

STUDENTS' PERCEPTIONS OF SERVICE QUALITY
AT THE DURBAN UNIVERSITY OF TECHNOLOGY

By

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DECLARATION

This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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ABSTRACT

Interest in the quality of university education has grown considerably over the last decade. Higher education institutions are increasingly placing greater emphasis on meeting students' expectations and needs. As universities become more student orientated, student perceptions of higher educational facilities and services are becoming more important. It is apparent that there is a need to measure students' perceptions of service quality at the Durban University of Technology.

To investigate students' perceptions of service quality, a study was conducted which was guided by four objectives. These objectives were: firstly, to identify students' expectations in terms of higher educational services provided; secondly, to ascertain the perceptions of students towards the service the Durban University of Technology provides; thirdly, to measure the gaps between the expectations and perceptions, using the SERVQUAL score, and fourthly, to calculate and measure the score of the five SERVQUAL dimensions.

The instrument used to assess the students' perceptions of service quality was the SERVQUAL questionnaire, measuring expectations and perceptions according to five quality dimensions.

Two hundred and sixty four students were surveyed using the SERVQUAL questionnaire. Responses were collected via the group contact method and the data were analyzed using descriptive and inferential statistical techniques.

The study shows that students' expectations of service quality exceeded their perceptions on the five service quality dimensions used in the SERVQUAL questionnaire. The smallest dimension gap score proved to be tangibles, while the largest gap score in the study proved to be reliability followed by responsiveness.

Students felt that the Durban University of Technology should carry out promises on time and staff should show sincere interest in solving their problems and queries. In terms of reliability, students also noted the importance of services being performed correctly the first time.

Another area of concern proved to be responsiveness and students expressed the importance of clear communication regarding service delivery at the Durban University of Technology and the need for prompt service to students when they have problems or requests.

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ACRONYMS

DUT - Durban University of Technology

KEY TERMS

Customer – someone who makes use of or receives the products or services of an individual or organization (<http://en.wikipedia.org/wiki/Customer>). In terms of this study the customers or consumers are the students at the Durban University of Technology.

CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Introduction

Interest in the quality of university education has grown considerably over the last decade. Strong interest in the phenomenon has been stimulated and sustained by a range of factors. Students need accurate information about educational quality to help them choose between different courses of study. Academics and university administrators need information to help them monitor and improve their courses and programmes. Institutions need information about quality to help them benchmark and market their performance. Governments and other bodies need information to assist with funding, policy development and accountability. For these reasons, quality assurance has become vital in the higher education system (Coates, 2005).

South African higher education has followed the United Kingdom and Australia in the development of external quality assurance agencies such as the Higher Education Quality Committee (HEQC) and the Council on Higher Education (CHE), who audit higher education and training facilities and accredit the programmes of all public and private providers of higher education and training (CHE, 2006).

Student satisfaction feedback is regarded as an important information requirement for the quality assurance process in higher education (Harvey, 2001).

The focus of this research study is to determine students' perceptions of service quality at the Durban University of Technology (DUT), as a key input to the quality assurance process. The aim of this research is to offer management insight into student satisfaction of service quality and the opportunity to address any issues impacting the delivery of quality higher education at the institution.

1.2 Rationale for the Study

Students are becoming more discerning consumers of their educational programmes (Powney & Hall, 1998). In the context of an expanding fee-paying student community, those responsible for the provision of higher education are beginning to recognize that students increasingly deserve and will demand a voice that is listened to (Williams, 2002).

According to Williams (2002), students do have a definite stake in the learning process, are ideally placed to comment on issues and are core participants in higher education. In Britain, student feedback has been recognized as a foundation on which to build any future quality assurance policy, recognizing the student as the principal role player, with a voice that should be listened to and acted upon in order to enhance quality in the total learning experience.

As the question of quality has materialised and become the object of study, feedback from students, as 'quality indicators' in the quality assurance process, has grown in acceptance (Walker-Garvin, 2003).

Similarly, a recent student satisfaction study at the University of Johannesburg, states that as universities continue to become more student orientated, student perceptions of higher educational facilities and services are becoming more important. It is, therefore, critical that universities develop some form of evaluating, tracking and managing the student perceptions of service quality (Du Toit, 2003).

Literature advocates feedback from students as an integral input in the quality assurance process in higher education (Harvey 2001, Coates 2005), and it is for this reason that the researcher proposes to investigate students' perceptions of service quality at the Durban University of Technology.

1.3 Statement of the problem

The current climate in tertiary education places students as primary consumers. As such, students are becoming more conscious of their consumer rights and of gaps between their expectations of service delivery and the reality of that service. Not only does this service gap present a quality assurance challenge for universities, it is also likely to contribute to student withdrawal (Darlaston-Jones et al., 2003).

Literature shows the benefits of student feedback at universities, in that it enables management to develop quality assurance programs to help meet the expectations of the students as key stakeholders (Harvey, 2001). The basis of this research is to determine if a gap exists between students' expectations of service quality and actual service delivery at the Durban University of Technology.

1.4 Purpose of the Study

The purpose of the study was to investigate students' perception of service quality at the Durban University of Technology.

1.5 Research objectives

Objective 1: To identify students' expectations in terms of higher educational services provided.

Objective 2: To ascertain the perceptions of students towards the service the Durban University of Technology provides.

Objective 3: To measure the gaps between students' expectations and perceptions of service quality, using the SERVQUAL score.

Objective 4: To calculate and measure the score of the five SERVQUAL dimensions.

1.6 Limitations of the Study

This study is limited to the Durban University of Technology. The findings of this study can only describe service quality of this population, and it cannot be generalised to service quality of other higher learning institutions or populations outside the Durban University of Technology. The study is only valid for the period in which the investigation is conducted. At best, this investigation can act as a guide to further research in this field.

1.7 Organisation of the Study

This study has been organised into six chapters. The first chapter contains an introduction to the study; a description of its purpose as well as the rationale for the study; and states the research objectives that guided the study. The limitations of the study are also outlined in this chapter.

Chapter two contains a review of current literature relating to the study and covers service quality literature in higher education, customers' expectations and perceptions of service quality, determinants and influences of customer satisfaction and service quality dimensions.

Chapter three addresses the gaps model of service quality and the importance of Gap 5 in measuring students' perception of service quality. Chapter four describes the research design, the methodology and the procedures followed in the study.

Chapter five covers analysis and discussion of the findings, while chapter six covers conclusions and recommendations for future research.

1.8 Conclusion

Chapter one discussed the background to service quality in higher education and highlighted the observation that students are becoming more discerning consumers of their educational programmes. The chapter highlighted the growing acceptance of student feedback, as a quality indicator, in the higher education quality assurance process at universities. This chapter outlined the rationale for investigating students' perceptions of service quality at the Durban University of Technology and listed the objectives that guided the study.

Chapter two contains a literature review of service quality in higher education.

CHAPTER TWO

SERVICE QUALITY IN HIGHER EDUCATION

2.1 Introduction

Literature advocates that universities can gain a competitive advantage by improving the service quality that is offered to students. It therefore becomes increasingly important that universities understand students' expectations and perceptions of service quality at the institution. This chapter highlights the five service quality dimensions developed by Parasuraman et al. (1988), which students, as consumers, can use when measuring service quality at a university. These service quality dimensions will be discussed and related to the investigation of students' perceptions of service quality at the Durban University of Technology.

2.2 Quality in higher education

According to Heck et al. (2000), higher education is facing pressure to improve value in its activities and the present view for enhancing educational value is to spend effort on continuous improvement, to focus on stakeholder interests and to increase student satisfaction. Student satisfaction is often used to assess educational quality, where the ability to address strategic needs is of prime importance (Cheng, 1990). Similarly, Tan et al. (2004) state that quality in education can be determined by the extent to which students' needs and expectations can be satisfied.

2.3 Characteristics of a service

According to Ziethaml et al. (2003), inherent differences exist between goods and services resulting in different management challenges for service businesses, such as the Durban University of Technology, that sell services as their core offering.

2.3.1 Intangibility

According to Zeithaml et al. (2003) services are performances or actions rather than objects that can be felt or seen as with tangible goods. For example, lecturers at university provide information to students studying towards a degree, and even after this service is performed, the students may not fully understand the benefit received from the service itself. The only tangible component for the student may be the lecture hall and other facilities or equipment they use on campus.

2.3.2 Heterogeneity

Zeithaml et al. (2003) suggest that no services will be precisely the same because they are produced by humans. This difference can be applied to the university scenario, in that no two lecturers deliver their modules in the same manner and no two students will experience the lecturer or the service delivery in the same way.

2.3.3 Simultaneous production and consumption

Zeithaml et al. (2003) state that most services are sold first and then produced and consumed simultaneously. An example of this characteristic would be a university enrolling students, lectures commencing and information being transferred from lecturer to student at the same time

2.3.4 Perishability

Zeithaml et al. (2003) state that services cannot be stored, saved, resold or returned. In the university context, once a subject module has been presented to a class of students, the service is complete and the students cannot return the subject module or service delivered if they wish to withdraw from the university, before completing the degree.

2.4 Service quality

Service quality, from the organisation's perspective, means establishing requirements and specifications. Once established, the quality goal is based primarily on satisfying customers' needs. From the customers' perspective, service quality means how well the goods/services provided by the organization meet or exceed customer expectations (Mc Coll et al., 1998). In the context of this research, the service organization would be the Durban University of Technology (DUT) and the customers would be the students attending the institution.

Service quality is a concept that has stimulated considerable interest and debate in research literature because of the difficulties in both defining and measuring it, with no consensus on either (Wisniewski et al., 1996). Asubonteng (1996) defines service quality as the extent to which a service meets customers' needs or expectations. Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and, therefore, customer dissatisfaction occurs (Parasuraman et al., 1985).

Outstanding service quality can give an organisation a competitive advantage which leads to superior sales and profit growth (Canning, 1999). Similarly, Kotler (1996) points out that if the perceived service of a given organisation exceeds expected service, customers are likely to use the service provider again or recommend the service provider to others. The Durban University of Technology, as a service provider, is also likely to be evaluated on a similar basis. If students at the institution view perceived service as exceeding expected service, they would possibly further their studies at the institution or highly recommend it to future students contemplating enrolling at the institution.

