendly and understanding." 	<ul style="list-style-type: none"> • "Generally friendly and open." • "Library staff responds immediately to e-mail requests." • "Staff consistently courteous." • "I contact the information staff a lot, experience them knowledgeable and they understand my needs."

Table 5: Affect of service: Academic staff

The responses for the *Affect of service* dimension were diverse and mixed. In general, participants responded favourably to the help they received and experienced staff as supportive and helpful. Knowledgeable staff instilled confidence and understood the needs of library users (Information staff). Respondents experience staff as friendly, approachable and open. In contrast to the positive feedback there were also negative responses of unfriendliness, inconsistency and communication as barriers to expected service quality. The need for more assistance, and more staff to help students was mentioned. See Appendix D for more phrases and expressions used to describe staff.

4.6.2 Information control

The dimensions included for discussion are scope of content, convenience, ease of navigation, equipment and self-reliance. The questions were:

- Are there adequate information sources available in printed and electronic format?

- Is there sufficient equipment that allows access to needed information?

4.6.2.1 Information control: Undergraduate students

Representative statements from the interview transcripts are listed in Table 6.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<p style="text-align: center;">BOOK COLLECTION</p> <ul style="list-style-type: none"> • "Our Library does not have adequate books , books are outdated , I prefer using the internet for assignments." • "The library would be a better place if it had a wide variety of books, specifically in the study fields that the university offer." • "The library definitely needs more text books and prescribed books; the latest editions." 	<p style="text-align: center;">BOOK COLLECTION</p> <ul style="list-style-type: none"> • "Need serious update, information constantly change." • "Need more prescribed books." • "Books are old need, to update the collection." • "New books are limited, need serious updating." • "The library have to update the books, lectures need to inform library which books to buy." • "Need to update books, since information, is changing." • "There are not enough books for the amount of students." • "Need more copies of a book: not only one-copy, new books are never-available- always out." • "I know where to find the books, it is okay, and the new books are reserved."
<p style="text-align: center;">WEB ACCESS</p> <ul style="list-style-type: none"> • "Find using the library webpage difficult at first, now I can use the webpage to find a lot of information." • "I find the information that I am looking for by using the webpage, I experience no problems after the training session that I attended." 	<p style="text-align: center;">WEB ACCESS</p> <ul style="list-style-type: none"> • "Find the webpage user-friendly to locate information and information sources." • "Network very slow – frustrating." • "Need training in use of computers before we can use the library webpage extensively(1st year)." • "Complicated website to use for the first time as a first year the web page is not user-friendly. (1st year students)." • "I cannot use the website." • "I Struggle to access journals."

Table 6 Information control: Undergraduate students

4.6.2.2 Information control: Post-graduate Students

Representative statements from the interview transcripts are listed in Table 7:

Information control: Post-graduate Students.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
BOOK COLLECTION	BOOK COLLECTION
<ul style="list-style-type: none"> • “The majority of the books are old; we need new books, published after 2002 for our studies, we need to order books on inter library loan.” • “I agree with the previous speaker the study leaders always asked us to use recent books, the latest editions of books, but I want to mention how convenient it is to retrieve information from the library web page from home.” 	<ul style="list-style-type: none"> • “Our library need more books, have to request new books on Inter Library Loan.” • “Need more relevant books that cover topics in depth.” • “Need more recent books.”
WEB ACCESS	WEB ACCESS
<ul style="list-style-type: none"> • “The webpage is user-friendly and direct me to the information that I need.” • “I agree with the previous speaker, the webpage help me to retrieve all the information for my thesis.” • “It is easy to get access to databases for research purposes. The A-Z Journal list is of great value.” • “I need more training in the effective use of access tools to allow me to find information on my own.” 	<ul style="list-style-type: none"> • “Need to train undergraduates to use the WEB, many students fail to use the web and miss out on valuable information - that I got introduced to in my Post-graduate studies.” • “WEB is user-friendly, I did not attend the training, but fellow students helped me through.” • I find the library webpage user friendly and helpful in my studies.” • “The Information librarians’ who does searches for me are of great help, I cannot use the webpage and struggle with the computer.”

Table 7: Information control: Post-graduate Students

Table 7: Information control: Post-graduate Students

4.6.2.3 Information control: Academic staff

Representative statements from the interview transcripts are listed in Table 8.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<ul style="list-style-type: none"> • “I am impressed that I can order my own inter-library loan books from my office. The library webpage allows me to locate information sources and the access tools allow me to retrieve relevant information for my research.” • “A lot of books that I want to use are not available in the library but the inter-library loan service is good.” • “The library need more “open access” computers to use in the library, no computers available to check the catalogue to locate books in the library, all the computers are in use during the semester.” 	<ul style="list-style-type: none"> • “For me it is user-friendly, but I think there is a lack of knowledge for first time users.” • “Waiting sometimes for staff to find a reserved book.” • “I make use of library webpage a lot; I even order my ILL books from my office and experience no problems.” • “I locate information on the databases from my office.” • “Access to electronic resources is increasingly important.”

Table 8: Information control: Academic staff

Participants responded favourably to the category Information control. Interviewees agreed that the library currently did not provide a comprehensive print collection adequate to their needs (“...need more text books that are recent...”). Interviews also indicated that there is an urgent need to update the outdated print collection. Students request prescribed books and multiple copies of books. Although the

interlibrary loan service is of great help with relevant, recent publications, the library needs more recent publications.

Interviewees indicated that the library webpage was accessible and user-friendly and allowed users to locate information sources to satisfy their research needs. Some respondents mentioned that they were aware of electronic resources, but did not make use of them. Some of the members indicated that they needed more training in the effective use of access tools to find information on their own (Appendix F-2). As for the electronic information resources, participants agreed that the library was adequately provided and that access tools allowed them to retrieve relevant information.

4.7 Library as Place

The dimensions included for discussion are utilitarian space and refuge.

The dimensions included in the category were library space that encourages study and learning, quiet space for individual work, a comfortable and inviting location, a place for study, learning and research, space for group discussions and group study. The questions were:

- Do you feel that the library space encourages study and learning?
- Is the library a comfortable and inviting location, a place for study, learning and research?

4.7.1 Library as Place: Undergraduate students

Representative statements from the interview transcripts are listed in Table 9.

FOCUS GROUP INTERVIEWS	INDIVIDUAL INTERVIEWS
<ul style="list-style-type: none"> • “Our library needs to change to a modern University library.” • “Inadequate space available in the library, we need quite some space for studying and more tables to study and work.” • “It is difficult to study in the library because some students make noise; silence must be maintained at all times.” • “The library capacity should be expanded for group discussions without interruptions by other students; we need space to work without disturbances. 	<ul style="list-style-type: none"> • “Need more computers, always occupied, can’t work in the library.” • “Need discussion group areas; need to do a lot of group assignments.” • “Need more security.” • “The second floor at the books is very noisy.” • “A telephone that rings in offices is disturbing.” • “Need silent areas to study.” • “I like the art exhibition on the stairs.”

Table 9: Library as Place: Undergraduate students

4.7.2 Library as Place: Post-graduate students

Representative statements from the interview transcripts are listed in Table 10.

Focus Group Interviews	Individual interviews
<ul style="list-style-type: none"> • “It is very noisy in the library – students work in groups and it is disturbing...” • “Must enhance(increase) the space for studying individually; I need a silent space to work, if I am working for a day I usually struggle to get a computer to work on and I need a space to lock my stuff when I want to leave the desk for a while.” • “Need to transform the library into a university library with levels for subjects, with subject librarians on the same level. • “The current library building is not attractive and does not look like a university library.” • “The entrance to the top floor is difficult for older or sick library users; have to climb stairs there is no lift available “ 	<ul style="list-style-type: none"> • “The set-up with big tables is conclusive for group work, but disturbing for students to study.” • “Need separate silent study areas and discussion group areas.” • “Sometimes very noisy.” • “Need computers assigned to post-graduate students; availability of computers are a problem.”

Table 10: Library as Place: Post-graduate students

4.7.3 Library as Place: Academic staff

Table 11 illustrates the academic staff's expressions for Library as place.

Focus Group Interviews	Individual interviews
<ul style="list-style-type: none"> • "Current infrastructure not suitable for post-graduate students - no separate silent areas are available to sit. There is a need for a support centre for post-graduate students; research commons for post-graduate students and researchers would be great." • "Not an inviting location for research and study; not enough space, need more separated space; silent rooms and discussion rooms for different groups of users for group work." • "Layout not that of an academic library; we need more subject librarians available at different subject disciplines." 	<ul style="list-style-type: none"> • "Need more computers for catalogue searches; never an open computer to use in the library." • "Need to get the feel and look of an academic library." • "Sometimes vey noisy in the library; I experience the need for separate discussion rooms to allow other students to study in silence."

Table 11: Library as Place: Academic staff

In general, the participants were dissatisfied with the library as place. The common feeling among the participants was that the space in the library was inadequate and there is a need for more study space. The library space should be expanded

for group discussions without interruptions by other students. There is a necessity for silent individual study space.

The library must change into a university library with levels for subjects and subject librarians on the same level. The current infrastructure was not suitable for post-graduate students, as there is no separate silent area or research room available. The perception was that the library was not an inviting location for research and study and that the library was noisy. There is a definite need for a support centre for post-graduate students.

The number of computer workstations was not adequate, there was a need for more computers in the library as there were no computers available to check the catalogue during the semester when all the computers are in use.

See Appendix F for phrases and expressions used.

4.8 Summary

The LibQUAL +® questionnaire results that included the local questions, affect of service, the information control, the library as place as well as information literacy questions and general satisfaction questions were reported.

The semi-structured individual interviews and focus group interviews with selected groups of undergraduates, post-graduate students and academic staff to get more information and to validate the LibQUAL +® results

5 DISCUSSION OF RESULTS

This chapter discusses the data gathered from the LibQUAL questionnaire, summarized according to the research questions and the focus groups as well as the interviews as presented in Chapter 4. The findings discussed in this chapter relate to the academic staff, post-graduate students and undergraduate students who responded to the questionnaire and attended interview sessions in order to validate the findings from the questionnaire.

Specific research questions are discussed (Table 12 p.103-105) with elements that need attention on how to improve quality by implementing the recommended model.

A Research question 2 See section 5.2		B Research question 4 See section 5.4	C Research question 3 See section 5.3	D Research question 5 See section 5.5	E Research question 6 See section 5.6		
					Under - graduate	Post - graduate	Academic staff
		Expected	Perceived	Gap			
Affect of Service (All)		6.35	5.93	-0.42	-0.68	-0.16	0.1
AS-1	Library staff who instill confidence in users	5.89	5.5	-0.39	-0.5	-0.47	0
AS-2	Giving users individual attention	6.17	6.01	-0.16	-0.26	-0.36	0.09
AS-3	Library staff who are consistently courteous	6.47	5.89	-0.58	-0.9	-0.32	0.13
AS-4	Readiness to respond to users' enquiries	6.48	6.07	-0.41	-0.73	-0.29	0.26
AS-5	Library staff who have the knowledge to answer user questions	6.54	5.95	-0.59	-0.78	-0.14	-0.18
AS-6	Library staff who deal with users in a caring fashion	6.41	6.03	-0.38	-0.64	-0.1	0.18
AS-7	Library staff who understand the needs of their users	6.53	5.8	-0.73	-1.18	-0.08	0.04
AS-8	Willingness to help users	6.47	6.17	-0.29	-0.29	-0.07	0.17
AS-9	Dependability in handling users' service problems	6.33	5.96	-0.37	-0.56	0	0

A Research question 2 See section 5.2		B Research question 4 See section 5.4	C Research question 3 See section 5.3	D Research question 5 See section 5.5	E Research question 6 See section 5	E Research question 6 See section 5	E Research question 6 See section 5
		Expected	Perceived	Gap	Under - graduate	Post - graduate	Academic staff
Information Control (All)		6.42	6.02	-0.4	-0.1	-0.16	0.32
IC-1	Making electronic resources accessible from my home or office	6.1	6.14	0.04	-0.06	-0.14	0.61
IC-2	A library Web site enabling me to locate information on my own	6.71	6.76	0.05	0.05	-0.25	0.34
IC-3	The printed library materials I need for my work	6.42	6.1	-0.32	-0.37	-0.39	0
IC-4	The electronic information resources I need	6.43	6.54	0.11	-0.01	0.21	0.4
IC-5	Modern equipment that lets me easily access needed information	6.5	6.26	-0.24	-0.3	-0.26	0.13
IC-6	Easy-to-use access tools that allow me to find things on my own	6.53	6.5	-0.03	-0.07	-0.14	0.35
IC-7	Making information easily accessible for independent use	6.34	6.42	0.08	0.05	-0.04	0.3
IC-8	Print and/or electronic journal collections	6.51	6.49	-0.02	-0.01	-0.29	0.13

A Research question 2 See section 5.2		B Research question 4 See section 5.4	C Research question 3 See section 5.3	D Research question 5 See section 5.5	E Research question 6 See section 5	E Research question 6 See section 5	E Research question 6 See section 5
		Expected	Perceived	Gap	Under - graduate	Post - graduate	Academic staff
Library as Place (All)		6.14	6.02	-0.12	-0.22	-0.16	0.36
LP-1	Library space that inspires study and learning	6.12	6.14	0.02	0.05	-0.3	0.2
LP-2	Quiet space for individual work	6.32	5.87	-0.45	-0.5	-0.5	-0.06
LP-3	A comfortable and inviting location	6.33	6.29	-0.04	-0.24	-0.07	0.65
LP-4	A haven for study, learning, or research	6.09	5.99	-0.1	-0.06	-0.11	0
LP-5	Space for group learning and group study	5.72	5.55	-0.18	-0.18	-0.18	0.36

Table 12: LibQUAL results-integrated table

5.1 Research question 1

What is the image that the current library users have of the VTC Library and how do the Vaal Triangle Campus library users experience the current service of the library?