2.5 Customers' expectations of service quality

According to Ziethaml et al. (2003), customer expectations are beliefs about service delivery that function as standards or reference points against which performance is judged. Customers' expectations about what constitutes good service vary from one business to another and vary in relation to differently positioned service providers in the same industry. In the context of this study, a service provided by a university that fails to meet the expectations of a student may be considered poor quality by that particular student, while another student, who did not have such high expectations, might consider the service to be of high quality. It is, therefore, important for an organization, such as the DUT, to strive for a service quality orientation to gain a competitive advantage over its competitors.

According to Parasuraman et al. (1988), customers hold different types of expectations, namely:

1. Desired service is the level of service the customer hopes to receive. In the university context, an example of desired service may be a student expecting personal attention from a lecturer during a class.
2. Adequate service is the level of service the customer is willing to accept. An example may be a student having to accept assistance from the lecturer after the class finishes due to time constraints and the size of the class.
3. Predicted service is the level of service customers anticipate receiving, which directly affects how they define service on that occasion (Lovelock et al., 2004). If a good service is predicted, the adequate level will be higher than if a poor service is predicted.

An example may be a student predicting a 10-minute wait while other students also receive assistance after class, hence, the service received will not fall below their adequate service level.

2.5.1 Zone of tolerance

The nature of services makes consistent service delivery difficult across employees in the same organization and even the same service employee from one day to another. The extent to which customers are willing to accept this variation is called the zone of tolerance (Lovelock et al., 2004).

A performance that falls below the adequate service level will cause frustration and dissatisfaction, whereas a performance that exceeds the desired service level will please the customer. When service falls outside this range, customers will either react positively or negatively.

In the context of this study, an example may be students at a university expecting examination results within 3 weeks, which would fall into their zone of tolerance, only to receive their results much later, which falls below their adequate service level, resulting in frustration and dissatisfaction.

2.6 Customers' perceptions of service quality

Quintana (2006) suggests that when it comes to customers, it is their perceptions of the quality of service one offers that determines success. The final measure of quality customer service is simply how the customer perceives it. Perceptions are considered relative to expectations. Customers perceive service in terms of the quality of the service they receive and whether or not they are satisfied with their experiences (Parasuraman et al., 1988).

The perceptions that customers form are vital to a service organisation, as the services they offer are intangible and sales rely heavily on a positive perception (Perreault & McCarthy, 1999).

Perception becomes an influential factor when comparing customers' satisfaction with the service that is provided to them. In the context of this study, a possible example could be students at a university developing a negative perception of service quality when services rendered by the institution fall below their expectations, thereby creating dissatisfaction.

2.7 Determinants and influences of customer satisfaction

According to Ziethaml et al. (2003), customer satisfaction is influenced by specific product or service features and perceptions of quality. Satisfaction is also influenced by customers' emotional responses, their attributions, and their perceptions of equity.

2.7.1 Product and service features

Ziethaml et al. (2003) suggest that customer satisfaction with a service or product is influenced significantly by the customers' evaluation of product or service features. For a service such as a university, important features to the students may include; campus facilities, helpfulness and courtesy of lecturers and administration staff as well as the variety of courses on offer.

2.7.2 Consumer emotions

Ziethaml et al. (2003), state that customers' emotions can also affect their perceptions of satisfaction with products or services. Specific emotions may also be induced by the consumption experience itself. For example, the manner in which a lecturer delivers his or her module to a class of students could possibly influence the student's overall satisfaction with that module.

2.7.3 Attributions for service success or failure

Zeithaml et al. (2003), describe attributions as the perceived causes of events that influence perceptions of satisfaction as well. When consumers have been surprised by an outcome, they tend to look for the reasons, and their assessments of the reasons can influence their satisfaction. For example, students are less likely to be dissatisfied with a slow response on examination results if they felt the reason was out of the lecturer's control, or if they felt it was a rare mistake, not likely to occur again.

2.7.4 Perceptions of equity or fairness

Zeithaml et al. (2003) suggest customer satisfaction is also influenced by perceptions of equity and fairness. The notions of fairness are central to customer's perceptions of satisfaction with products and services. For example, students at a university may develop feelings of dissatisfaction with service provision if they perceive they are not getting good value for money in their respective courses.

2.7.5 Other consumers, family members, and co-workers

Zeithaml et al. (2003) state that consumer satisfaction is often influenced by other people. For example, in the university context, the satisfaction of students is not only influenced by individual perceptions, but is also greatly influenced by the experiences, behaviour, and views of other students.

2.8 Service quality dimensions

Service quality can be defined by customers and occurs when an organization supplies goods or services to a specification that satisfies customers' needs (Mc Coll et al., 1996). Zeithaml et al. (2003) suggest that customers do not perceive quality in a one-dimensional way, but rather judge quality on multiple factors relevant to the context.

The watershed research of Parasuraman et al. (1988) identified five specific dimensions of service quality that apply across a variety of service contexts, including higher education institutions. The five dimensions include reliability, responsiveness, assurance, empathy and tangibles.

2.8.1 Reliability: Delivering on promises

Ziethaml et al. (2003) describe reliability as the ability to perform the promised service dependably and accurately. Past research has shown reliability to be the most important determinant of perceptions of service quality among consumers. Ziethaml et al. (2003) suggest that customers want to do business with organizations that keep their promises. Similarly, all service providers need to be aware of customers' expectations of reliability. Examples of reliability in the context of this research would include students receiving services from the university at the time it was promised to them, the university showing sincere interest in solving students' problems as they arise, performing services to students correctly the first time and insisting on error-free records in terms of administration at the institution.

2.8.2 Responsiveness: Being willing to help

Ziethaml et al. (2003) define responsiveness as the willingness to help customers and to provide prompt service. This dimension focuses on attentiveness and promptness in dealing with customer requests, questions, complaints and problems.

Responsiveness is communicated to customers by the length of time they have to wait for assistance or attention to their problems. Responsiveness captures the notion of flexibility and ability to customize the service to the customers' needs. It is important that the service organization examines the process of service delivery from the customer's point of view, rather than the company's point of view.

For example, university students' standard for prompt service delivery may differ significantly from management's standards at the institution. Examples of responsiveness in the context of this study would include university employees telling students exactly when services will be performed, university employees giving prompt service to students as well as being willing to help students when required to do so.

2.8.3 Assurance: Inspiring trust and confidence

Ziethaml et al. (2003) define assurance as employees' knowledge and courtesy and the ability of the service organization to inspire trust and confidence. This dimension is important for services which the customers perceive as involving high risk, or about which they feel uncertain about their ability to evaluate the outcomes, such as medical and legal services. This dimension of service quality refers to knowledge and courtesy of employees and their ability to instill trust and confidence. Trust and confidence may be embodied in the person that links the customer to the company, for example, in the university context; this could be the lecturer who links the student to the campus.

Examples of assurance in the context of this research would include the behaviour of employees at a university instilling confidence in the students, students feeling safe in their transactions with the institution, employees of the university being courteous with students as well as university employees having the knowledge to answer students' questions.

2.8.4 Empathy: Treating customers as individuals

Ziethaml et al. (2003) define empathy as the caring, individualized attention a firm provides its customers. The essence of empathy conveys the message that customers are unique and special.

Examples of empathy, in the university context, would include the institution giving students personal attention and understanding the specific needs of their students.

2.8.5 Tangibles: Representing the service physically

Ziethaml et al. (2003) define tangibles as the appearance of physical facilities, equipment, personnel, and communication material. Tangibles provide physical representations of the service that customers use to evaluate quality. Although tangibles are often used by service companies to enhance their image, provide continuity and signal quality to customers, most service companies combine tangibles with another dimension to create a service quality strategy, for example, in the university context, responsiveness and tangibles could be combined by delivering efficient service in clean, well equipped lecture facilities.

2.9 Moment of Truth

According to Ziethaml et al. (2003), the customer's most vivid impression of a service occurs in the service encounter or "moment of truth", when the customer interacts with the service company. For example, service encounters a student at the Durban University of Technology experiences may be requesting information from administrative staff, attending lectures and using library facilities and resources. It is in these encounters that the customers or students, in this instance, receive a snapshot of the universities service quality, and each encounter contributes to the students' overall satisfaction and willingness to do business with the organisation again.

Ziethaml et al. (2003), suggest that each service encounter presents the organisation an opportunity to prove its potential as a quality service provider and to increase customer loyalty.

2.10 Conclusion

The chapter highlighted the observation that students are viewed as primary consumers of higher education programmes offered at universities and that it has become increasingly important for universities to understand students' expectations and perceptions of service quality at the institutions. The chapter also discussed the determinants and influences of customer satisfaction and was related to students at a university.

Chapter 3 covers the Gaps Model of service quality and the importance of Gap 5 in measuring students' perception of service quality.

CHAPTER 3

GAPS MODEL OF SERVICE QUALITY

3.1 Introduction

This chapter discusses the watershed research of Parasuraman et al. (1988), which led to the development and use of SERVQUAL, as the preferred instrument in measuring the gap between customers' expectations and perceptions of service quality in service organisations, such as universities. The importance of Gap 5, the difference between customers' expectations and perceptions of service quality is highlighted as the most important service quality gap, forming the basis of this research.

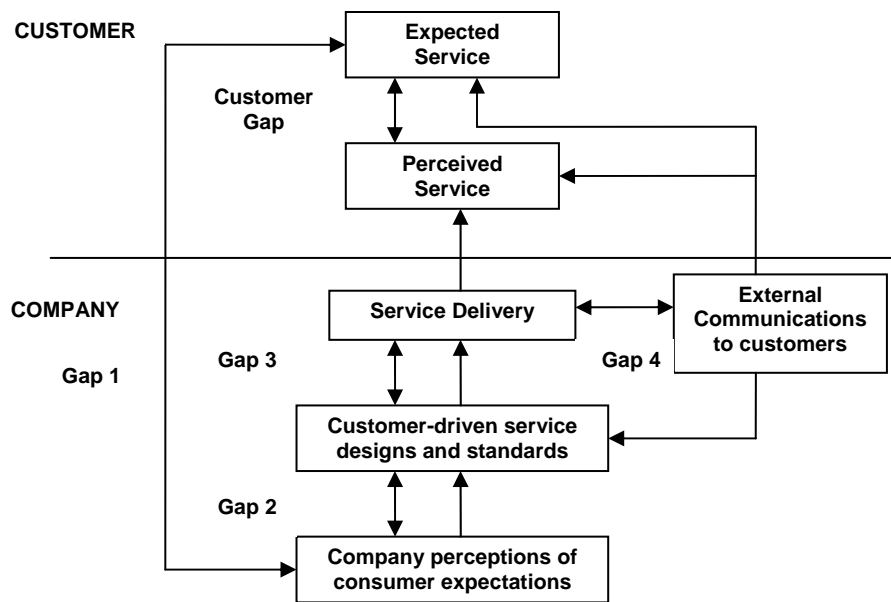
3.2 Gaps Model of service quality

The Gaps Model of service quality has been used since 1990. The Gaps Model was originally developed by Parasuraman et al. (1988). It has been widely used by many researchers when analysing the gaps between customers' expectations and their perceptions (Parasuraman et al., 1988). The Gaps Model of service quality serves as a conceptual framework for understanding service quality delivery. Based on evidence that perceived service quality as a function of the difference between consumer expectations and perceptions, Parasuraman et al. (1988) conducted an exploratory study in an attempt to establish how consumers evaluate service quality. The study suggested that, regardless of the service or service industry, consumers use the same criteria in evaluating service quality (Zeithaml et al., 2003).

Service organisations can use the Gaps Model to identify feelings of dissatisfaction which occur when actual service delivery does not meet the customers' expectations of service performance, implied in the company's communication (Mc Coll et al., 1996). Companies need to close the gap between what customers expect and receive.

The central focus of the Gaps Model is the Customer Gap, the difference between customers' expectations and perceptions. Firms need to close this gap between what customers expect and receive, in order to satisfy their customers and build long-term relationships with them (Ziethaml et al., 2003). Figure 3.1 relates to the Gaps Model of Service Quality and highlights the 5 Gaps of service quality identified by Parasuraman et al. (1988). According to Parasuraman et al. (1988), Gap 5 (Customer Gap) is the most important gap to close.

Figure 3.1: SERVQUAL Gap Analysis Model



Source: Grootenroos, 2000.

3.3 Gap 1: Not knowing what customers expect

This is the difference between customer expectations of service and the company understanding of those expectations (Ziethaml et al., 2003). This gap occurs when management does not interact directly with customers, or is unwilling to ask about their expectations. Gap 1 could have several causes, such as insufficient use of market research, insufficient upward communication between contact employees and management and too many layers between contact employees. For example, management at a university may not understand what their students expectations are because they do not interact directly with the students or they do not take suggestions from staff that do interact with students that have an understanding of students' expectations.

To close or minimize Gap 1, it is important for management and employees in the organization to have the authority to change or influence service policies and procedures (Parasuraman et al., 1988).

3.4 Gap 2: Not having the right service quality designs and standards

According to Ziethaml et al. (2003), Gap 2 is the difference between company understanding of customer expectations and development of customer-driven service designs and standards. Possible causes of Gap 2 include management believing that customer expectations are unreasonable or unrealistic or management may believe that the degree of variability in the service defies standardization and, therefore, setting standards will not achieve the desired goal.

The gap between management's understanding of customer expectation and the translation of these expectations into service quality depends on a number of factors:

- Management commitment to service quality;
- The extent to which the service role in the company is standardized and routine; and
- Goal setting and the existence of a formal mechanism for setting the quality of service goals (Parasuraman et al., 1988).

To close or minimize Gap 2, management must be committed to improving service quality by developing customer defined service standards to meet customer expectations, designing services without oversimplification, incompleteness or bias. Similarly, Lovelock et al. (2004), suggests that the service provider must design physical evidence to meet customers' expectations. For example, management at a university may develop a quality assurance program that is designed to meet student expectation regarding programs and qualifications on offer.

3.5 Gap 3: Not delivering to service standards

Gap 3 is the difference between development of customer driven service standards and actual service performance by company employees (Ziethaml et al., 2003). Even when a guideline exists for performing services well, high quality service performance is not a certainty and appropriate resources must support standards, such as people, systems and technology. The level of service delivery falls below the standard due to ineffective recruitment, poor employee technology job fit, lack of empowerment, perceived control and team work (Parasuraman et al., 1988).

To close Gap 3, Parasuraman et al (1988), suggests that employees should understand the roles they are to play in the company.

Employees should have clear goals and objectives concerning the company, they should implement the correct strategies and obtain regular feedback on their performance (Parasuraman et al., 1988).

Management must recruit the correct people for the correct job and train them in using technology and purchasing the equipment that will be appropriate to increasing employee-technology job fit. Lovelock et al. (2004) adds to Zeithaml et al. (2003) by suggesting that appropriate recognition and reward programmes must be in place to help measure the performance expected from employees and create team spirit among them. Lovelock et al. (2004) suggests by empowering employees to take control of certain areas in the department will improve the quality of service provided to the customer, minimize time wasted in obtaining authorization and reduce the stress level.

Possible examples of Gap 3 in the context of university service delivery could be computer illiteracy amongst staff hindering work performance, layers of management that need consultation before services can be performed by staff interacting with students and a lack of team work amongst staff trying to deliver a quality service to the student body.

3.6 Gap 4: When promises do not match performance

Gap 4 is defined as the difference between service delivery and the service provider's external communications. Promises made by a service company through its media advertising, sales force and other communications may raise customer expectations that serve as the standard against which customers assess service quality (Zeithaml et al., 2003).

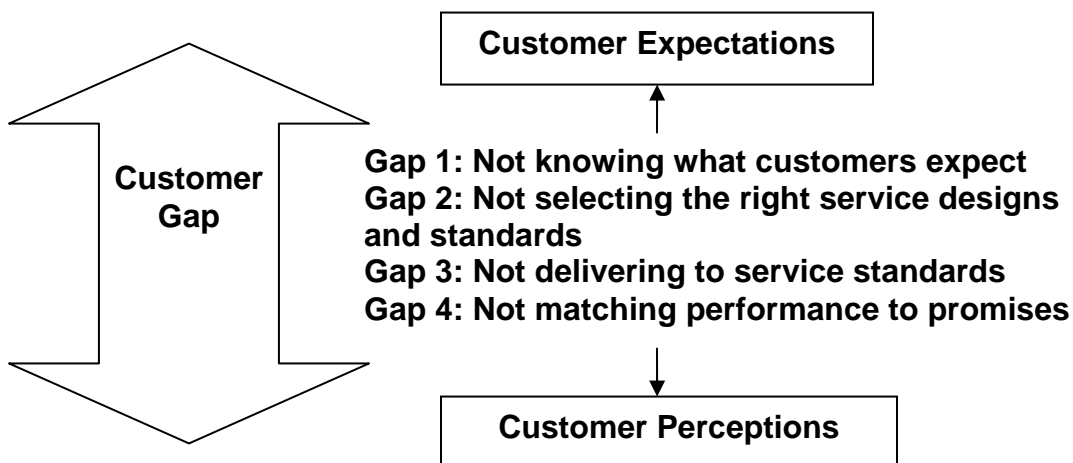
Gap 4 can occur for the following reasons: over-promising in advertising or personal selling, inadequate coordination between operations and marketing and differences in policies and procedures across service outlets (Zeithaml et al., 2003).

Gap 4 can be closed by improving service delivery and managing all communications to customers so that inflated promises do not lead to higher expectations. Employees at a university should not promise service that they cannot deliver. If university employees over-promise and they are not able to deliver on such promises, students form a negative perception of service quality at the university.

3.7 Gap 5: The Customer Gap

Parasuraman et al. (1985) identified Gap 5, which is illustrated in Figure 3.2, as the difference between expected service and perceived service, which supported the notion that the key to delivering quality is to meet or exceed customer expectations. Gap 5 is defined as service quality. Parasuraman et al. (1988) argue that gap 5 is the sum total of the preceding four gaps. Thus, if management want to close the gap between performance and expectations, it becomes important to design procedures for measuring service performance against expectations. While the other gaps play an important role in the delivery of quality service, it is Gap 5 which ultimately must be closed if an organization is to succeed in the long-run (Parasuraman et al., 1988).

Figure 3.2: Gap 5 – The Customer Gap



Source: Ziethaml et al., 2003.

3.8 Conclusion

Chapter 3 discussed the Gaps Model of service quality developed by Parasuraman et al. (1988), and suggested how it can be applied to measure service quality in a service organization, such as, a university. Gap 5, the difference between customers' expectation and perception of service quality was highlighted as the most important gap to close in attempting to improve service quality within a service organisation. It was emphasised that Gap 5 forms the basis of the study, investigating students' perceptions of service quality at the Durban University of Technology.

Chapter 4 covers the research methodology followed in the study.

CHAPTER 4
RESEARCH METHODOLOGY

4.1 Introduction

Chapter 4 discusses the research methodology that guided the research and enabled the researcher to collect and analyse data. The chapter covers instrument design, target population, sampling techniques, data collection procedure and data analysis. Instrument evaluation, regarding the reliability and validity of SERVQUAL, is also addressed.

4.2 Instrument design

A descriptive study was undertaken to investigate students' perceptions of service quality at the Durban University of Technology. The researcher gathered data by administering a questionnaire and then proceeded to make use of appropriate descriptive and inferential statistical techniques to evaluate the data and reach conclusions. The study was defined as quantitative and a single cross sectional study.

The questionnaire consists of the standard 22 question SERVQUAL questionnaire, developed by Parasuraman et al. (1985) for both expectations and perception sections, and a 5 point Likert scale ranging from 1 - strongly disagree, to 5 - strongly agree was attached to each question (refer to appendix 1).

<u>Dimension</u>	<u>Statements Pertaining to the Dimension</u>
Tangibles	Statements 1-4
Reliability	Statements 5-9
Responsiveness	Statements 10-13
Assurance	Statements 14-17
Empathy	Statements 18-22

4.3 Target population

According to Creative Research Systems (2003), the larger the sample size, the more sure the researcher can be that the respondents' answers truly reflect the population. According to the Durban University of Technology (2006), 22000 students are registered across the various faculties at the institution. The researcher opted to use a 95% confidence level and based on the size of the population, Creative Research systems (2003), suggested a sample size of $n = 264$. The researcher decided to omit first year students as they would be new to the institution at the time of data collection and would not have spent enough time developing a perception of the service quality.

4.4 Sampling techniques

The researcher opted for quota non-probability sampling. According to Welman & Kruger (2003), the advantage of quota sampling is that it is less complicated and more economical in terms of time and financial expenses. Non-probability sampling may be done on a spontaneous basis to take advantage of available respondents, without the statistical complexity of a probability sample.

4.5 Data collection procedure

A study was administered amongst Durban University of Technology students using a questionnaire (refer to appendix 1) according to the group contact method. A review of literature indicated that this method of data collection was the most appropriate for the study. According to Welman & Kruger (2003), the group contact method lends itself to this study for the following reasons:

Firstly, the group contact method allowed the researcher to work with a captive audience and this procedure corresponds to the administration of a group measurement/test. Since a single person is required to give instruction to a group of respondents, the cost per questionnaire is much lower than the personal interview.