The library image relates to overall satisfaction with the VTC library. In addition, to supplement the core questions, three general satisfaction questions were asked, and relate to the overall satisfaction and experience of the VTC library. The perceived scores were collected on a scale from 1-9, and these scores were analysed by service dimensions and the overall satisfaction compared with the VTC library means. The responses ranged on average from 6 to 6.18 follows; satisfaction with treatment (6.11), satisfaction with support (6.18), satisfaction with overall quality of service (6.09) Note that the average is on a 9 point scale.

Retief (2005:34) cites Albrecht (1992:116) who introduces the concept of "moment of truth" which is defined as "any episode in which the customer comes into contact with the organization and gets an impression of its service". "Moments of truth" are based on personal experiences and observations that influence the image of the library.

The 22 core survey items measured user perceptions of service quality in three dimensions: Affect of Service, Information Control and Library as Place. Respondents provided three answers on a 1-9 point scale: the minimum level, the desired level and the perceived level of service provided by the library for the three dimensions. The minimum, desired and perceived means were analysed for each question. Figure 12 (see section 4.3) indicates that the library users were willing to say the VTC library was not meeting their minimum needs. The perceived level of service for all three dimensions, in summary, was lower than the minimum acceptable service level and thus fell outside the zone of tolerance, with a negative gap *affect of service*

(-0.42), *information control*(-0.4) and *library as place* (-0.12). The zone-of-tolerance theory implies that the library is not doing well on the specific item, because "perceived" falls below "minimally acceptable" service (Thompson, Kyriallidou & Cook 2008). There is a need to improve the library users image of the library and a solution could be to ensure employee and management commitment and involvement to assure a good image of the VTC by the current library users (see 6.4.1.1).

What are the dimensions that determine the customer's evaluation of service quality in the VTC library?

The 22 core survey questions were divided into three dimensions and measure user perceptions of service quality in these three dimensions: Affect of Service, Information Control and Library as place.

The ***service affect dimension [AS]*** relates to the perceptions of customers about library staff competency, abilities and support. The *service affect* attempts to answer the question: "How is the user treated in the library?" It is about the warmth, empathy, reliability and assurance of library staff. The service affect is measured by nine LibQUAL +® core items (see Appendix C).

The ***information control dimension [IC]*** explores the library's collection, whether the collections are sufficient to meet the needs of the users. A major objective of the library is to ensure that a complete collection and a variety of resources is acquired, stored and made accessible. The library staff should provide assistance and instruction to users on effective techniques in locating information that meet their needs (Majid, Anwar and Eisenschitz 2001). *Information control* is about the extent of the collection and ability of users to find, use and administer information needed for their study and/or to do research, and the ability to control the information in an effective way. The information control is measured by 8 LibQUAL +® core items (see Appendix C).

The **library as place [LP]** is the physical environment; the library as space. The *library as place* dimension is concerned with the facilities of the library: are the facilities acceptable and sufficient? The overall appearance, practical use and experience of the building and its facilities are measured by 5 LibQUAL +® core items.

The researcher recommends elements how to improve and assure quality in the designed model (see sections 6.4.2 & 6.4.4), and include sound **communication and documentation** of the dimensions of quality in a library as an essential element to determine the customer's evaluation of quality in the VTC Library, communication is a way of achieving productivity in academic libraries (Bolarinwa and Olorunfemi 2009:1). The dimensions studied in this study are based on the LibQUAL questionnaire dimension and should be communicated to staff and library users.

5.2 Research question 3

How do the VTC Campus library users experience (perceive) the current service of the library?

Respondents provided scores on a 1-9 point scale for the *perceived level of service*. The overall perceived level scored for the three dimensions are: *affect of service* (5.93), *information control* (6.02) and *library as place* (6.02).

The study revealed, for the **affect of service dimension**, that currently the confidence instilled in users by staff have scored 5.5; individual attention given score (6.01); consistent courteousness (5.89), response readiness for questions from users (6.07), knowledge ability (5.95), users dealt with in a caring fashion (6.03), understanding of users' needs (5.8), willingness to help (6.17) and dependability in problem solving (5.96).

For the **information control dimension** the following scores were obtained: accessibility of electronic resources from home or office (6.14), a library website which enables the user to locate information on their own (6.76), necessity for printed library materials (6.1), electronic resources needed (6.54), modern equipment enabling the user to easily access information needed (6.26), access tools that are easy to use (6.5), easy access of information for independent use (6.42) and print and electronic journal collections required for the users' work (6.49).

The results from the **Library as place dimension's** questions received the following scores: library space that encourages study and learning (6.14), quiet space for individual activities (5.87), a comfortable and inviting location (6.29), a heaven for study, learning or research (5.99) and adequate space for group learning and group work (5.55).

The need for a sound **Vision and a Mission statement** for the VTC library with a quality value statement to assure a quality experience of the current services of the library to afford a basis for evaluation of service experience (see 6.4.16; 6.4.1.7 & 6.4.1.8) to improve the perceptions of library users.

5.3 Research question 4

What are the expectations of the VTC library users?

Nitecki and Hernon (2000:259) refer to Hermon and Whitman who argue "that expectations could be examined from two coequal and probably interrelated concepts, namely service quality and satisfaction". Service quality deals with those expectations that the library chooses to meet and satisfaction refers to a sensitive, emotional and personal reaction".

Respondents provided scores on a 1-9 point scale for the minimum expected level of service. The expected level for the three dimensions are: *affect of service* (6.35), *information control* (6.42) and *library as place* (6.14).

The study shows that the users have relatively high expectations concerning quality of the service, since the scores are measured on a 9 point scale. The users expect the staff to instil confidence in users (5.89), give users individual attention (6.17), consistent courteousness (6.47), readiness to respond to users' questions (6.48), have the knowledge to answer user questions (6.54), deal with users in a caring fashion (6.41), understanding the needs of their users (6.53), willingness to help users (6.47) and dependability in handling users service problems (6.33).

Comprehensive and adequate collections contribute to a large extent, to service quality in the academic library (Hartel and Young 2006; Opaleke 2002). Cook and Heath (2001) mentions the importance to sustain investment in collection development over time to assure a " deep, rich" collection that is necessary for research and helps to define the quality of the library.

Expectations concerning **Information control** are also perceived as quite high and users expect the following: electronic resources to be accessible from home or office: (6.1) a library website enabling them to locate information on their own (6.71) printed library materials needed for their work (6.42) electronic information resources (6.43) modern equipment that enables easy access to needed information (6.5) easy-to-use access tools that allow them to find things on their own (6.53) information made easily accessible for independent use (6.34) and printed and/or electronic journal collections required for their work (6.51). These questions illustrate the increase in electronic features available in the current research and academic library for access to information, as well as the changes in information seeking behaviour.

Library spaces should be quiet, inviting and encourage learning and research. This is reflected in the users' expectations concerning a space that encourages study and learning (6.12), quiet space for individual activities (6.32), a comfortable and inviting location (6.33), a heaven for study, learning or research (5.09) and space for group learning and group work (5.72). Library users still value the library as place to study and do research and expect library facilities to be functional (Cook 2001). In the

current study library users who were interviewed stressed the fact that the library must be a comfortable and inviting space with different areas for different study purposes, namely: areas for students doing group work, research commons for researchers as well as silent areas for those users who wish to study.

Specific **goals and objectives** that are in line with the expectations of the VTC library users are necessary to satisfy their library needs. **Annual plans and strategies** and **policy deployment** assure that the services of the library meet the expectations of the library users (6.4.1.9 & 6.4.1.10)

5.4 Research question 5

Do the library users' expectations differ from the perceived levels of service in the library?

Perceived and expected service was covered in research question 3 and 4. Research question 5 measure the gap between the perceived service and the expected service on the service dimensions for all the users. Do the library users' expectations differ from the services of the library? Working with individuals or groups of users; which attributes of service quality equal, exceed or fall short of the user perceptions? This is the focus of the study.

The service adequacy gaps indicate the extent to which the library is meeting the minimum expectations of the users. Negative service adequacy gaps occur when perceptions fall below minimum expectations. The desired and minimum scores determine the upper and lower borders of a zone of tolerance within which the perceived scores should drift if respondents view service as adequate and allows the use of gap analysis to interpret the survey results. If scores are within the zone of tolerance, the service adequacy gap is positive because user perceptions are higher than their minimum expectations, even though they are lower than their desired expectations. Both the gap scores ("adequacy" = "perceived – minimum" and

“superiority” = “perceived” – “desired”) are scaled such that higher scores are more favourable.

The comparison between the expected and perceived levels of service in the **affect of service** dimension shows a significant gap for staff who instil confidence in users(-0.39), staff giving users individual attention(-0.16), library staff who are consistently courteous(-0.58), readiness to respond to users' questions(-0.41), library staff who have the knowledge to answer user questions(-0.59), library staff who deal with users in a caring fashion(-0.38), library staff who understand the needs of their users(-0.73), willingness to help users(-0.29) and dependability in handling users service problems(-0.37). A study done by Cook et al., (2003) revealed that the libraries included in their study were doing well in the library as place dimension, with an adequacy gap of 0.60.

The biggest gap (-0.73) is for variable AS-7: library staff who understands the needs of their users. The perceived mean for this variable is 5.8, and the minimum expected is 6.53, which gives the gap of -0.73 ($5.8 - 6.53 = -0.73$). The second biggest gap is -0.59 for variable AS-5. (Library staff who have the knowledge to answer user questions) followed closely by -0.58 for variable AS-3.

Users expressed lower levels of satisfaction in the *Affect of service* dimension. The perceived level of service for all the questions was lower than their minimum acceptable service level and the average gap between perceived affective of service and minimal acceptance fell outside the zone of tolerance.

The gaps identified for **information control** are as follows: making electronic resources accessible from my home or office (0.04), a library website enabling me to locate information on my own (0.05), the printed library materials I need for my work(-0.32), the electronic information resources I need(0.11), modern equipment that lets me easily access needed information(-0.24), easy-to-use access tools that allow me to find things on my own(-0.03), making information easily accessible for

independent use(0.08) and print and/or electronic journal collections I require for my work(-0.02). A study by Moon (2007) showed that the library in their study did well in the information control dimension and less well in the affect of service dimension and that this is also the case in the current study.

The overall perceptions of *Information control* indicates that the perceived level of service for four questions was lower than their minimum expected service level and the average gap between perceived affect of service and minimal acceptance fell outside the zone of tolerance, but not higher than -0.5. The biggest gap is for variable IC-3 (The printed library materials I need for my work). The perceived mean for this variable is 6.1 and the minimum expected is 6.42, which gives a gap of -0.32. The second biggest gap is -0.24 for variable IC-5 (Modern equipment that lets me easily access needed information).

The perceived level of service for the Information control was lower in four questions but not higher than -0.5. "The printed library materials I need for my work" was -0.32 the highest, and a definite need for new books. From the interviews it became evident that the library webpage is accessible and user-friendly and allows users to locate information sources for research purposes. Interview participants stressed the need to increase the number of computers in the library.

Academic library users not only expect competent and knowledgeable staff and relevant resources for teaching, learning and research, but also a suitable, inviting space to study, to read and to retrieve information.

Gaps concerning the **library as place** are the following: library space that encourages study and learning (0.02), quiet space for individual activities (-0.45), a comfortable and inviting location (-0.04), a heaven for study, learning or research (-0.1) and space for group learning and group work (-0.18). The study done by Naidu (2009) identified a quiet library environment as a problematic area and also matches the needs of the VTC library users for silent study areas.

The biggest gap in the Library as place dimension is for variable LP-2 (Quite space to work). The perceived mean for this variable is 5.8, and the minimum expected is 6.32, which gives the gap of -0.45 ($5.8 - 6.32 = -0.45$). The second biggest gap is -0.18 for variable LP-5. (Space for group learning and group study).

The library needs to assess service to determine how library users' expectations differ from the perceived levels of service and to assure a quality service. Surveys and audits are essential to assess and compare the results of the performance measures of the services of the library with the expectations of the library users (see 6.4.1.12).

5.5 Research question 6

“Working with groups of users, which attributes of service quality equal, exceed or fall short of the user perceptions?”