Secondly, the researcher was in full control of the completion of the questionnaires allowing for a high response rate.

Thirdly, the researcher was available to answer any queries about the completion of the questionnaire immediately.

Lastly, the group contact method of administering questionnaires corresponds to the personal interview as far as the presence of the interviewer is concerned, but allows for the same degree of anonymity as the postal survey. The personal interview does not allow this anonymity (Welman & Kruger, 2003).

The procedure which was followed in the collection of data started with the researcher introducing himself and outlining the purpose of the research and its significance. It was emphasised to the students that participation in the study was completely voluntary and anonymous and withdrawal from answering the questionnaire could be done at any time.

The questionnaire and its contents were carefully explained and reviewed with the students and all queries were dealt with before handing out the questionnaires. The acknowledgement of consent was also reviewed and combined with the questionnaire.

4.6 Data analysis

According to Welman and Kruger (2003), after research has been conducted, according to its planned design, the obtained results must be interpreted. The purpose of coding data is to render data in a form which can be presented and analysed (Birley and Moreland, 1998). The data from the questionnaires were analysed using the appropriate statistical methods.

4.6.1 SERVQUAL Calculations

1. Firstly, the expectation score was subtracted from the perception score for each question.
2. For each of the five dimensions, the score was averaged. For example, the first four questions relate to tangibility and the individual score for each question were added together and divided by four, which gave a score for that dimension.
3. For each question the scores were added up and each was divided by the number of total respondents in the study.
4. The scores for each dimension were then compared (refer to appendix 2).

4.6.2 Descriptive statistics

Based on the data collected, the researcher was able to extract descriptive statistics from the study and included the mean, which is the average score summing over all the responses and divided by the sample size for every variable (Parasuraman et al., 1988). The median, which is in the centre of the data set, when arranged from highest to lowest, was also calculated for every variable. According to Parasuraman et al. (1988), the mode is the most frequent occurring value, and this was also calculated to indicate which score, on each statement, the respondents selected the most. Finally, the standard deviation, which is the square root of the variance, was calculated as part of the descriptive statistics in this study (refer to Appendix 3).

From the results obtained in the descriptive statistics, the researcher was able to calculate the expectation mean and perception mean, which were ultimately applied to the SERVQUAL calculation to calculate Gap scores for each of the five service quality dimensions (refer to Chapter 5, figure 5.45).

Data extracted from the descriptive statistics highlighted the dimension gap scores and indicated which areas present the greatest challenge for the DUT. The lowest dimension gap score proved to be tangibles, while the greatest gap score emerged in the reliability dimension, enabling the DUT to focus attention on the largest gaps first in order to improve students' perceptions of service quality at the institution.

4.6.3 Inferential statistics

(a) Paired sample t-test

The Paired sample t-test compares the means of two variables. It computes the difference between two variables for each case, and tests to see if the average difference is significantly different from zero (Archambault, 2000). A t-test was carried out on each of the 22 questions to determine whether the mean rating of perceptions is different from the mean rating of expectations. The paired sample form of the t-test was applied since the same subjects were used to rate both expectation and perception.

The null hypothesis is stated as:

$$H_0: \text{Mean Expected rating} - \text{Mean Perceived rating} = 0$$

If the null hypothesis is rejected, it can be said that the mean rating of perception is significantly different from the mean rating of expectation and not just by chance alone.

In order to apply this test, it is important to meet the following assumption.

- The difference measure between expectation and perception follows a normal distribution.
- In this case, since the sample size of 264 is large, one can proceed with the test even if the assumption of normality is not met.

From the results of this analysis (refer to appendix 4), it is seen that the mean perception ratings and the mean expectation ratings for each area of service quality are clearly different from each other and statistically significant at $p < .0005$. Furthermore, the calculated test statistic (t) is positive which indicates that the mean expectation rating is greater than the mean perception rating for each question. One can deduce from this finding that students' perceptions of service quality in each dimension are less than their expectations, highlighting the need for the DUT to focus attention on closing the gaps, thereby improving student satisfaction at the institution.

(b) Chi-square goodness-of-fit test

According to Jones (2007), the Chi-square goodness-of-fit test determines if the observed frequencies are different from what we would expect to find (we expect to see equal numbers in each group within a variable). When examining both the expectation and perception of service quality in a specific area, it may be of interest to ascertain whether a particular rating is given more often than another rating. In order to do this calculation, a chi-square goodness of fit test is applied to test the hypothesis:

H_0 : The 5 ratings are equally likely to occur

If the null hypothesis is rejected, it can be concluded that a particular rating is given more (or less) often than other ratings and not as expected under the null hypothesis.

From the results (refer to appendix 5), it is clear that for each of the expectation questions, the rating of 'Agree' or 'Strongly agree' was given more than expected. This finding indicates that all areas of service quality are important to the students and are expected to be of a high standard.

For the perception ratings, it is clear that in many areas the rating of 'Strongly agree' was given less often than expected, thus indicating the perception that services at the DUT are not as good as they should be. These areas include equipment, physical facilities, timeous completion of a service, interest in solving students' problems, correct performance of a service the first time, providing services on time, prompt service, behaviour of employees, safety in transactions, employees' courtesy with students and individual attention for students. These areas present a challenge to the DUT. Therefore, attention should be focused on improving service in these areas, thereby improving students' perception of service quality at the DUT.

The rating of 'Agree' was given more often than expected for employees' neat appearance, visual appeal of service material, employees' willingness to help, employees' knowledge, operating hours and personal attention given by employees. These areas of service thus appear to be satisfactory with a small room for improvement.

More than the expected number of respondents rated 'Disagree' for knowing exactly when a service will be performed and for employees having time to respond to requests, thus indicating that these areas are underperforming and need attention.

A rating of 'Undecided' was given more often than expected for the areas of error-free records, understanding of specific needs and employees having the students' best interests at heart. These results are all statistically significant at $p < .0005$. It is thus clear that for each question regarding both expectation and perception, there is a clear indication of how the students rate them.

4.7 Instrument evaluation

4.7.1 Reliability

The SERVQUAL questionnaire was the instrument of choice in this research project and was originally developed in 1985 by Parasuraman, Berry and Zeithaml.

Critics of the SERVQUAL instrument include Brown, Churchill and Peter (1992), who tested the instrument and showed strong reliabilities for both the expectation (0.94) and perception (0.96) component of the questionnaire using Cronbach's Alpha, suggesting high levels of reliability and internal consistency (Parasuraman et al., 1988).

According to Zeithaml et al. (2003), published studies have used SERVQUAL and adaptations of it in a variety of service contexts including real estate brokers, hospitals, banks and higher education.

Based on the fact that SERVQUAL has proven to be the most extensively utilized instrument in the service quality field of study, the researcher opted to use SERVQUAL as the basis for measuring students' perception of service quality at the Durban University of Technology.

4.7.2 Validity

SERVQUAL's high reliability and consistent factor structures across several independent samples provide support for its trait validity. According to Parasuraman et al. (1988), the basic criterion pertaining to construct validity is face or content validity.

The authors suggest that measuring a scale's content validity is qualitative rather than quantitative and involves examining the thoroughness with which the construct to be scaled and its domain were explicated and the extent to which the scale items represent the constructs' domain.

Parasuraman et al. (1988) argue that the procedures used in developing SERVQUAL satisfy both these evaluative requirements.

4.8 Conclusion

The chapter covered the research methodology used to investigate students' perceptions of service quality at the Durban University of Technology. The SERVQUAL instrument was discussed and data analysis, using descriptive and inferential statistics collected in the study, was explained.

Chapter 5 covers analysis and discussion of the findings of the research.

CHAPTER 5
ANALYSIS AND DISCUSSION OF FINDINGS

5.1 Introduction

Chapter 5 graphically presents the data collected with the use of the SERVQUAL instrument, which was used to investigate students' perceptions of service quality at the Durban University of Technology.

The research looked at what students perceive about the institution; it also examined the gaps between students' expectations and perceptions and calculated and measured the score for the five SERVQUAL dimensions, namely: tangibles, reliability, responsiveness, assurance and empathy.

The researcher measured perceived service quality according to the formula developed by Parasuraman et al. (1985), and is stated as follows:

$$Q \text{ (Quality)} = P \text{ (Perceptions)} - E \text{ (Expectations)}$$

A total of 264 questions were correctly completed, resulting in a response rate of 100%. The respondent group was described in terms of 3 variables: faculty, year of first registration and current year of study.

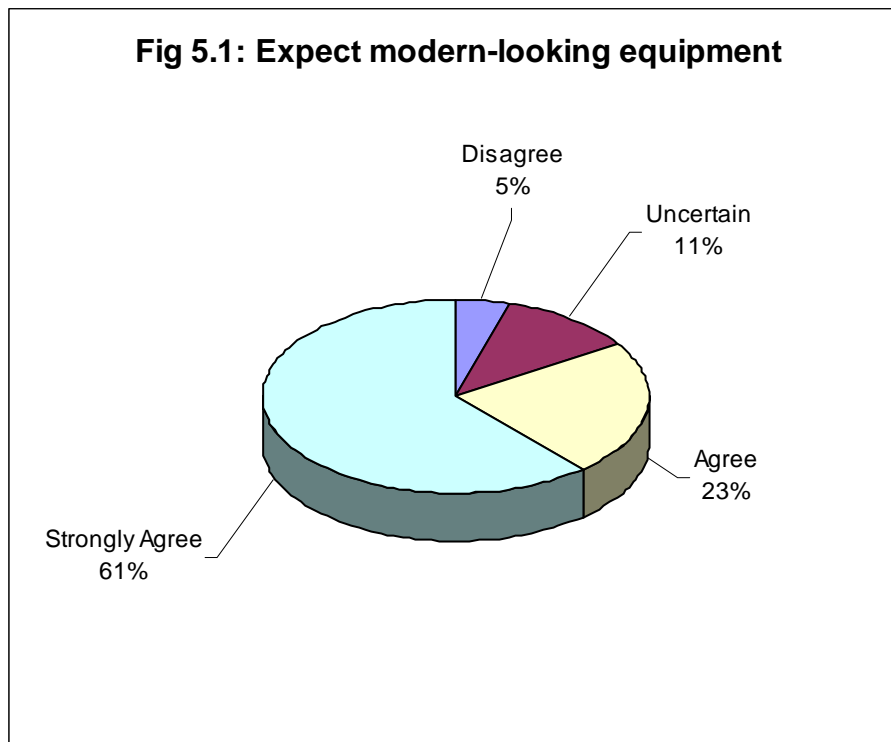
Profiling the sample showed that 27% of respondents were from the Faculty of Engineering, Science and Built Environment, 54% of respondents were from the Faculty of Commerce, 11% of respondents represented the Faculty of Arts and 8% represented the Faculty of Health Sciences. The study showed that 71% of the respondents first registered in 2006, 22% registered in 2005, 7% registered in 2004, while less than 1% of respondents registered in 2001 and 2000, respectively.

The study highlighted that 71% of the respondents were in their second year of study, 27% were in their third year of study, while 2% of respondents were postgraduate.

5.2 Graphic analysis of Expectations

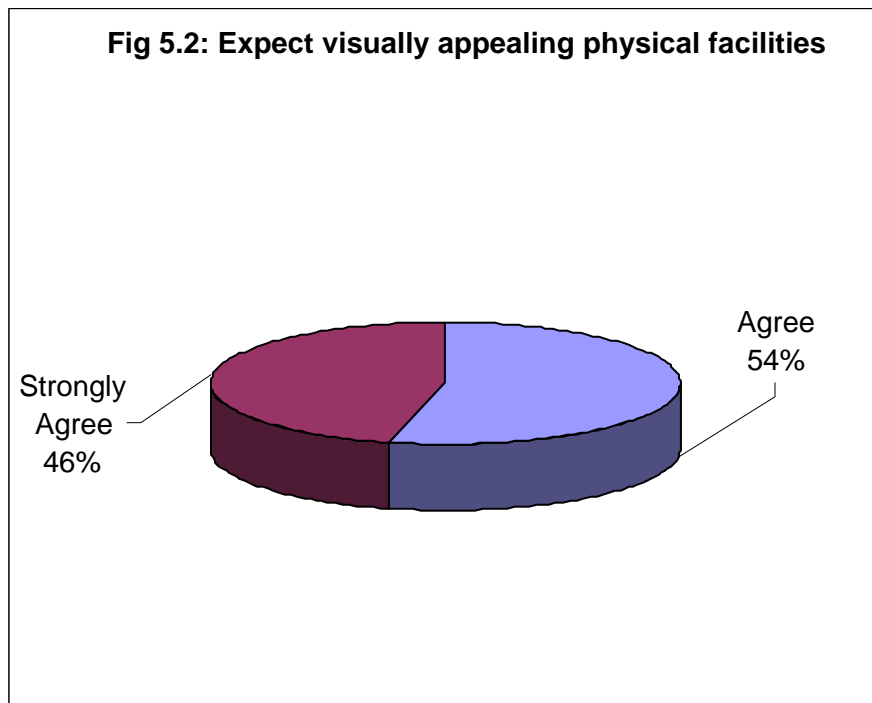
The researcher used pie charts to display the respondents' responses to the expectation questions. The results were as follows:

5.2.1 *Excellent universities will have modern-looking equipment.*



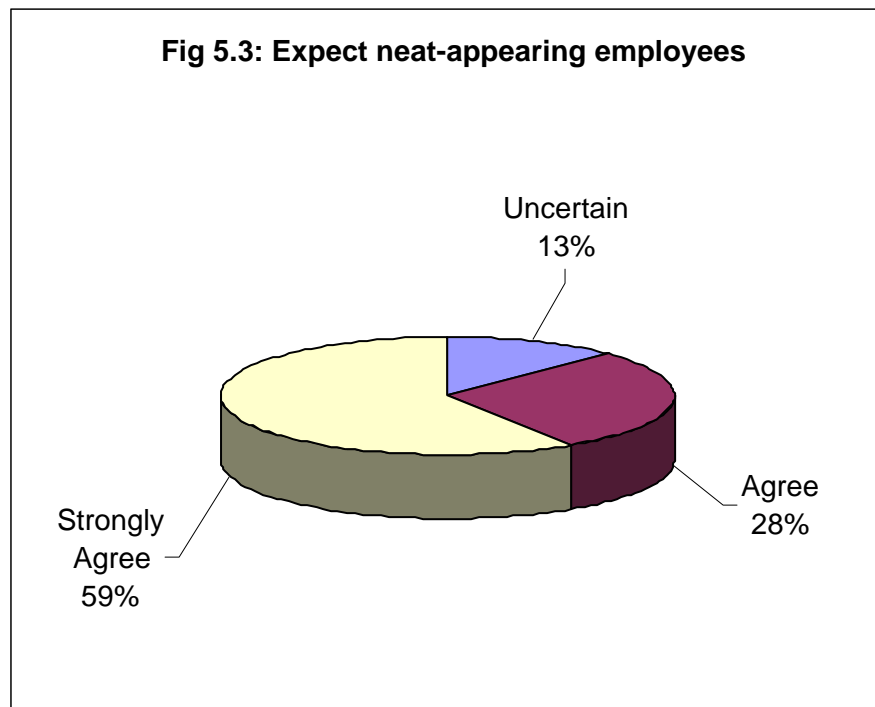
Most students (83%) strongly agreed with this statement. Respondents expect universities to have modern-looking equipment, so that staff can provide efficient service to students. Only 5% of the respondents disagreed with the statement.

5.2.2 The physical facilities at excellent universities will be visually appealing.



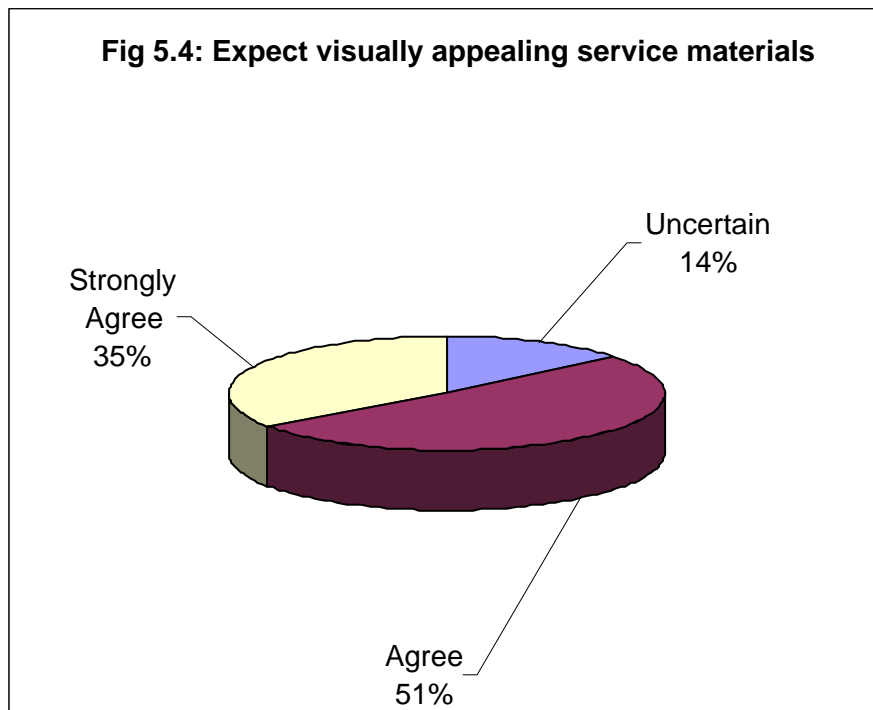
According to the study, 46% of the respondents strongly agreed, while 54% agreed that excellent universities should have visually appealing physical facilities. No respondents disagreed with this statement indicating that students' expectations are very high regarding the appearance of physical facilities at a university.

5.2.3 Employees at excellent universities will be neat-appearing.



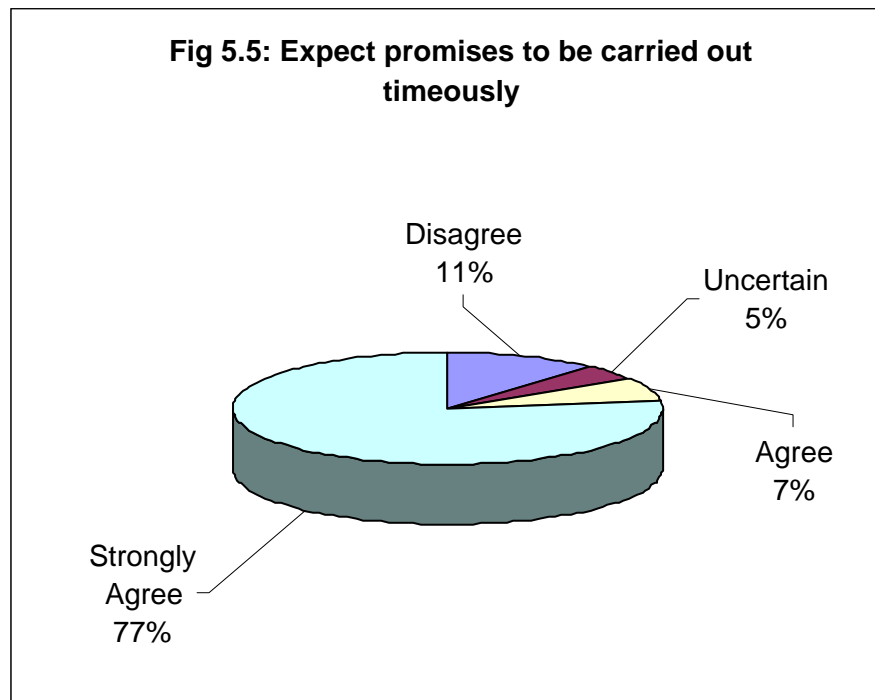
Most respondents (87%) expect employees at universities to look neatly dressed. Only 13% of respondents were uncertain in their response on this statement.

5.2.4 Materials associated with the service (such as brochures and handouts) will be visually appealing at excellent universities.