In the following paragraph the results obtained for the affect of service by the three groups of users will be shown. Firstly, the results from the undergraduate students: library staff who instil confidence in users (-0.5), living users individual attention (-0.26), library staff who are consistently courteous (-0.9), readiness to respond to users' questions (-0.73), library staff who have the knowledge to answer user questions (-0.78), library staff who deal with users in a caring fashion (-0.64), library staff who understand the needs of their users (-1.18), willingness to help users (-0.29) and dependability in handling users service problems (-0.56). Secondly, the results from the post-graduate students: library staff who instil confidence in users (-0.47), giving users individual attention (-0.36), library staff who are consistently courteous (-0.32), readiness to respond to users' questions (-0.29), library staff who have the knowledge to answer user questions (-0.14), library staff who deal with users in a caring fashion (-0.1), library staff who understand the needs of their users (-0.08), willingness to help users (-0.07) and dependability in handling users service

problems (0). Finally, the results from the academic staff: library staff who instil confidence in users (0), giving users individual attention (0.09), library staff who are consistently courteous (0.13), readiness to respond to users' questions (0.26), library staff who have the knowledge to answer user questions (-0.18), library staff who deal with users in a caring fashion (0.18), library staff who understand the needs of their users (0.04), willingness to help users (0.17) and dependability in handling users service problems (0).

From the results it is clear that undergraduate and post-graduate students are unhappy with the *affect of service*. Undergraduate users expressed lower levels of satisfaction in the *affect of service* dimension and rated the affect of service gap negatively on all the variables. There is a general trend of low satisfaction under the students, undergraduate students (biggest gaps), followed by post-graduate students (smaller gaps), Academic staff rated affect of service better than the students. The academic staff is generally satisfied with the quality of service delivery provided by the library staff. The service delivery of the VTC library staff meet their minimum requirements, except for library staff who have the knowledge to answer user questions (-0.18), meets their minimum acceptable service level.

The interview participants saw affect of service as varying according to the service point. The interviews revealed that users were generally satisfied with the assistance provided by staff in the information services and that they found librarians to be usually understanding and helpful. Elements of dissatisfaction documented include a feeling of inability or unwillingness of staff to assist at certain service points and a perceived lack of knowledge in the library staff to answer user questions.

Furthermore, the results obtained for information control by the three groups of users are given. The study revealed that there are variations between the different user groups concerning the perceptions and expectations within the information control dimension. The academic staff was fairly happy with positive adequacy gaps and the students with negative adequacy gaps. The difference may be because of the

different needs of academics and students (Thapisa and Gamini 1999). The undergraduate students need information that they can deal with, without problems for assignments and class work and is easily available.

Firstly, the results from the undergraduate students: making electronic resources accessible from home or office (-0.06), a library website enabling users to locate information on their own (0.05), the printed library materials users need for their work (-0.37), the electronic information resources users need (0.01), modern equipment that lets the user easily access needed information (-0.3), easy-to-use access tools that allow users to find things on their own (-0.07), making information easily accessible for independent use (0.05) and print and/or electronic journal collections the user require for his work (-0.01). Secondly, the results from the post-graduate students: making electronic resources accessible from home or office (-0.14), a library website enabling users to locate information on their own (-0.25), the printed library materials users need for their work (-0.39), the electronic information resources users need (0.21), modern equipment that lets the user easily access needed information (-0.3), easy-to-use access tools that allow users to find things on their own (-0.14), making information easily accessible for independent use (-0.04) and print and/or electronic journal collections the user require for his work (-0.29). Finally, the results from the academic staff: making electronic resources accessible from home or office (0.61), a library website enabling users to locate information on their own (0.34), the printed library materials users need for their work (0), the electronic information resources users need (0.4), modern equipment that lets the user easily access needed information (0.13), easy-to-use access tools that allow users to find things on their own (0.35), making information easily accessible for independent use (0.3) and print and/or electronic journal collections the user require for his work (0.13).

All library users indicated that the information dimension is an important dimension to them.

From the results the academic staff rated *information control* better than the students. The respondents' perceptions of service quality in this category are reflected in Figure 17 and indicate that the perceived level of service for all questions meets their minimum acceptable service level. Academic staff are satisfied overall with the *information control* dimension with no negative adequacy gaps, although the printed material is on the border. Academic staff need extensive information in all formats for their research and teaching needs, they know exactly what they are looking for and how to access and engage with information. One may assume that they are self-sufficient researchers who navigate the electronic databases to identify information resources on their own.

The post-graduate group indicated dissatisfaction with the *information control* dimension, and regard the existing provision of printed information resources as falling below their minimum requirements. There was a clear indication that the library needs to update the printed material, and that the printed collection development needs serious attention as indicated in Figure 17 (see section 4.2.2). Figure 17 illustrates that the perceived level of service for 7 questions, except for electronic information resources needed (0.21) was lower than their minimum acceptable service level and thus fell outside the zone of tolerance.

The undergraduate students are unhappy with the *information control* dimension. Their perceived level of service for 6 questions in the *information control* dimension is lower than their minimum acceptable service level and thus fell outside the zone of tolerance with a negative gap.

The interview results validate the questionnaire results as students indicated that the printed collection development needs serious attention. The need for more books and new books were stressed intensively in interviews.

The number of computer workstations are not adequate, there was a need indicated for more computers in the library as there were no computers available to check the catalogue during the semester when all the computers are in use.

Results obtained for library as place by the three groups of users will be shown. Firstly, the results from the undergraduate students: library space that encourages study and learning (0.05), quiet space for individual activities (-0.5), a comfortable and inviting location (-0.24), a heaven for study, learning or research (-0.06) and space for group learning and group work (-0.18). Secondly, the results from the post-graduate students: library space that encourages study and learning (-0.3), quiet space for individual activities (-0.5), a comfortable and inviting location (-0.07), a heaven for study, learning or research (-0.11) and space for group learning and group work (-0.18). Finally, the results from the academic staff: library space that encourages study and learning (0.2), quiet space for individual activities (-0.06), a comfortable and inviting location (0.65), a heaven for study, learning or research (0) and space for group learning and group work (0.36).

The outcome of the study illustrates that expectations with regard to the *library as place* are high. Users expect a quiet library environment. The biggest gap, a silent space to study, is a priority for all 3 user groups (undergraduates, post-graduates and academic staff). Interview participants are unhappy about the noise levels in the library. From the LibQUAL results and the interviews it appears that students expect the VTC library to offer both social and academic areas with increased group study space to work on group projects. The library as a comfortable and inviting location scored low under the undergraduate students when compared with other library user groups.

Examination of the interview transcripts showed that students saw the library as a place where they came to study, but they also think of the library as a gathering space. There were high expectations for quiet study space, place for group discussions, group projects and computer usage in the VTC library.

The statistical data analysis indicates that undergraduate students are dissatisfied as they regard existing facilities as falling below their minimum requirements for Library as place. It is clear from the results that the undergraduate students are unhappy about the noise in the library. The undergraduate respondents perceived the dimension *Library as place* for four questions lower than their minimum acceptable service level and it thus fell outside the zone of tolerance with a negative gap.

Analysis indicates that the post-graduate students were dissatisfied as they regard existing library facilities as falling below their minimum requirements and minimum acceptable service level for Library as Place for all 5 of the questions, and thus fell outside the zone of tolerance. The lack of silence is also confirmed by a number of complaints received in the comments section.

Analysis indicates that the perceived level of service for four questions meets the minimum acceptable service level expected and that academic staff are in general satisfied with the library as space. Quiet space for individual work (-0.06) falls below the minimum mean as illustrated in Figure 18.

Surveys and audits are essential for the assessment and comparison of the results on the performance measures of the services of the library with the expectations of the library users and to determine which attributes of service quality equal, exceed or fall short of the user perceptions (see 6.4.1.12)

5.6 Research question 7

What needs of the library customers are not addressed currently?

All the negative gaps need to be addressed and surface as a need with the library users. Thus, in the following paragraph only the results with negative gaps are given for the three dimensions as measured in the three different user groups.

Current unaddressed needs for the affect of service by the undergraduate students are the following: library staff who instil confidence in users (-0.5), giving users

individual attention (-0.26), library staff who are consistently courteous (-0.9), readiness to respond to users' questions (-0.73), library staff who have the knowledge to answer user questions (-0.78), library staff who deal with users in a caring fashion (-0.64), library staff who understand the needs of their users (-1.18), willingness to help users (-0.29) and dependability in handling users service problems (-0.56). The needs that needs to be addressed according to the post-graduate students are: library staff who instil confidence in users (-0.47), giving users individual attention (-0.36), library staff who are consistently courteous (-0.32), readiness to respond to users' questions (-0.29), library staff who have the knowledge to answer user questions (-0.14), library staff who deal with users in a caring fashion (-0.1), library staff who understand the needs of their users (-0.08) and willingness to help users (-0.07). Fortunately the only 'need' that needs attention according to the academic staff is 'library staff' that has the knowledge to answer user questions (-0.18).

Negative gaps concerning information control by the three groups of users are now given. Firstly, the negative gaps from the results from the undergraduate students: making electronic resources accessible from home or office (-0.06), the printed library materials users need for their work (-0.37), modern equipment that lets the user easily access needed information (-0.3), easy-to-use access tools that allow users to find things on their own (-0.07) and print and/or electronic journal collections the user require for his work (-0.01). Secondly, the negative gaps from the results from the post-graduate students: making electronic resources accessible from home or office (-0.14), the printed library materials users need for their work (-0.39), modern equipment that lets the user easily access needed information (-0.3), easy-to-use access tools that allow users to find things on their own (-0.14), making information easily accessible for independent use (-0.04) and print and/or electronic journal collections the user require for his work (-0.29). Finally, there are no negative gaps from the results from the academic staff.

The negative gaps from the results obtained for library as place by the three groups of users will be shown. Firstly, the results from the undergraduate students: quiet space for individual activities (-0.5), a comfortable and inviting location (-0.24), a heaven for study, learning or research (-0.06) and space for group learning and group work (-0.18). Secondly, the results from the post-graduate students: library space that encourages study and learning (-0.3), quiet space for individual activities (-0.5), a comfortable and inviting location (-0.07), a heaven for study, learning or research (-0.11) and space for group learning and group work (-0.18). Finally, the results from the academic staff: quiet space for individual activities (-0.06).

The statistical data analysis indicates that undergraduate students are dissatisfied as they regard existing facilities as falling below their minimum requirements for *Library as place*.

The lack of silence is also confirmed by a number of complaints received in the comments section.

It is clear from the results that the undergraduate students are unhappy about the noise in the library the perceived level of service for four questions meets the minimum acceptable service level expected.

Results from surveys and audits can be used to determine which needs of the library users are not currently being addressed. Results from surveys and audits can also be used for planning and benchmarking purposes. Reviews used to compare the results of the performance measures of the services of the library with the expectations of the library users need to act on much needed best practices and the needs of the users (see 6.4.1.9; 6.4.1.12; 6.4.1.13).

5.7 Research question 8

What are the most essential attributes that library managers should allocate resources to, for support to improve excellence in service quality?

In general, the participants were dissatisfied with the library as place. The general feeling among the participants was that the space in the library was inadequate; there is a need for more study space. The library space should be expanded for group discussions without interruptions by other students. There is a necessity for silent individual study space (see complete list – Appendix F).

The library must transform into a university library with levels for subjects and subject librarians on the same level. The current infrastructure was not suitable for post-graduate students, as there is no separate silent area or research room available (see complete list – Appendix F). The perception was that the library was not an inviting location for research and study and that the library was noisy. There is a definite need for a support centre for post-graduate students

From the results all the big gaps are most common under the affect of service to the undergraduate students. These gaps are: library staff who instil confidence in users (-0.5), library staff who are consistently courteous (-0.9), readiness to respond to users' questions (-0.73), library staff who have the knowledge to answer user questions (-0.78), library staff who deal with users in a caring fashion (-0.64), library staff who understand the needs of their users (-1.18) and dependability in handling users service problems (-0.56). The only other big gap, according to the undergraduate and post-graduate students, are library as place where they seem to feel that there is no quiet space for individual activities (-0.5).

How to support and improve excellence in service quality through the allocation of resources? Management reviews and corrective action mentioned in Status reports could be used to address this question (6.4.1.14).

5.8 Summary

The empirical research undertaken in this study enables the library staff to determine the understanding of how staff and students perceive the VTC Library and the services it provides. The VTC library would like to identify specific service perceptions and best practices in providing library service. The survey data affords insights into problem areas and creates a basis against which to measure future performance of service. The international LibQUAL +® Survey developed by the American Association of Research Libraries (ARL) allows VTC library, in taking part in the survey, to benchmark their results against other libraries and set the results within the context of library strategic planning to improve service.

The VTC library retrieves valuable information from the list of 27 core items in the LibQUAL +® survey and the optional local questions on service quality assessment. Gaps between minimum, perceived and desired levels of service were measured. Respondents used the comments box on the survey to make suggestions on specific ways to address their concerns. The comments box that requested open-ended user views provides valuable feedback, useful in fleshing out insights into perceived library service quality. These open-ended comments are helpful for understanding why users provide certain ratings.