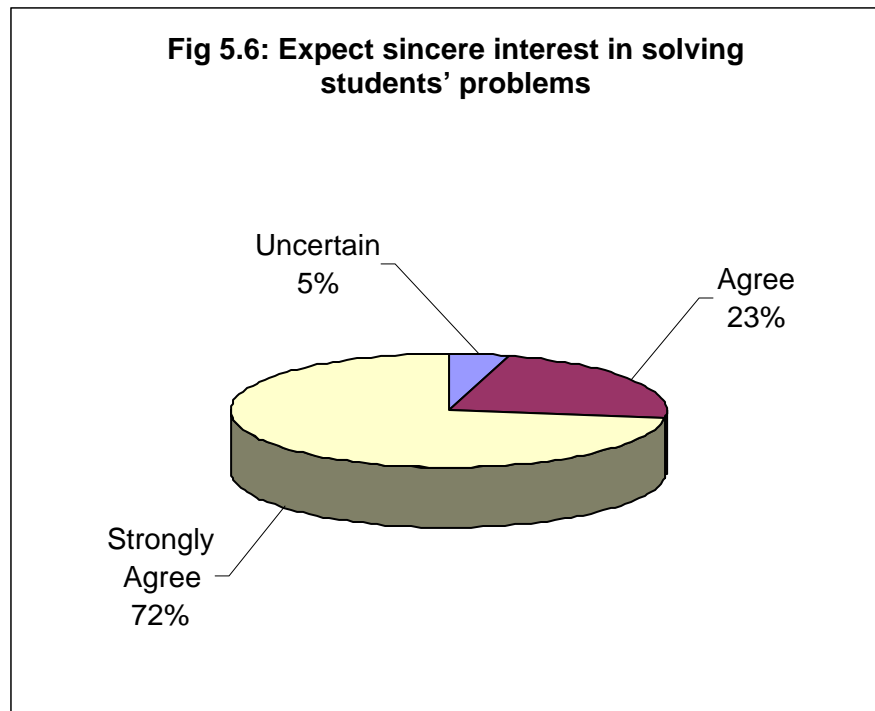
The majority of respondents (76%) agreed that materials such as brochures and handouts, which provide information to students, must be visually appealing. Only 14% of the respondents were uncertain in their response to this statement.

5.2.5 When excellent universities promise to do something by a certain time, they will do so.



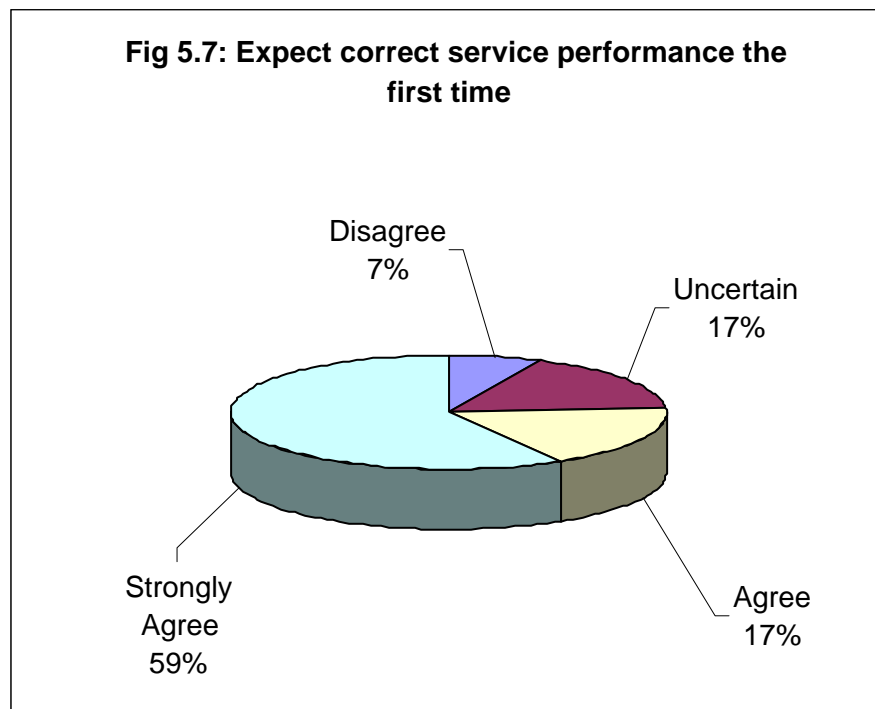
The majority of students (84%) agreed with this statement, i.e. they expect the university to deliver services at certain times and then stick to that promise. Only 11% of respondents disagreed and did not expect staff to keep to their promises.

5.2.6 When a student has a problem, an excellent university will show a sincere interest in solving it.



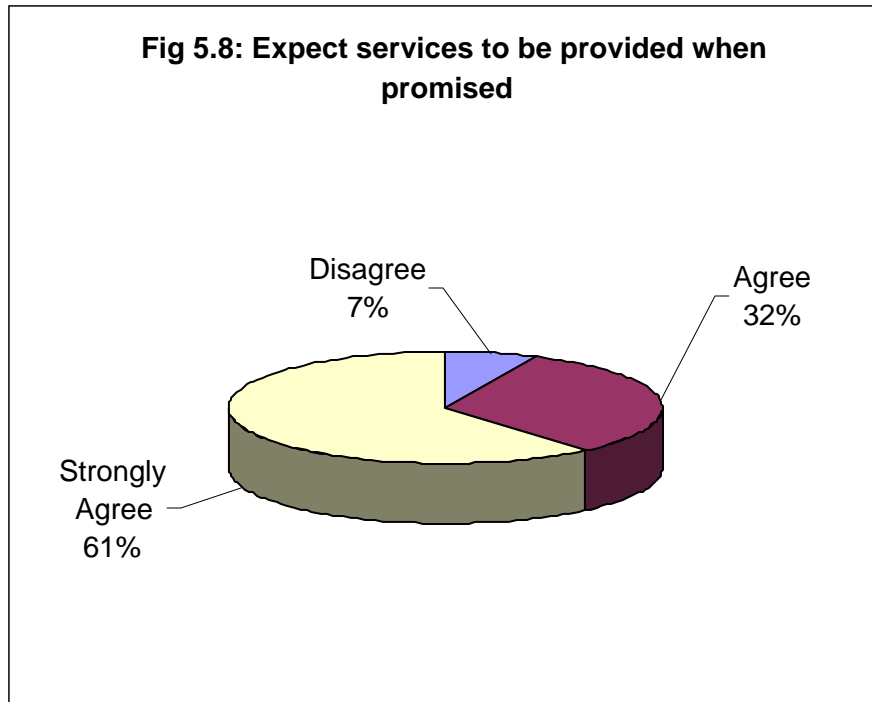
The majority of respondents (95%) agreed with the statement and expect a university to show sincere interest in solving their problems. Five percent of the respondents were uncertain in their response to this statement.

5.2.7 Excellent universities will perform the service right the first time.



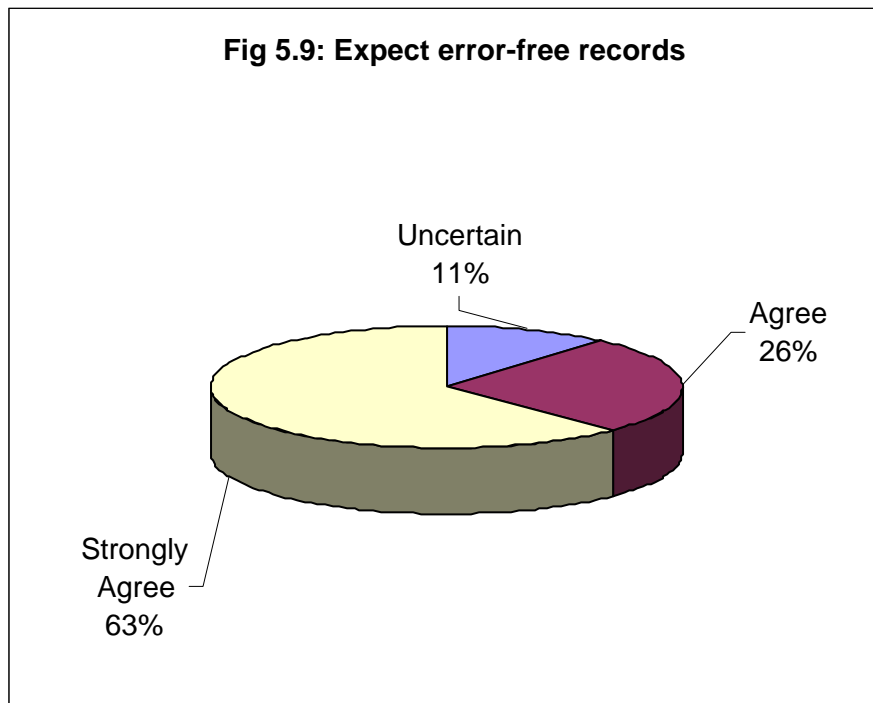
The majority of respondents (76%) agreed with the statement that a university must be thorough in their work and strive for quality outputs. Seventeen percent of the respondents were uncertain in their response to this statement and 7% of the respondents disagreed with the statement and did not expect a university to deliver the correct service right the first time.

5.2.8 An excellent university will provide their services at the time they promise to do so.



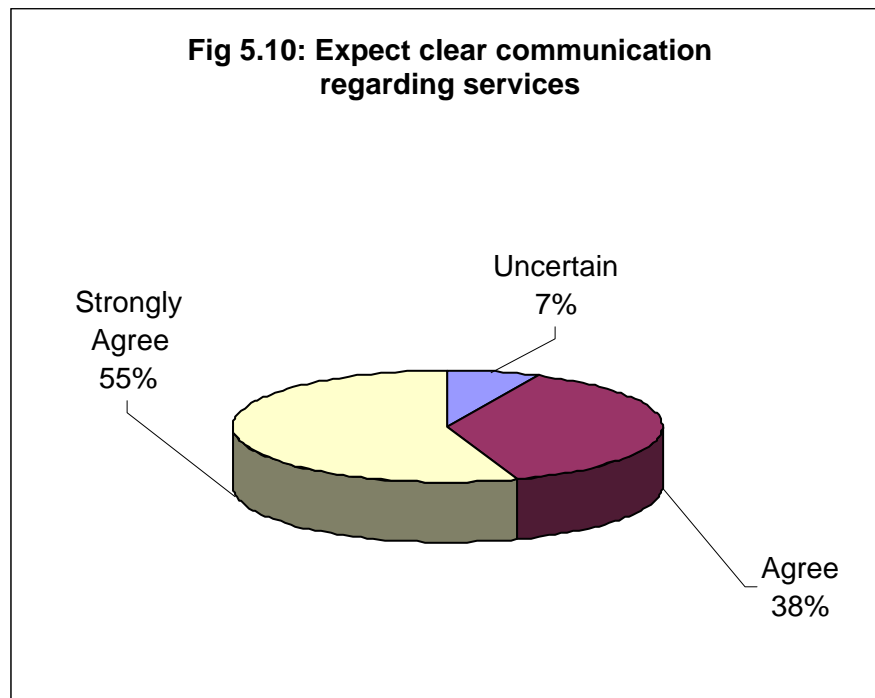
The majority of respondents (93%) agreed with the statement and expect a university to meet deadlines that are set. A university is expected to act with a sense of urgency. Seven percent of the respondents disagreed with the statement and did not expect a university to deliver service at the time they promise to do so.

5.2.9 An excellent university will insist on error-free records.



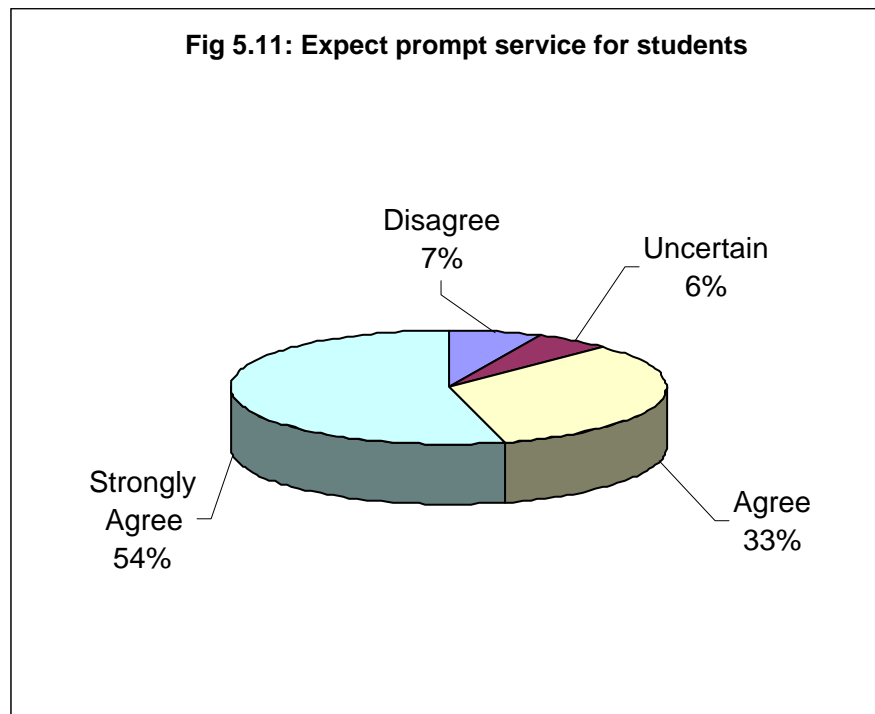
The majority of respondents (89%) agreed with the statement and expects staff to do work accurately and reduce error in records. Eleven percent of the respondents were uncertain in their response to this statement.

5.2.10 Employees in an excellent university will tell students exactly when services will be performed.



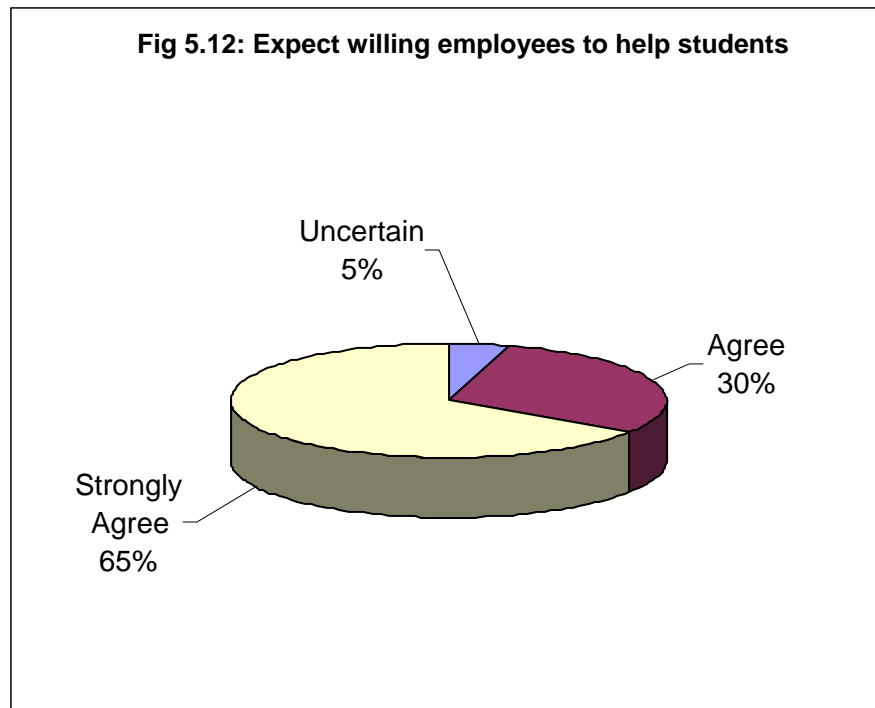
The majority of respondents (93%) agreed with the statement and expect employees of a university to tell students exactly when a service would be performed. Seven percent of the respondents were uncertain as to the importance of clear communications from a university regarding service delivery.

5.2.11 Employees in an excellent university will give prompt service to students.



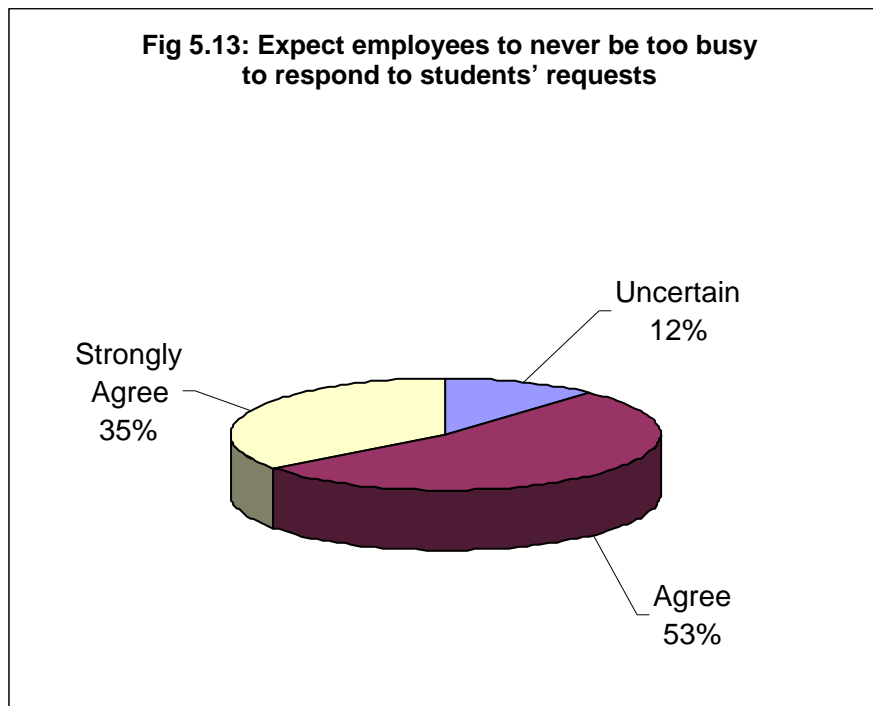
The majority of respondents (87%) agreed with the statement that university staff must give prompt service to students at all times. Six percent of the respondents were uncertain in their response to this statement, while 7% of the respondents disagreed and did not expect university staff to give prompt service to students.

5.2.12 Employees in an excellent university will always be willing to help students.



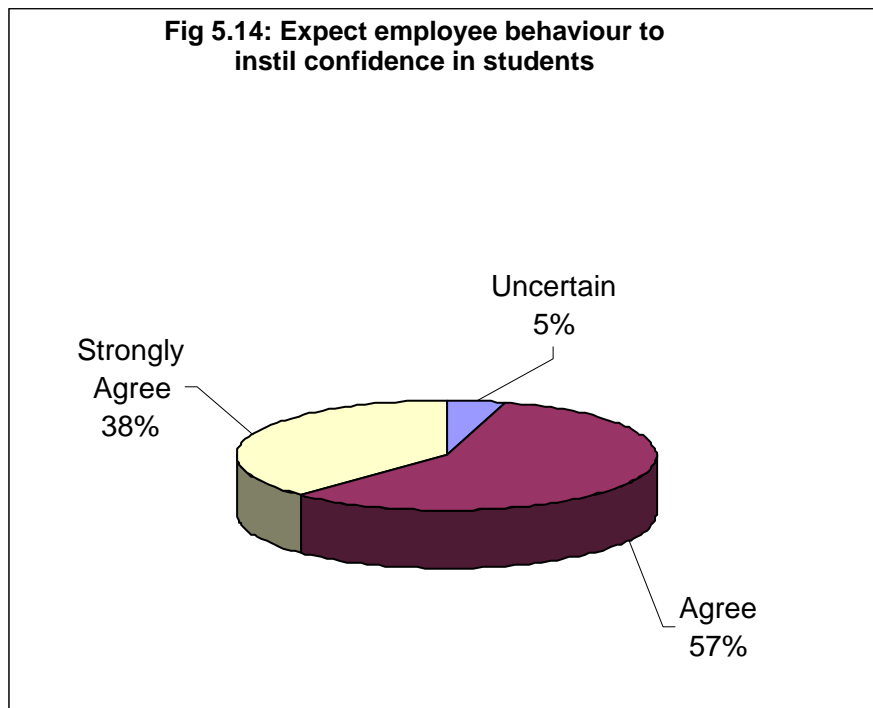
The majority of respondents (95%) agreed with the statement and expect employees at a university to be willing to help students. Five percent of the respondents were uncertain in their response to this statement.