Thus, the survey results indicate that the VTC Library has not met their users' expectations in general. On the other hand, the results enable them to identify the gaps between what their users perceive and what they desire regarding their library services. The challenge is to address these issues to increase the quality of service and environment.

6 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter a summary and conclusion of the dissertation are made. Based on the knowledge gained by means of the empirical research and the theory identified through the literature research the researcher presents recommendations and develops a service quality model that could serve as a recommendation to improve service quality. The model is based on the ISO Quality Management Systems tools (see 2.4.2.8); Deming's PDCA Cycle (see 2.3.1) and the concept of Hoshin Kanri's Model (see 2.4.2.9). The main phases of the model are philosophy, plan, do, check and act.

The purpose of the study was to determine the perceptions of the Vaal Triangle Campus Library users as they relate to quality service and to determine the importance of service quality aspects according to library users. Service quality was measured on important service dimensions, namely, affect of service; library as a place; information control and access to information.

Theoretical models that could be used in the understanding of service quality in the library, to determine the existing levels of service quality and user expectations, and to develop a service quality model that may be used to meet the user's expectations to improve the levels of service quality for the Vaal Triangle Campus Library. The recommendations based on the findings are also presented. Suggestions on areas of further research are also given.

Research questions

The key question that was answered for consideration of the main topic was:

“Can an appropriate model be developed to improve service quality in an academic library?”

Specific questions that were addressed:

Question 1

What is the image the current library user: have of the VTC library? and how do the VTC Campus library users experience the current service of the library?

Question 2

What are the dimensions that determine the customer’s evaluation of service quality in the VTC library?

Question3

How do the VTC Campus library users experience the current service of the library?

Question 4

What are the expectations of the VTC library users?

Question 5

Do the library users’ expectations differ from the services of the library?

Question 6

Working with individuals or groups of users, which attributes of service quality equal, exceed or fall short of the user perceptions?

Question 7

What needs of the library customers are not addressed currently?

Question 8

What are the most essential attributes that library managers should allocate resources to, for support to improve excellence in service quality?

6.2 Summary of the dissertation

Chapter 1 gave an orientation to the study. The definitions of key terms and abbreviations used in this study were provided. The research problem, a brief outline of the research aims and the research methodology were indicated. The development of a service quality model to improve service at the VTC library was indicated. The limitations, structure and chapter divisions were also indicated.

In Chapter 2 the service quality concept was discussed in more detail. Relevant theoretical models used in service quality assessment and related studies on service quality in the academic library context were identified. Methodologies and findings were also identified and discussed.

Chapter 3 presented the research method and procedures used in this study. The researcher described the research methodology and research design, and data-collection instruments and procedures were discussed. The researcher used mixed methods, triangulation approach to collect data from the library users, which included qualitative methods through focus group and individual interviews and quantitative methods through the web-delivered LibQUAL+ questionnaire. The population investigated was described.

Chapter 4 reported the data gathered and results of the survey which was conducted by means of the LibQUAL questionnaire, the individual interviews

as well as focus group interviews which validated the results from the LibQUAL questionnaire.

Chapter 5 discussed findings obtained from the completed LibQUAL + questionnaire, focus group and individual interviews for different user groups. The perceptions of service delivery in the VTC Library and how the users experience the library service were discussed. The expectations of the users were disclosed and the study indicated which attributes of service equal, exceed or fall short of the users' perceptions. The research indicated the most essential attributes that need to be addressed. The dimensions studied were the affect of service, information control and the library as place.

Chapter 6: recommendations were made based on the research findings . The researcher developed a service quality model in an attempt to improve and assure the levels of service quality in the academic library.

6.3 Conclusions

The library user has been identified as the most critical voice in assessing library service quality. Before assessment could be done it was necessary to investigate what constitutes 'service quality' in the minds of the users. The literature shows that there are various approaches to measure service quality and no single or right way of assessing service quality exists. Assessment models bring challenges to academic libraries to not only focus on the traditional methods of quality assessment but to focus and involve the library users. "Libraries do not exist for people who work in them, but for people they serve," (Zhan & Zhang 2006). The study has revealed the importance of library assessment to seek and understand library users' service quality perceptions and needs. It is crucial to act upon the feedback from users in order to improve the service.

Quality assessment is the responsibility of library management, thus the best combination of assessment methods should be employed to provide a useful method

of assessment in their library. The service quality concept was discussed in more detail. Appropriate models used in service quality assessment and related studies on service quality in the academic library context were identified.

The empirical research undertaking in this study enables the library staff to determine the understanding of how staff and students perceive the VTC Library and the services it provides. The VTC Library would like to identify specific service perceptions and best practices in providing library service. The survey data affords insights into problem areas and creates a basis against which to measure future performance of service. The international LibQUAL + Survey developed by the American Association of Research Libraries (ARL) allow the VTC library, in taking part in the survey, to benchmark their results against other libraries. The VTC library retrieved valuable information from the list of 22 standardized items in the LibQUAL +™ survey and the optional local questions on service quality assessment. Gaps between minimum, perceived and desired levels of service were measured.

Broadly, the results of this study indicate that there is a gap between user perceived mean and the minimum mean for the service of the library users'. The LibQUAL survey results indicate that the VTC Library has not met users' expectations in general. On the other hand, we do see the gaps between what the users perceive and what they desire regarding the library services. The challenge is to address these issues to enhance and improve the service.

In this study the focus is on the adequacy gap as it is important to satisfy the customers in the different user groups. The service adequacy gaps indicate the extent to which the library is meeting the minimum expectations of the users. Respondents used the LibQUAL comments box that requested open-ended user views on the survey to make suggestions on specific ways to address their concerns.

The LibQUAL comments box provides valuable feedback, which is useful in reaching insights into perceived library service quality. These open-ended comments are helpful for understanding why users provide certain ratings.

The LibQUAL response rate was low, that was despite the fact the respondents stood a chance to win an iPod, an external hard drive, two USB flash drives and a bookstore cash voucher as an incentive for their participation. The question that remains is whether the LibQUAL questionnaire is always the best option. Possible future work may be to adapt the questionnaire to achieve a higher response rate. Triangulation was employed with success to the extent that the researcher interacts with library users, discussions in focus groups and individual interviews, to clarify certain points of interest. Focus group and individual interviews conducted with library users of the VTC library provided valuable information about the users own behaviour and the perceptions of what the library should provide.

Analysis of the LibQUAL survey and the interviews contribute to the identification of certain gaps which led to the development of the service quality model for the VTC library to improve its service quality.

The first research objective and key research question was: "Can an appropriate model be developed to improve service quality in an academic library?" The researcher identified models that could be used in the understanding of service quality in the library. The models that was discussed in Chapter 2 include the Perceived service quality or Nordic model, Disconfirmation of expectations model, the SERVQUAL/Gap analysis model of service quality, the Three component model, the Hierarchical service quality model, ISO quality management system the Hoskin Kanri management system and LibQual+. The researcher developed a service quality model for quality service delivery based on a models reviewed in Chapter 2. The second research objective was to determine the library users' experience of the library service, to determine what they are expecting and what they will expect as a minimum service level for service delivery. Specific research questions (see section 6.2).

It was essential to recognize the dimensions of library service quality and to measure the gaps between the expected service level and the perceived service levels for the identified service dimensions in the library.

The ***affect of service*** dimension involves the human facets of the library staff. From the users' perspective, the study revealed that the users' perceptions are fairly high in some services and low in others. The study revealed that some services at certain service points were not effective and that the library is not living up to the users' service quality expectations. Fairly negative feedback regarding some unfriendly staff was received.

Services with fairly high users' perceptions include, prompt interlibrary loan service and information services. The library users expect knowledgeable, competent, friendly and courteous staff to help users

In the ***information control*** dimension it becomes clear that information is required in any format, printed or electronic to fulfill information needs. The study indicated that the library has not been able to provide the library users with adequate and/or the latest books on a topic for their teaching, learning and research needs. The library users are fairly satisfied with the library web page with useful information and access to databases. The input and contribution from the users is necessary to ensure that the collection is relevant and useful. The library users expect adequate library equipment and computers to facilitate access to information.

The results from ***the library as place*** dimension indicated that library users expect the library to be a place conducive for study, learning and research. The study indicates the desperate need for more study space, separate group discussion facilities and silent space for individual study. The need for a research commons also surfaced in the study. The library needs more computers to be used for search and research purposes; there is also a need for modern, reliable, working equipment. The need for more photocopiers in the copy section was also indicated.

The study revealed differences within groups of users, namely, the academic staff, post-graduate students and undergraduate students regarding the service dimensions,

for example: affect of service; library as a place; and access to information. The differences can be the cause of the different needs of users and their level of study.

The essential attributes were identified that managers should allocate resources to, for support in order to improve service quality

It is evident from the above discussion that the VTC Library does not meet the expectations of the users with regard to some of the library services. Failure of the VTC Library not meeting the users' minimum acceptable service level may be ascribed to a number of reasons. Staffing problems, some library users not fully computer literate, for instance the older students that further their qualifications from the previously disadvantaged areas. The library space problem is only a few to mention.

The researcher developed and recommended a quality model that could serve as a service plan to achieve the goals and objectives set by the library's mission to bring about quality service within the VTC library and to address the problems identified in the study. It is essential to take control of factors that influence service quality and customer satisfaction. Quality is a companywide process and cannot work effectively without a strong commitment from library employees and management. Quality requires continuous improvement and is a way of managing.

6.4 Recommendations

It is recommended that the library management should assess the service quality in the library on a regular basis in order to listen to the voices of their users. Library assessment helped the library to understand the expectations and needs of the library users. The library should place techniques and methods in place to implement the results of the findings and to monitor and sustain the improvement over time.

The vision of the Vaal Triangle Campus library is to be the heart of the Vaal Triangle Campus's academic and research culture, and to substantially contribute to the intellectual activities of the University. The Library wishes to be professionally and creatively involved in NWU's search for knowledge and innovation. The Library

embraces change and thrives on diversity, to support professional growth and innovation. "The general objective of the library services is to be active partners in quality research and learner-centred education at the North-West University by managing, facilitating and interactively providing scientific information" (Quality Manual 2008).

In view of the research findings and to realise the VTC library's vision and objectives it is recommended that the library should:

- Be aware of, and appreciate library users' needs. Listen to the needs of the users. Anticipate and react to user needs and requests. Assess service quality on a regularly basis - assessment of service will help to understand the needs and expectations of users and the University as parent institution. Make use of more appropriate measuring instruments to determine user satisfaction and its annual implementation.
- Employ mechanisms to improve and sustain service quality and base operational plans on the assessment results.
- Exploit scientific information by identifying, evaluating, acquiring and unlocking information resources.
- Build a comprehensive and valid information resource collection. Build collections and create tools to support scholarly activities. It is recommended that the VTC library should have a comprehensive collections development policy that addresses the critical needs of the VTC library users. The library has to search for relevant scientific information and identify eligible information sources in cooperation with users. Evaluate information sources on the basis of appropriate measures with a view to utilisation. Acquire information sources, by purchasing or by interlibrary loan, or by bringing about electronic access to it.

- Provide enhanced access to information and contribute to global, networked information resources.
- Make information accessible to users by organising information sources in all available formats, creating and maintaining appropriate conventional and electronic delivery structures and mechanisms. Ensure continued access to electronic sources.
- Market available sources via the services rendered by the library in order to facilitate access and use of information.
- Empower library users in information literacy, by presenting training courses to users, empower the users with the necessary skills to retrieve information for research. Train users and prospective users on various issues of access to resources, searching technique and retrieving information, but also in the evaluation of information sources, to be able to distinguish reliable information from the mass of information available. Create training material to ensure effective utilisation of information sources and services. Adjust and improve current training sessions on the basis of the evaluation results obtained.
- Train, develop and empower staff to deliver a quality service is very important. Support professional development and training of current library staff. Increase and improve library staff training focusing on customer care service. Develop, encourage, and sustain expertise, skills and commitment in the library staff. The study draws attention to the fact that the academic library needs to have passionate, committed and knowledgeable professional staff. Frontline staff must be empowered with knowledge to address user needs or to refer to the correct person to assist. The library needs to investigate the possibility of appointing additional qualified staff, well trained and caring people, responsive to the needs of the library users.
- Develop an assessment program with goals and activities that could be measured. Communication is critical in the project plan to keep all stakeholders informed. It is

essential to focus on how and where the library adds value to the academic community and to indicate return on investment. Timely report of assessment related results to internal and external stakeholders is important.

- Collaborate and liaise with other members of the University to enrich the research and learning community. Collaborate with faculty, staff, and students.
- Participate in local, national, and international library and information initiatives. Be professionally involved through membership of national and international associations and consortia, by participating in cooperative projects and by being involved in appropriate community projects (Quality Manual, 2009).
- Acknowledge the importance of the library as a place for learning and research. The problem with library space was communicated; the library should plan silent spaces and areas where students are allowed to have group discussions. Design a research commons as a scholarly common room for senior post-graduate students and academics.
- Subscribe to the values to which the University adheres. In particular the Library strives after excellent client services, recognition of diversity and integrity in its relationship with users and colleagues through a code of conduct.
- Assessing information and results must form part of the planning process in the library and afford the library the opportunity to plan for success.
- Recreate and restore a culture of service in the VTC Library through the implementation of the developed service quality model. The model attempt to assure quality service delivery in the VTC library.

The rationale of developing a service quality model was to draw together the knowledge gained by means of the empirical research and the theory identified through the literature research. The service quality model for the VTC library (figure 21) is based on the ISO Quality Management System's tools (see 2.4.2.8); Deming's PDCA Cycle (see 2.3.1) and the concept of Hoshin Kanri's model (see 2.4.2.9).

The development of a model for the VTC library is an attempt to assure quality service delivery in the VTC library. Essential elements of the internal quality assurance model are as follows:

- Commitment to service quality
- Communication and documentation
- Mission and vision
- Goals and objectives
- Annual plan and strategies - means and performance measures
- Policy deployment
- Reviews
- Status report: management review and corrective action

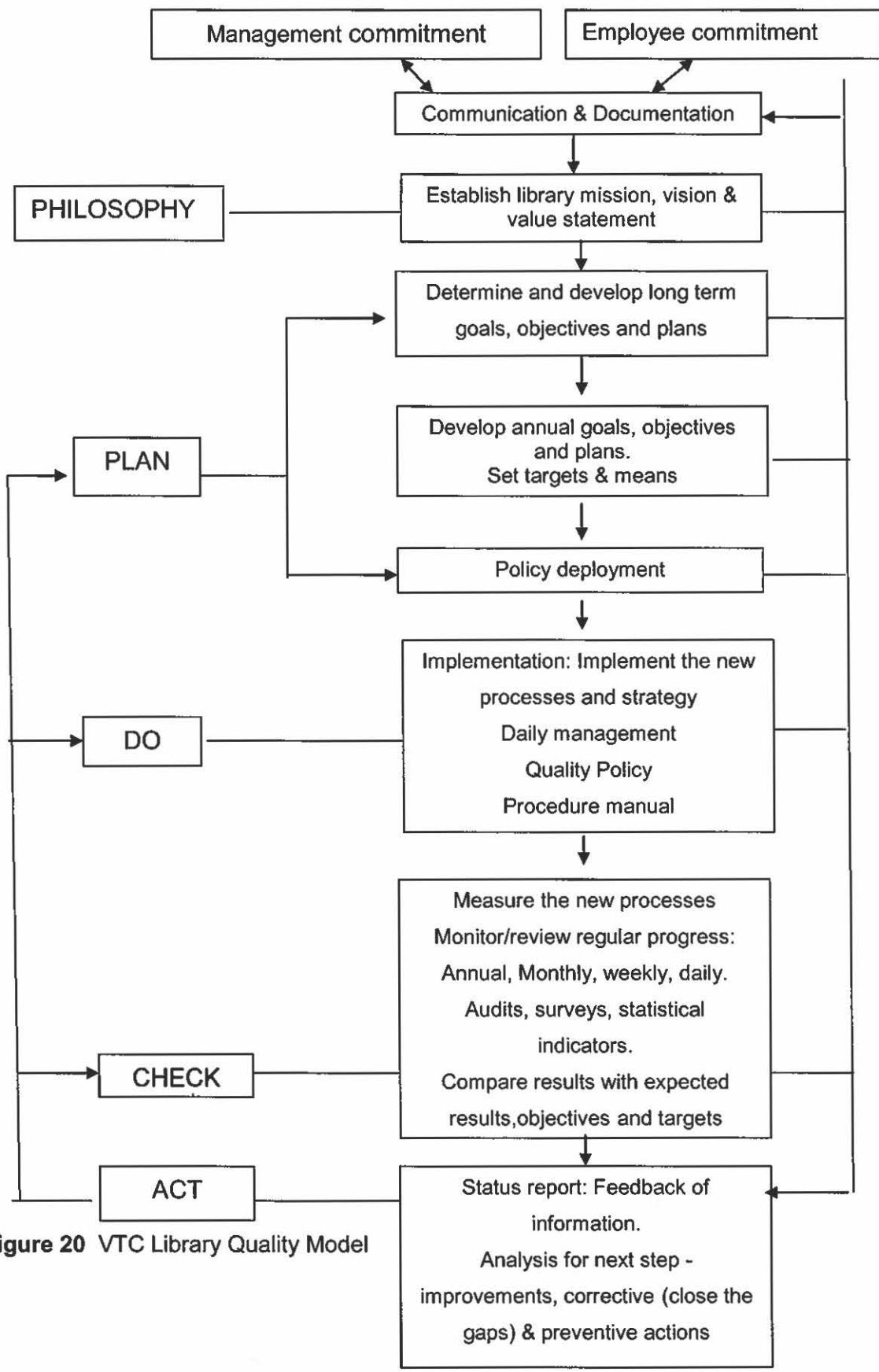


Figure 20 VTC Library Quality Model

6.4.1.1 COMMITMENT

Commitment is important for success in any quality initiative; there can be no success without commitment. Commitment at all levels from management to employees is essential to bring about permanent and sustainable change required to achieve the desired level of quality service to library users.

Employee commitment and involvement.

The commitment of employees to the goals of the organisation is a critical determinant to service quality and of any total quality programme (Elmadağ, Banu, AE & Franke 2008; Jackson 2004:714). Employees must become committed to the quality programme and projects and participate and share in the process. Employees must “buy in”, in the quality process; they must feel they are part of the plan and that they want quality themselves.

Frontline employees play a vital role in service delivery and building relationships with customers (Babakus, Yavas, Karatepe & Avci 2003). Elmadağ, Banu, AE & Franke (2008) refers to Hartline and Ferrell (1996) that describe the attitude and behaviour of frontline employees as very important since they represent the face and voice of the organization. The way in which the frontline employees approach the library users influence the customers' perceived service quality and satisfaction (Yoon, Beathy & Suh 2001). Solving and addressing customers' dissatisfaction is critical because if complaints are correctly handled it can lead to higher loyalty (Magnini, Ford, Markowski & Honeycutt 2007; Yanamandram & White 2006).

The development of an aligned, skilled and empowered work force is vital in a quality management program. A culture without blame and accusations and appropriate structures to support a team-based organization is very important. Empowerment requires proper training and performance support. New skills will be required that allow

employees to perform optimally. Management should encourage employees to come up with suggestions. By participating in quality improvement activities, employees acquire new knowledge and this will encourage a better understanding of the importance of product quality (Mesbahuddin, Himangshu, Anupam 2007).

The workforce should be seen as a valuable resource that should receive training during their career (Zhang, Waszink & Wijngaard 2000). Investment in training is essential for quality management success and is the process to develop the knowledge, skills, and abilities of employees that are important for job performance (Elmadağ, Banu, AE & Franke 2008).

Involvement and participation of employees and managers in training programmes will improve the quality and will create a feeling for team work and involvement, a feeling that they contribute to quality system implementation. It is stated in the services literature that employees who do not have the necessary job skills and interpersonal skills do not succeed in providing high levels of service in dealing with customers' complaints (Liao & Chuang 2004; Lytle & Timmerman 2006; Yavas, Karatepe, Avci & Tekinkus 2003).

Commitment can be obtained through effective communication and an understanding to what one is committing oneself to.

6.4.1.2 Management commitment

The implementation and success of a quality management system is a responsibility of the management team. A lack of management commitment is one of the reasons for the failure of quality management efforts. Mokhtar, Mohd and Rushami (2010) refer to (Kanji, 2001, Ahire & O'Shaughnessy 1998; Deming 1986) and describe top management commitment and leadership as the fundamental driving force to achieve service quality and quality improvement in an organization. Top

management set the quality policy and strategic planning for the organisation. That provides the vision, and goals of the organization. Singh (2000) remarks that a supportive management environment builds organizational commitment and job satisfaction that leads to improvement of employee performance.

Quality management creates remarkable results such as improved service quality, enhanced productivity and satisfied customers (Mesbahuddin, Himangshu, Anupam 2007)7:1).

6.4.2 COMMUNICATION

Communication is the basis for successful human interaction and as we move forward in a complex work environment, the importance of organizational communication as a driver of success becomes more important. Employers must know their employees and adjust their communication to the employees to be relevant and specific to particular needs. It is important to be sensitive to cultural diversity and be aware of the way in which different people react. Incomplete or inaccurate information demotivate people (Sorensen 2009:16)

Effective communication is one of the core project components for the successful construction of a project.

Criteria for successful organizational communication are that it is: timely, clear, accurate, pertinent and credible. Sorensen (2009:16) states that trustworthiness counts when it comes to ascertain credibility, it is important to be consistent and never gossip about other. Zaremba (2006 114) emphasizes the timeliness of communication and stresses the importance of clarity: Receivers must get messages at a time when the information is meaningful. The message is meaningless if it arrives too late.

6.4.3 Planning process

The goal of planning is to prepare the structure for implementation and control. Proper planning and setting a baseline from which to work is an essential step to complete any project successfully. Zwikael (2009:95) cite Fortune & White 2006; Johnson, Karen, Boucher & Robinson 2001 who considered planning as a vital and critical phase in any project and state that even an excellent implementation will not succeed if it follows a faulty plan. It is important to determine overall objectives, goals and processes necessary to deliver results in accordance with the expected output.

6.4.4 Documentation

The American Heritage Dictionary defines a document: "a writing that contains information" and is linked to the concept of furnishing evidence. Documentation is the indication of what an organization plans to do and proof of what the organization did and includes standards and specifications, policies and procedures, strategic and tactical plans, test and inspection protocols (Robinson 2009:35-36)

Documentation which is clear, concise and accurate plays a critical role in any project. Accurately maintained documentation affords employees with the official and permitted way of performing their tasks and it simplifies difficult processes. Documentation can be used to supplement employee training and to improve training processes. It offers a basis for evaluation and to compare what is required with what is actually done.

6.4.5 Quality philosophy

The quality philosophy can be based on one of the philosophies already discussed in chapter 2 (see 2.4).

The researcher bases the quality philosophy for VTC on Deming's fourteen points. The reasons for building the quality philosophy mainly on the philosophy of Deming are:

- Deming states the importance of the role people play in reaching quality through constant improvement.
- Techniques and measurements are only the tools used by people to achieve the set objectives of improving service quality.

6.4.5.1 Quality policy

The quality policy provides a description of what the organisation's policy is and how this will be reached with reference to the quality management system and internal quality audits. Verma 2009-2010 (156) refer to Bar (1997) who states that the vision and mission statements have gained recognition as tools of strategic importance that influence the behavior of people and resource allocation.

6.4.6 Mission

The mission statement is an identity statement that state who you are and what you do (Roach 2009:6). Campbell, Devine & Young (1990:21) state a mission is 'the cultural glue that enables organizations to function as a collective unity that consist of strong norms and values that influence the way in which people behave, how they work together and how they pursue the goals of the organization.'

The mission is also critical in the formulation of objectives. Witcher and Butterworth (1997) state: "The vital few objectives are typically presented with an explanatory background that includes values, vision, and mission statement." The mission give direction by directing attention on the purpose of the organization, guides decision making, motivates staff and act as control mechanism by presenting values and behavioral benchmarks (Forbes & Seena 2006:409; Verma 2009-2010:156).

6.4.7 Value statements

Values can be defined as those things that are important to or valued by someone. Value statements express what an organisation treasures and cares about. A values statement expresses what an organization embraces and is concerned about. Values are the principles that inform and motivate behaviour and actions of employees and serve as broad guidelines and guiding principles in all situations. "Individually or organizationally, values determine what is right and what is wrong, and doing what is right or wrong is what we mean by ethics. To behave ethically is to behave in a manner consistent with what is right or moral" (National Defence University 2008).

6.4.8 Vision statement

Vision serves as a guide to direction of progress. The vision defines the character or identity of the organization. The two elements in the core are values and the purpose of the organization (Verma 2009-2010:156).

The VTC Library wishes to be professionally and creatively involved in NWU's search for knowledge and innovation. The vision of the Vaal Triangle Campus library is to be the heart of the Vaal Triangle Campus's academic and research culture, and to substantially contribute to the intellectual activities of the University. The Library embraces change and thrives on diversity to support professional growth and innovation (North West University 2008).

6.4.9 PLAN

Determine the objectives and processes required to deliver results for improvement.

6.4.9.1 Develop objectives, goals and plans

Establish quality improvement objectives that match the library policies. Employees have to set personal quality improvement objectives that relate to the library policies. Employees have to determine and agree on projects and have to set goals to be achieved. To establish a plan for the different aspects to be managed, there must be flexibility to allow for changing needs.

6.4.9.2 General objective

“The general objective of the library services is to be active partners in quality research and learner-centred education at the North-West University by managing, facilitating and interactively providing scientific information” (Quality Manual 2008).

6.4.9.3 Specific objectives

The specific objectives of the VTC Library services (North West University 2008) are to:

- search for relevant scientific information and identify eligible information sources in cooperation with users. Evaluate information sources on the basis of appropriate measures with a view to utilisation. Acquire information sources, by purchasing them or by bringing about electronic access to them, both independently and, where possible, in consortium context. Ensure continued access to electronic sources.
- make information accessible to users by organizing information sources in all available formats, by creating and maintaining appropriate conventional and electronic delivery structures and mechanisms. Market available sources via the services rendered by the library in order to facilitate access and use of information, anticipate and react to user needs and requests.

- empower library users in information literacy, by presenting training courses to users. Create training material to make possible effective utilisation of specific information sources and services.

6.4.9.4 Annual plan, strategies and targets

An annual plan explains what must be achieved in the particular year so that the company can achieve the long term objectives (Jolayemi 2008). Annual strategies are a means to implement the objectives. The strategy indicates the way that the organization will follow to reach the aim. Strategy provides the reason for the organization to reach its goal. Strategy drives out fear and allows employees to work more effectively, professionally and efficiently Akao defines a target as an expected result of the solution to a problem (Jolayemi 2008: 306

6.4.10 Policy deployment

Watson (2003) explains policy deployment as a process to engage the entire organisation to take part in the strategic direction by creating shared ownership of the functioning of the organization and implementation actions.

Policy deployment is a process of developing and aligning business objectives, operational plans, aim and goals. Policy deployment focuses on identifying the annual plans and goals that must be reached in order to achieve the organisation's aims.

The deployment process will support the understanding of what must be achieved and obtain "buy in" and commitment, allow feedback to employees and management and start improvement initiatives.

6.4.11 DO

Implement the plan and processes.

6.4.11.1 Implementation: daily management and work instructions

After planning and preparation the firm must implement the plan as set out in the policy plan and the action plan. It must set out procedures and instructions that cover all key processes in the library, and execute the project plan to achieve the objectives and targets in the daily processes and work. A procedure defines and controls the work that should be done and is a method of carrying out a process or activity. A procedure is a "fixed, step-by-step sequence of activities or course of action (with definite starting and end points) that must be followed in the same order to correctly perform a task.

6.4.12 Check

Measure the processes and evaluate the results against the expected results to determine any variations or differences.

6.4.12.1 Evaluation and reviews

The annual review is the yearly assessment by management of the achievement and success of the policies (Jolayemi 2008:314). Processes are measured and the results are compared against the expected results to determine any variations and differences.

- Check the results of implementation: as the policy is deployed there will be feedback on results and performance and these must be evaluated and checked against targets and goals.
- When differences are exposed, the causes must be identified.
- Successful corrective actions should be taken.

- Develop a status report that details the results of the policy deployment efforts. These serve as the basis for the development of the next year's policy plan.

Search for problems in all the processes. Improve constantly all systems and processes. According to Witcher and Butterworth (2000) the aim of "check" is to have standardized processes under control, where work is constantly checked to ensure it measures up to expectations, and if necessary, corrective action can be taken (Jolayemi 2008:312).

6.4.12.2 Standardization

In the Hoshin process, an annual review should be followed by standardization of the business processes. Münstermann, Eckhardt and Weitze I (2010:29) state that the standardization of business processes effect process performance and must be seen as a valid business process management measure and a driver of process success. Jolayemi (2008) refer to Babich (1996) that stress the need for standardization and describes the following process: Lay down control items and prepare a control item list: identify specific control items as well as a list of specific jobs, responsibilities, and control methods. To monitor effectively and to manage daily work processes, it is vital to use review charts or forms. Tennant (2003) argues that the purpose is to review progress against the plan and the agreed actions to improve the progress.

- Monitor and adjust strategies and implementation plans
- Check output/ production for defects with appropriate and corrective action where necessary
- Progress is assessed - compared with objectives
- Review, revise
- Meetings to discuss progress

- Audits and surveys

The purpose of quality audits is:

- to assess how the organization is progressing with the implementation of the quality management system;
- to identify any shortcomings (gaps) and non-compliance with the procedures and work instructions so that remedial and preventative actions can be put into practice;
- to follow up on previously implemented actions to determine if the intervention was successful and if any other actions are required for improvement.

6.4.13 ACT

Examine and evaluate the differences in the expected and achieved results and determine the cause of the differences in processes. Decide where to apply changes that will include improvement. Gaps will be addressed by starting corrective or preventative actions. Take action to direct the plan and to bring the plan onto the right track.

6.5 Summary

The rationale and need of the VTC Quality Model was to plan and control the performance of the Library service on the Vaal Triangle Campus as a basis for performance improvement. *The VTC Library needs quality* measures to improve the quality in the library. The background, education, experience and skill levels of employees differ and affect their work. The model attempts to assure quality service delivery in the VTC Library. The commitment of management and the VTC Library employees are crucial to bring about continuing change to achieve the desired level of quality service in the VTC Library. It is important to turn business strategies into actionable objectives and to communicate these actions and tasks to the employees involved. The expected outcome if stakeholders follow these

actions is that the gaps will be minimized and best *quality* services will be delivered to the VTC Library users.

6.6 Further research

- The development of new or alternative methods, tools and mechanisms to assess the academic library service quality need to be researched.
- Determine the factors that contribute to stumbling blocks and difficulties that libraries experience in delivering quality library services.
- Investigate the role that library staff plays in improving library services and factors that hinder staff to deliver quality service.

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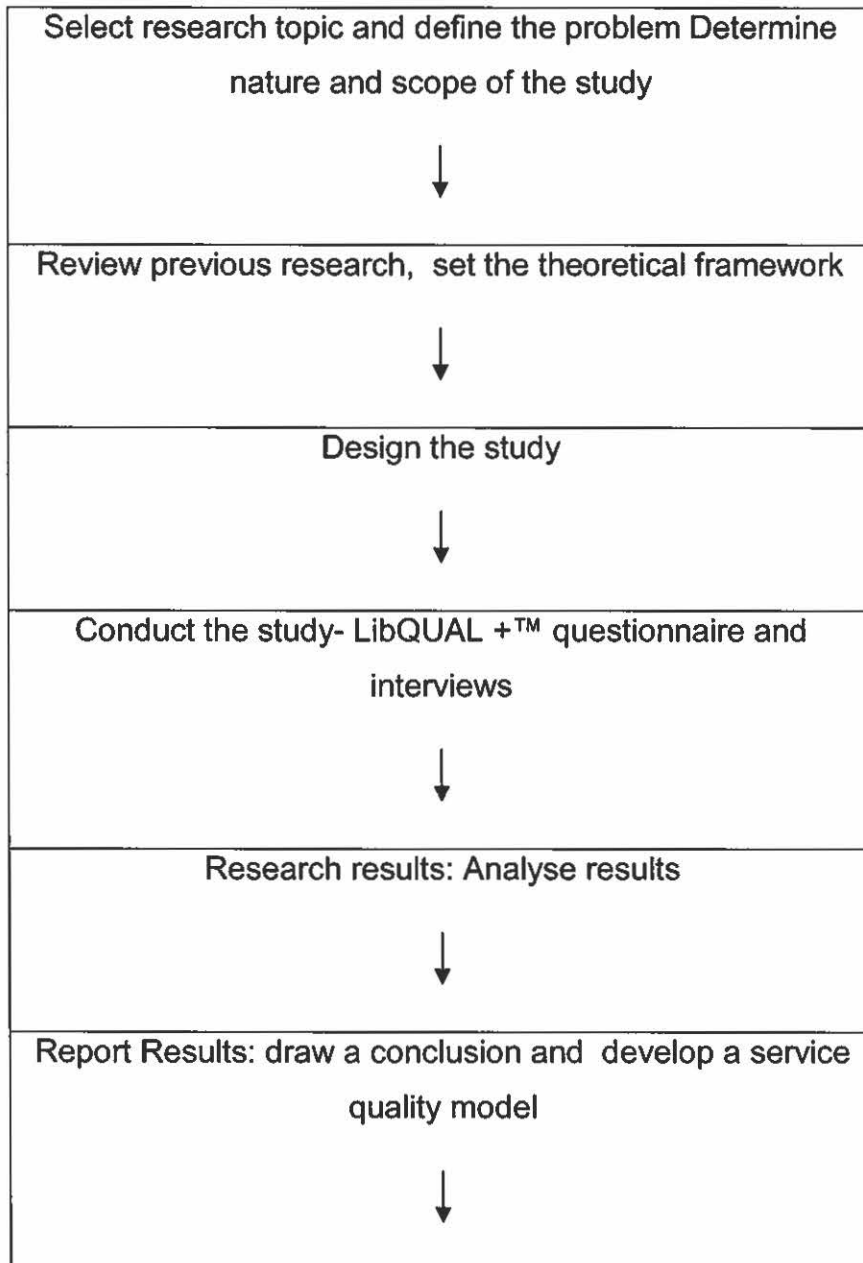
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Appendix A - Research Process



Model of Research Process -Adapted from Kreitner & Kinicki (2001)

Appendix B - LibQUAL web questionnaire



NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS



North West University, Vaal Triangle Campus

Welcome!

We are committed to improving your library services. Better understanding your expectations will help us tailor those services to your needs.

We are conducting this survey to measure library service quality and identify best practices through the Association of Research Libraries' LibQUAL+® program.

Please answer all items. The survey will take about 10 minutes to complete. Thank you for your participation!

Information supplied on this form will be processed in the United States. Data protection legislation requires us to make clear that supplying information on the form is entirely voluntary.

Please rate the following statements (1 is lowest, 9 is highest) by indicating:

Minimum -- the number that represents the *minimum* level of service that you would find acceptable

Desired -- the number that represents the level of service that *you personally want*

Perceived -- the number that represents the level of service that *you believe* our library currently provides

For each item, you must EITHER rate the item in all three columns OR identify the item as "N/A" (not applicable). Selecting "N/A" will override all other answers for that item.

When it comes to...	My Minimum Service Level Is									My Desired Service Level Is									Perceived Service Performance Is									N/A
	Low								High	Low								High	Low								High	
1) Library staff who instill confidence in users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
2) Making electronic resources accessible from my home or office	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
3) Library space that inspires study and learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
4) Giving users individual attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A

electronic journal collections I require for my work	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

25 Space for group learning and group study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A

When it comes to...	My Minimum Service Level Is									My Desired Service Level Is									Perceived Service Performance Is									N/A
	Low			High			Low			High			Low			High												
26 Timely document delivery / interlibrary loan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
27 Dependability in handling users' service problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
	Low			High			Low			High			Low			High			N/A									

Please indicate the degree to which you agree with the following statements:

28) The library helps me stay abreast of developments in my field(s) of interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
29) The library aids my advancement in my academic discipline or work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
30) The library enables me to be more efficient in my academic pursuits or work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
31) The library helps me distinguish between trustworthy and untrustworthy information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
32) The library provides me with the information skills I need in my work or study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
33) In general, I am satisfied with the way in which I am treated at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
34) In general, I am satisfied with library support for my learning, research, and/or teaching needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Strongly Disagree	Strongly Agree
35) How would you rate the overall quality of the service provided by the library?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	2	3	4	5	6	7	8	9	Extremely Poor	Extremely Good

Please indicate your library usage patterns:

- 36) How often do you use resources within the library?
- 37) How often do you access library resources through a library Web page?
- 38) How often do you use Yahoo(TM), Google(TM), or non-library gateways for information?

Please answer a few questions about yourself:

- 39) Age:
- 40) Sex:
- 41) Full or part-time student?
- 42) Position:
(Select the ONE option that best describes you.)
- Undergraduate:
- Post-graduate:
- Academic Staff:
- Administrative or Academic related staff:

43 Please enter any comments about library services in the box below:

44 Enter your e-mail address in the box below if you would like to enter an optional drawing for a prize. Your e-mail address will be kept confidential and will not be linked to your survey responses. (Not required)

Complete the Survey

If you have any questions, e-mail the [Survey Webmaster](#)

Appendix C - LibQUAL Adapted questionnaire

Affect of Service LibQUAL +™ core items

[AS-1] Library staff who instill confidence in users

[AS-2] Giving users individual attention

[AS-3] Library staff who are consistently courteous

[AS-4] Readiness to respond to users' questions

[AS-5] Library staff who have the knowledge to answer user questions

[AS-6] Library staff who deal with users in a caring fashion

[AS-7] Library staff who understand the needs of their users

[AS-8] Willingness to help users

[AS-9] Dependability in handling users service problems

Affect of service [AS]

When it comes to		My Minimum Service Level is		My Desired Service Level is		My Perceived Service Performance is		N/A												
		Low	High	Low	High	Low	High													
1 [AS-1]	Library staff who instill confidence in users	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
4 [AS-2]	Giving users individual attention	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
7 [AS-3]	Library staff who are consistently courteous	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
10 [AS-4]	Readiness to respond to users enquiries	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
13 [AS-5]	Library staff who have the knowledge to answer user questions	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
16 [AS-6]	Library staff who deal with users in a caring fashion	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
19 [AS-7]	Library staff who understand the needs of their users	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
22 [AS-8]	Willingness to help users	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A
27 [AS-9]	Dependability in handling users service problems	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	N/A

Information Control LibQUAL +™ core items

[IC-1] Making electronic resources accessible from my home or office

[IC-2] A library website enabling me to locate information on my own

[IC-3] The printed library materials I need for my work

[IC-4] The electronic information resources I need

[IC-5] Modern equipment that lets me easily access needed information

[IC-6] Easy-to-use access tools that allow me to find things on my own

[IC-7] Making information easily accessible for independent use

[IC-8] Print and/or electronic journal collections I require for my work

Information control [IC]

When it comes to		My Minimum Service Level is	My Desired Service Level is	My Perceived Service Performance is	N/A
		<i>Low</i> <i>High</i>	<i>Low</i> <i>High</i>	<i>Low</i> <i>High</i>	
2 [IC-1]	Making electronic resources accessible from my home or office	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
5 [IC-2]	A library Web site enabling me to locate information on my own	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
8 [IC-3]	The printed library materials I need for my work	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
11 [IC-4]	The electronic information resources I need	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
17 [IC-5]	Modern equipment that lets me easily access needed information	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
20 [IC-6]	Easy-to-use access tools that allow me to find things on my own	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
23 [IC-7]	Making information easily accessible for independent use	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
24 [IC-8]	Print and/or electronic journal collection I required for my work	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A

Library as Place LibQUAL +™ core items

[LP-1] Library space that encourages study and learning

[LP-2] Quiet space for individual activities

[LP-3] A comfortable and inviting location

[LP-4] A heaven for study, learning or research

[LP-5] Space for group learning and group work

Library as place [LP]

When it comes to		My Minimum Service Level is	My Desired Service Level is	My Perceived Service Performance is	N/A
		<i>Low</i> <i>High</i>	<i>Low</i> <i>High</i>	<i>Low</i> <i>High</i>	
3 [LP-1]	Library space that inspires study and learning	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
9 [LP-2]	Quiet space for individual work	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
15 [LP-3]	A comfortable and inviting location	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
21 [LP-4]	A heaven for study, learning or research	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
25 [LP-5]	Space for group learning and group work	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A

Local questions

The questions selected by the VTC library to be included in the questionnaire are:

[LC-1] Providing information that answers my questions

[LC-2] Making me aware of library resources and services

[LC-3] Teaching me how to locate, evaluate and use information

[LC-4] Providing search tools that permit me to work autonomously

[LC-5] Timely document delivery/interlibrary loan

Local questions [LC]

When it comes to		My Minimum Service Level is	My Desired Service Level is	My Perceived Service Performance is	N/A
		<i>Low High</i>	<i>Low High</i>	<i>Low High</i>	
6	Providing information that answers my questions	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
12	Making me aware of library resources and services	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
14	Teaching me how to locate, evaluate and use information	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
18	Providing search tools that permit me to work autonomously	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A
26	Timely document delivery/interlibrary loan	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	N/A

Information Literacy Outcomes

[IL-1] The library helps me to stay abreast of developments in my field(s) of interest

[IL-2] The library aids my advancement in my academic discipline or work

[IL-3] The library enables me to be more efficient in my academic pursuits or work

[IL-4] The library helps me distinguish between trustworthy and untrustworthy information

[IL-5] The library provides me with the information skills I need in my work or study

Information literacy outcomes questions

28	The library helps me stay abreast of developments in my field(s) of interest.	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
29	The library aids my advancement in my academic discipline or work	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
30	The library enables me to be more efficient in my academic pursuits.	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
31	The library helps me distinguish between trustworthy and untrustworthy information.	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
32	The library provides me with the information skills I need in my word or study.	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				

General satisfaction questions

The general satisfaction questions are:

- In general I am satisfied with the way in which I am treated at the library
- In general I am satisfied with library support for my learning research, and or teaching needs
- How would you rate the overall quality of the service provided by the library?

General satisfaction questions

33	In general, I am satisfied with the way in which I am treated at the library	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
34	In general, I am satisfied with the library support for my learning, research, and/or teaching needs.	1	2	3	4	5	6	7	8	9
		Strongly Disagree				Strongly Agree				
35	How would you rate the overall quality of the service provided by the library?	1	2	3	4	5	6	7	8	9
		Extremely Poor				Extremely Good				

Demographics: background information

Please indicate your library usage patterns:

36	How often do you use resources within the library?	Daily Weekly Monthly Quarterly Never	
37	How often do you access resources through a library Web page?	Daily Weekly Monthly Quarterly Never	
38	How often do you use Yahoo(TM),OR Google Or non-library gateways for information?	Daily Weekly Monthly Quarterly Never	

Please answer a few questions about yourself:

39	Age	18-22	
		23-30	
		31-45	
		46-65	
		Over 65	

40	Sex	Male Female	
41	Full or part-time student?	Full time Part time N/A	
42	Position Select the ONE option that best describe you.		
	Undergraduate	First year	
		Second year	
		Third year	
		Fourth year	
		Fifth year	
		Non-degree	
	Post-graduate	Taught Masters degree	
		Research Masters degree	
		Doctoral Research degree	
		Non-degree	
		Undecided	
	Academic Staff	Professor	
		Reader	
		Senior Lecturer	
		Lecturer	
		Research Staff	
		Other	
	Administrative or Academic related staff	Administrative or Academic Related Staff	

Appendix D - LibQUAL Comments(Open box)

Affect of service

- I believe the staff at the Vaal Triangle campus are of the most helpful and reliable people I know. Thank you for your hard work
- Thank you for good service!
- The services is good and the staff is friendly
- Receive professional ,friendly service from the reference staff.
- I get help as quick as possible.
- Library has nice staff
- Service from librarians is satisfactory
- The service is moderate,
- Thanks for all you do!
- The services is good and the staff is friendly
- Some of the staff are friendly and helpfull but not all of them.
- I think that the library is fuctioning well but the administration of it do not have quality service and they need to improve on that. thanx a lot .
- The service provided is not satisfying. More friendly staff should be hired.
- would be really great if most of the library staff were to be a lot nicer than most of them are.
- improve service
- The assistance behave as though we forced them to come to work, Never a smile and they are not helpful. They are intimidating and hence make going to the library an unpleasant experience.
- Staff are not very willing to help, they seem to be uninformed most of the time and as a result they don't know what is going on in the library. They need a customer services course or something similar.
- The library staff should be at-least taken to a service and communication training or workshop because the do not at most times speak to us in a professional way and they seem to be dragging their feet when it comes to helping us
- Service is very poor, librarians are not welcoming and not helpful. one is always unsure which librarian to approach as they are always busy not helping students and sending one from pillar to post before recieveing any service. they are very slow.

Library as Place

- Our library needs to be totally transformed and renovated. The library is just not appealing, it does not look like a university library. The chairs are not comfortable,
- This library needs a transformation.
- More quiet space needed for studying
- Need space for studying individually

Equipment

- Everything about the library is good, except the fact that there is a need for more *print out machines*,
- Not enough computers to do research
- The number of computers should be increased and the users should be moderated because you'd find people busy with non academic related work such as face book
- Few computers are available, if more computers can be added it will be super.
- Maybe a few more computers can be provided

Information Control

- No comment, as library provides much information to us and through the service
- According to me, when I make my research I get what I want, because I usually ask for help if I encounter any problem.
- Most of the books are old, we need the most recent material. I really appreciate it if more examination papers were posted on their webpage.
- Would like for the library to have books that show us the way to our desired field of study, apart from the books that we use for our assignments and research we would like to have books on jobs that one can follow if following a specific course.
- Library is poorly resourced. Reserved books/articles are very few compared to a number of students who need to utilise such resources.

- The most important thing that should be improved about the library is the text books, our Lecturers demand that we use recent books
- Books are more than outdated as a result a library is always my last option when i do my project.
- It would be great if we had more access to electronic journals (access often blocked), but I realise this is not always a VTC-related issue.
- Books should be updated because we can't use a book that more than 20 years as a reference when it comes to doing assignments(most of the books in the are so old that some were published before i was even born.

Appendix E - LibQUAL Communication

Your opinion counts!

Your opinion certainly means a lot to the Vaal Triangle Campus Library.

It is important that we understand our users' perceptions and expectations so that we can provide the services you need.

In a few days, you will receive an email providing you with a link to a library service quality survey. By responding to the survey, you will provide essential information for us to use in planning for the future.

We are committed to improving your library services. Better understanding your expectations will help us tailor those services to your needs.

We are conducting this survey to measure library service quality and identify best practices through the Association of Research Libraries' LibQUAL+® program.

Please answer all items. The survey will take about **10 minutes** to complete. Thank you for your participation!

We would greatly appreciate your help. When you receive this email, please take the time to go to the Web survey and complete it. Thank you for your participation.

Please help us.

Let me assure you that if you participate, your responses will be held in confidence. No identifying links between responses and the individual responding will be retained. Combined data only will be reported.

I would certainly appreciate it if you would complete the online survey

This reminder message should go out three times at three-to-five day intervals after the original message was sent.]

A few days ago you received an e-mail message asking you to assist us in assessing the quality of our library services by filling out a web-based survey.

If you have filled out the survey, thank you! If not, we ask you to take a few minutes to go to URL below and help us in this important endeavor by taking the survey. Only you can tell us how well we are serving your library needs.

If you have any difficulty is accessing or taking the survey, please contact

Hendra Pretorius 016 910 3173 hendra.pretorius@nwu.ac.za

Roy Matube 016 910 3172 roy.matube@nwu.ac.za

Yvonne Engelbrecht 016 910 3170 yvonne.engelbrecht@nwu.ac.za

Dannyboy Maloto 016 910 3170 dannyboy.moloto@nwu.ac.za

Reminder B

THANKS!!!! If you've responded to the library survey

If you haven't had a chance to take the survey yet I would

We are committed to improving your library services. Better understanding your expectations will help us tailor those services to your needs.

We are conducting this survey to measure library service quality and identify best practices through the Association of Research Libraries' LibQUAL+® program.

Please answer all items. The survey will take about **10 minutes** to complete. Thank you for your participation!

Thanks again,

Appendix F - Focus group results

As indicated in Chapter Three the study used focus group discussions to supplement and improve the data from the LibQUAL questionnaire. The intention of the focus group discussions was to determine the perceptions of library users. Participants were asked about their experiences in the library, the dimensions included for debate are: affect of service, information control and library as place.

Four focus group interviews were conducted with participants, between 6 and 10, who were selected purposively from the library user population at the VTC library.

The researcher explained to the respondents the dimensions included in affect of service: empathy, responsiveness, assurance, reliability. The questions were:

- Do you feel that you receive individual attention from the library staff and do they deal with users in a caring fashion?
- Do you experience the library staff as consistently courteous and considerate; are they willing to help and to respond to users' questions?
- Do you feel that library staff has the knowledge to answer user questions and that they understand the needs of their users?

Some representative statements from the focus group transcripts are as follows.

Affect of service: undergraduate students

Speaker 1

"The service is quite not bad, although sometimes it is a bit not satisfying."

Speaker 2

Counter service is not on standard. Personnel are not very willing to help and not informed, or that is my experience. I am concerned about the friendliness of the staff when one needs help.. But I want to mention the service rendered by the Information service – the information staff is friendly and helpful, professional and the information always exactly what I need.

Speaker 3

“Staff is not very helpful, they seem to be uninformed, most of the time, and as a result they don't know what is going on in the library. If there was more assistance available – IT would be fab. ”

Statements included in the category Affect of service are: library staff who are friendly and are available to respond to users queries. Library staff who have the knowledge to answer user questions. Library staff who understand the needs of their users. Library staff who deal with users in a caring fashion.

Responses about the circulation desks were diverse and mixed. There were different responses to the service at the lending service points: Phrases used to describe the loan service staff were: “staff sometimes friendly and helpful”, “staff do not greet in an inviting and friendly manner,” and “sending users from pillar to post for service.” Communication is a barrier; library users could not understand some of the staff members' pronunciation.

In general, focus group members responded favourably to the help they received from information staff in the loan service area, from the information desk on the ground floor. Adjectives used to describe information service staff were: staff “really helpful” and “service occasionally not available”- (see Appendix D-1 - detailed responses)

Affect of Service: Post-graduate

Speaker 1

We are treated in a well mannered way.

Speaker 2

Information sciences personal do a great job. Unfortunately more staff needed to help efficiently

Our library is operating well in my point of view and I think our library is growing in terms of service providing and discipline. I believe the staffs at the Vaal Triangle campus is of the most helpful and reliable people I know.

Speaker 3

Some of the staff is friendly and helpful but not all of them. the library needs to have assistants, I found it very difficult to find a book on a shelf as those numbers meant nothing to me; no one was there to help me figure it out. Please get some assistant at the library. More friendly staff should be hired.

Focus Group Results: Affect of service: post-graduate students

Statements included in the category Affect of service are: library staff who are friendly and are available to respond to users' queries. Library staff who have the knowledge to answer user questions. Library staff who understand the needs of their users. Library staff who deal with users in a caring fashion.

Responses from the focus group respondents were diverse. In general, focus group members responded favourably to the help they received from information staff. Phrases used to describe information service staff were: "the information staff guide me in the right direction for my research," "advise me how to search information", "the information staff are professional, supportive and willing to help", "service at the circulation counter is 'OK',.. "staff sometimes anchored to their chairs and library users perceive this as staff not wanting to help them". Respondents comment that staff look "grumpy" and were insensitive to users. (see Appendix D-2.. for detailed response)

Affect of Service: Academic Staff

Speaker 1

Information staff knowledgeable and clued-up and respond immediately on e-mail requests.

Speaker 2

Library staff is patient, friendly and understanding and always willing to help.

Focus Group Results: Affect of service: Academic Staff

In general, focus group members responded favourably to the help they receive from library staff. Members from the focus group mentioned: the most wanted attributes that they desired from staff: "knowledgeable and clued-up," "patient",

“friendly”, “understanding”. They perceive the staff at the circulation desk as not always understanding their needs and sometimes do not have the knowledge to answer user questions.

Information staff render a “professional”, knowledgeable service and respond quickly to information inquiries and request. (See Appendix D-3 for detailed response)

Affect of Service: Academic Staff

Affect of service: Researchers and Academic staff

In general, focus group members responded favourably to the help they received from library staff. Members from focus group pointed out:

- “Information staff knowledgeable and clued-up,”
- “Library staff are patient, friendly and understanding”.
-

Adjectives used to describe information service staff was:

- “Library staff are helpful”
- “staff sometimes friendly ”
- “service is ok”
- “supportive staff”
- “I value the help given to me”
- “inter-library loan service - super”
- “unfriendly and rude staff”
- “staff always look angry”
- “staff are not inviting and welcoming”
- “staff anchored to their chairs and perceived as not wanting to help me”
- “”counter staff can do with customer relationship training”
- “service slow”
- “do not greet in an inviting and friendly manner”
- “”staff sending users from pillar to post for service”

- “please smile”
- “ignore the students”
- “grumpy staff”,
- “reply in a sour manner” ,
- “staff anchored to their workstation” ,
- “Staff was insensitive to users”.
- “Communication is a barrier, having a problem explaining what we want”.
- “Could not understand some of the staff pronunciation”.

Affect of service: Information service and Information Desk (Information service point in lending-service area)

In general, focus group members responded favourably to the help they received from information staff. Adjectives used to describe information service staff was:

- “really helpful” ,
- “extremely helpful and understanding, also patient”
- “professional” ,
- “Staff is very supportive” .”
- “knowledgeable”
- “guide me in the right direction for my research”
- “The information staffs advise me on how to search information”.
- “The information staff are so patient and willing to help” ,
- “Respond quick to e-mail enquiries”.
- “friendly and helpful - seems like they enjoy their work”
- “not always manned”- Information desk
- “Service often not available”- Information desk

Focus Groups results for Information control

Information Control

The dimensions included for debate are: scope of content, convenience, ease of navigation, timeliness, equipment, self reliance.

- Are there adequate information sources available in printed and electronic format?
- Does the library web site enable the user to locate information on their own?
- Is the access tools user friendly?
- Is there sufficient equipment that allows access to needed information?

The dimensions included in this category are: availability of electronic resources - the electronic information resource. A library website that enables me to find information on my own.

Equipment in the library that allows me to easily access information needed and access tools that allow me to find information on my own, for independent use.

Information Control

The dimensions included for debate are: scope of content, convenience, ease of navigation, timeliness, equipment, self reliance.

Questions asked:

- Are there adequate information sources available in printed and electronic format?
- Does the library web site enable the user to locate information on their own?
- Is the access tools user friendly?
- Is there sufficient equipment that allows access to needed information?

Information control: Undergraduate

Speaker 1

Our Library is poorly resourced, it has few books published in the period 200-2007 which might be quite useful for providing latest information books are more than outdated as a result a library is always my last option when I do my project.

Speaker 2

The library would be a better place if it had a wide variety of books, specifically in the study fields that the university offer

Speaker 3

Think if the library was able to use modern technology, and us the students we were able to check on the p.c where the books are, it was going to be better. Few computers are available, if more computers can be added it will be super

Information control: Post-graduate

Speaker 1

. Most of the books are old; we need the most recent material.

Speaker 2

Nice to retrieve information from the library web page from home it is easy to get access to databases for research purposes. The A-Z Journal list is of great value.

Speaker 3

I need more training in the effective use of access tools to allow me to find information on my own."

Focus group members strongly agreed that the library currently does not provide a comprehensive print collection adequate to their needs. The library needs more recent publications but the interlibrary loans service is of great help to receive relevant, recent publications. As for the electronic information resources, focus

group members agreed that the library is adequately provided and that access tools allow them to retrieve relevant information. Some of the members indicate that they need more training in the effective use of access tools to find information on their own (Appendix F-2).

Information control: Academic staff

Speaker 1

I am Impressed that I can order my own inter-library loan books from my office. The library webpage allows me to locate information sources and the access tools allow me to retrieve relevant information for my research.

Speaker 2

A lot of books that I want to use are not available in the library but the inter-library loan service is good.

Speaker 3

The library need more "open access" computers to use in the library, no computers available to check catalogue to locate books in the library, all the computers are in use during semester.

Focus Groups results for Information control: Academic staff

Focus group members responded favourably to the category Information control. The statements included in the Information control category: the printed library materials I need for my work, Print and/or electronic journal collections I require for my work. Modern equipment that lets me easily access needed information. A library website enabling me to locate information on my own. Making electronic resources accessible from my home or office. Easy-to-use access tools that allow me to find things on my own. Making information easily accessible for independent use.

Focus group members were impressed at being able to pre-request their own interlibrary loan books from their offices. Focus group members experience the

inter-library loan service as good. The library webpage is accessible and user friendly and allows them to locate information sources to satisfy their research needs. The number of computer workstations is not adequate, there is a need for more computers in the library as there are no computers available to check the catalogue during the semester, and all the computers are in use.

Statements included in the category Information Control are: the printed library materials I need for my work. Modern equipment that lets me easily access needed information. Easy-to-use access tools that allow me to find things on my own. Making electronic resources accessible from my home or office. Print and/or electronic journal collections I require for my work. The electronic information resources I need.

Phrases that respondents used to describe Information control were: "need more text books that are recent". The respondents mention that they are aware of electronic resources, but do not make use of them. The library website enables the respondents to locate information on their own. The respondents find the library webpage user friendly.

The respondents emphasize the fact that the number of computers in library should be increased

Adjectives used to describe information control:

- "lack of text books"
- "need more text books that is recent"
- "some books very old"
- "aware of electronic resources, but do not make use of them"
- "not aware of all the electronic resources - e.g. Databases like EMERALD, SA Media"
- "the library website enables me to locate information on my own"
- "the library website is user friendly"
- "get easy access to information sources"
- "provide more computers in the library — have to use reserve material in library and no available computer to work on"

- “computers need upgrading- some not working- very slow”

“number of computers in library should be increased”

- “need more recent books in the library collection”
- “interlibrary loans service is of great help”
- “cannot access some of the electronic stuff”
- “Library webpage allows me to access electronic sources independently to satisfy my research needs.”
- “Library webpage is accessible and user friendly.”

Library as Place

The dimensions included for debate are: utilitarian space and refuge.

The dimensions included in the category are: library space that encourages study and learning, quiet space for individual work, a comfortable and inviting location, a place for study, learning and research. Space for group discussions and group study.

Questions

- Do you feel that the library space encourage study and learning?
- Is the library a comfortable and inviting location, a place for study, learning and research?

Library as Place: Undergraduate

Speaker 1

Our library needs to be totally transformed the library is just not appealing; it does not look like a university library. “inadequate space available in the library “more quite space needed for studying “need more tables to study and work”

Speaker 2

It is almost difficult to study in the library because some students make noise, so then I mostly use the library for conducting my silence must be maintained at all times...

Speaker 3

The library capacity should be expanded for group discussions without interruptions by other students we need space to work without disturbances

Library as Place: Post-graduate students

Speaker 1

noisy in library – students work in groups, disturbing” “must improve the space for studying individually I need a silent space to work” “if I am working for a day - no space to lock my things when I want to leave the table/computer”

Speaker 2

need to transform library into a university library with levels for subjects with subject librarians on the same level

library building not attractive, does not look like a university library” entrance to top floor is difficult for older library users” “stairs – no lift available “

The post-graduate students are dissatisfied with the library as place. They need a silent space to work; the students working in groups are disturbing. The library must transform into a university library with levels for subjects and subject librarians on the same level. (see complete list – Appendix H-2)

Library as Place: Researchers and Academic staff

Speaker 1

Current Infrastructure not suitable for post-graduate students - no separate silent area. Needs a support centre for post-graduate students”, research commons

Speaker 2

Not an inviting location for research and study, not enough space, need more separated space for needs of different groups of users.

Speaker 3

Layout not that of an academic library with subject librarians available at different subject fields.

Statements included in the Library as place category are library space that encourages study and learning, quiet space for individual work, a comfortable and inviting location, a place for study, learning and research, space for group discussions and group study.

The general feeling among the undergraduate focus group members were that the space in the library is inadequate, there is a need for more tables to study and work. The library space should be expanded for group discussions without interruptions by other students. The necessity for silent study space for studying individually (see complete list – Appendix H-1) .

The academic staff's perception is that the library is not an inviting location for research and study - too noisy. Academic staff stress the need for a support centre for

post-graduate students. The current infrastructure is not suitable for post-graduate students, as there is no separate silent area or research room available. (see complete list – Appendix H-3)

Adjectives used to describe information control

- “no access or space for laptop usage”
- “need better/bigger signage”
- “”chairs uncomfortable”
- “need more computers to use in the library”
- “need silent study space”
- “no silent rooms available to study “
- “need space for group discussions”

- “group discussion areas is a need”
- “group assignments force us to work in groups and no space available in the library”
- “need colour printer”
- “Need more machines for printing and photocopying.”
- “Need space to study in evenings and over weekends - 24 hour room.”

Summary of focus group results

Responses about the circulation desks were diverse and mixed; there were different responses to the service at the different service point

In general, focus group members responded favourably to the help they received from library staff.

Appendix G - Invitation to a FOCUS Group Interview

Dear Library user

I am Hendra Pretorius and I am studying for a Masters degree in Information Science at UNISA. I am conducting a study on service quality at the the NWU Vaal Triangle Campus library.

You have been selected to participate in the study. Your opinion means a lot to the Vaal Triangle Campus Library. It is important that we understand the perceptions and expectations of our users so that we can provide the services you need. By attending the focus group interview, you will provide essential information for us to use in planning for the future.

The information you provide will contribute to an important study and may be used to influence Library policies at the NWU.

I promise you confidentiality. Your name will not be revealed or associated with your responses.

I appreciate your willingness to help me in my research effort. Thank you in advance in anticipation

Appendix H - Informed Consent



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS

Informed Consent / Ingeligte toestemming

1 Introduction / Inleiding

The Vaal Triangle Campus Library is committed to improve your library experience. I would like to conduct research about the attitudes, perceptions and experiences of staff at the NWU Vaal Triangle Campus toward current service delivery. The Library wants to tailor-make our services to suit the specific needs.

For this purpose, I would like to conduct a focus group interview. The aim of the interview is to clarify my understanding, as well as to gather information about your attitudes, perceptions and experiences

Participation is voluntary and you are welcome to withdraw your participation at any point in the process. Data will be reported anonymously for research purposes only.

Die Biblioteek wil professioneel en kreatief betrokke wees by die NWU se soeke na kennis en innovering.

Hoe ervaar u die diens van die Vaaldriehoekskampus-Biblioteek?

Vir hierdie rede sou ek graag n fokusgroep onderhoud wou voer. Die doel van die onderhoud is om inligting van u te verkry oor u houdings, persepsies en ervarings by die VDK biblioteek.

Die Vaaldriehoekskampus-biblioteek wil graag die vlakke van dienslewering, soos u dit ervaar, met u bespreek, opvolg en aanpas waar nodig om in u unieke behoeftes te voor sien.

Deelname is vrywillig en u is welkom om nie deel te neem aan die proses nie of te onttrek op enige stadium. Die bevindinge word anoniem gerapporteer vir navorsingsdoeleindes alleenlik.

2 Permission / Toestemming

I therefore request your permission to: / Daarom versoek ek u toestemming om:

- 2.1 record our interview (audio) / die onderhoud op te neem (oudio)
- 2.2 transcribe our interview / die onderhoud data te transkribeer
- 2.3 anonymously report my findings from an analysis of the interview in conference papers and articles. / die bevindinge van my analises van die onderhoud anoniem te rapporteer by kongres en as deel van artikel.
- 1.4 Do you give permission to the researcher to record and transcribe the interview and anonymously report the findings in conference papers and articles?

Gee u die navorser toestemming om die onderhoud op te neem (oudio) en te transkribeer en die bevindinge anoniem te rapporteer as deel van kongresreferate en artikels?

. Please tick (✓) the relevant response. / Dui met 'n (✓) asseblief u antwoord aan:

Yes Ja	1
No Nee	2

Title, initials and surname of participant: _____

Signature of participant: _____ Date: _____

Titel, voorletters en van van deelnemer: _____

Handtekening van deelnemer: _____ *Datum:* _____