5.2.13 Employees in an excellent university will never be too busy to respond to students' requests.



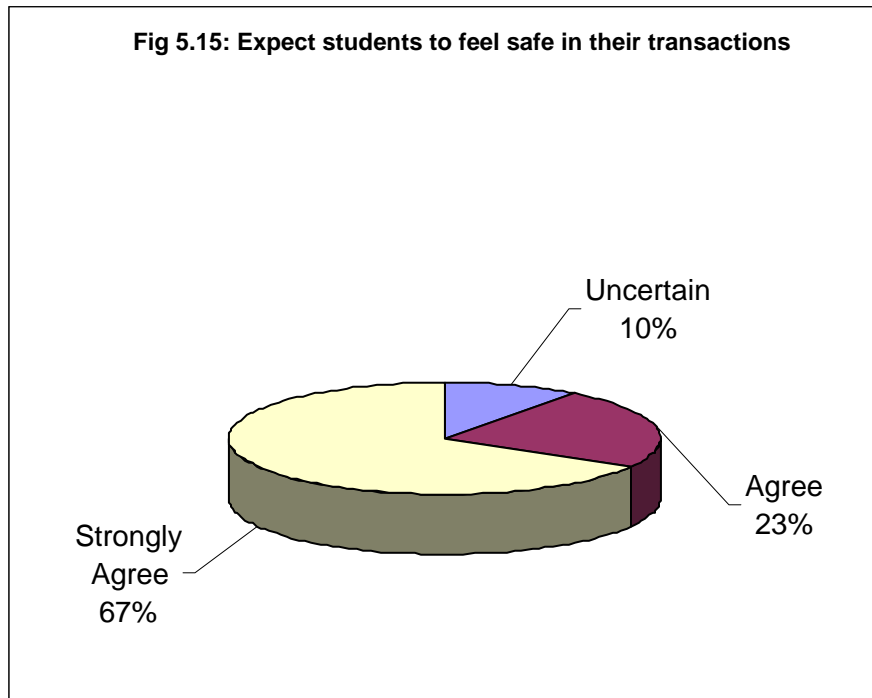
The majority of the respondents (88%) agreed with the statement and expect that university employees will never be too busy to respond to students' requests. Twelve percent of the respondents were uncertain in their response to this statement.

5.2.14 The behaviour of employees in an excellent university will instill confidence in students.



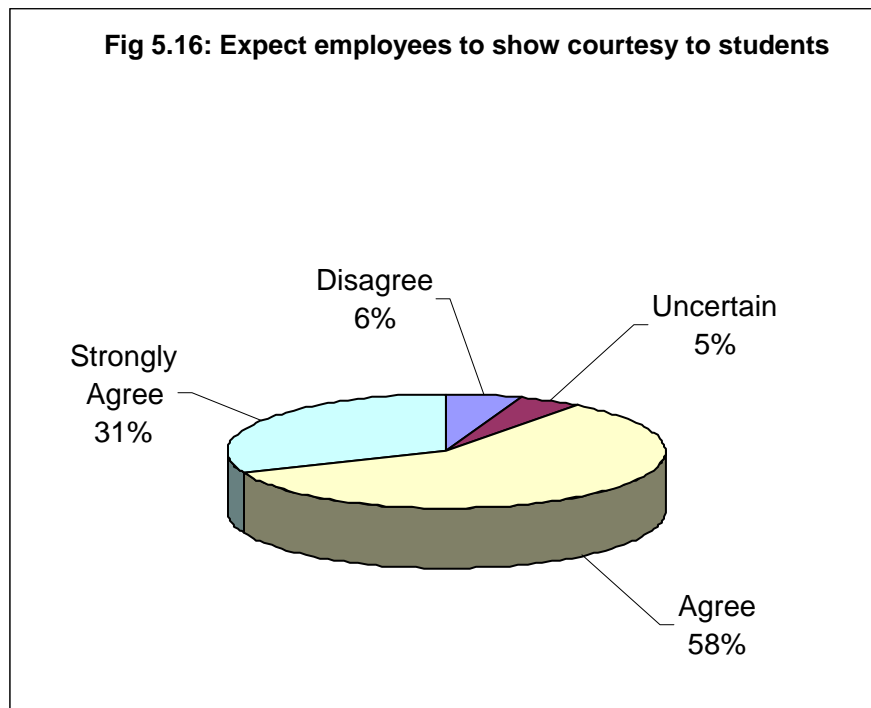
The majority of respondents (95%) agreed with the statement that behaviour of employees whilst performing their work should instill confidence in the students. Five percent of the respondents were uncertain in their response to this statement.

5.2.15 Students of an excellent university will feel safe in their transactions.



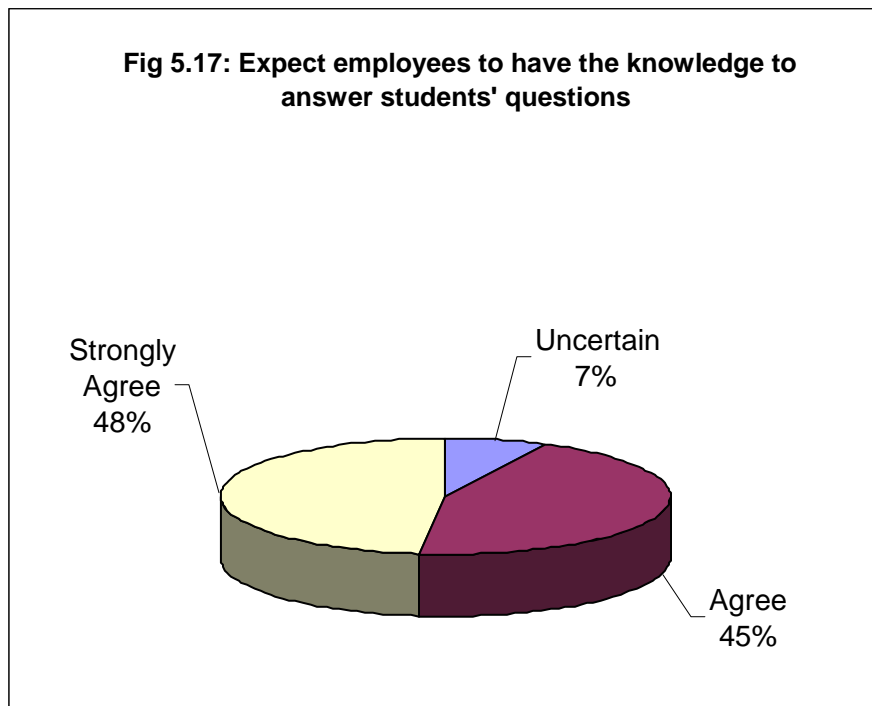
The majority of respondents (90%) agreed with the statement and expect students to feel safe in their transactions with a university. Ten percent of the respondents were uncertain in their response to this statement. Safety relates to both the physical environment and the absence of fraud at a university.

5.2.16 Employees in an excellent university will be constantly courteous with students.



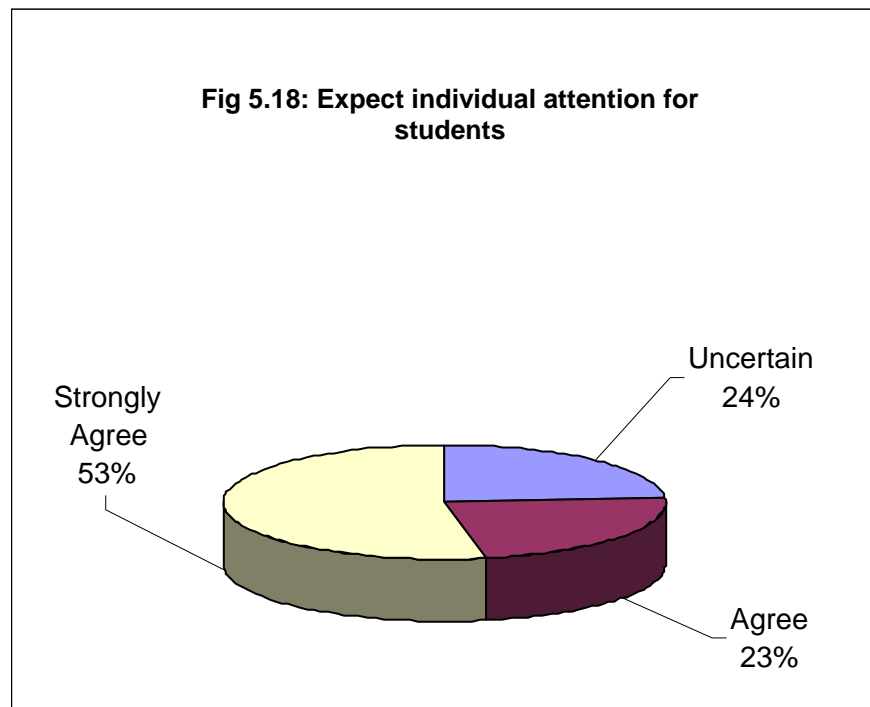
The majority of respondents (89%) agreed with the statement and expect university employees to be constantly courteous with the students. Five percent of the respondents were uncertain in their answer to this statement, while 6% of the respondents disagreed and did not expect university staff to be constantly courteous with them.

5.2.17 Employees in an excellent university will have the knowledge to answer students' questions.



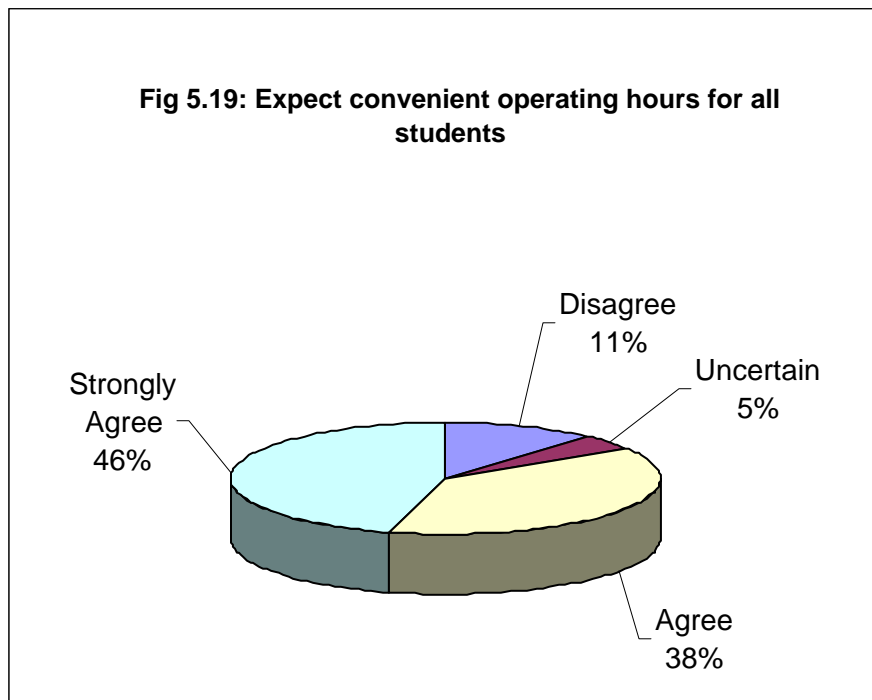
The majority of respondents (93%) agreed with the statement and expect university employees to have the knowledge to answer students' questions. Seven percent of the respondents were uncertain in their response to this statement.

5.2.18 An excellent university will give students individual attention.



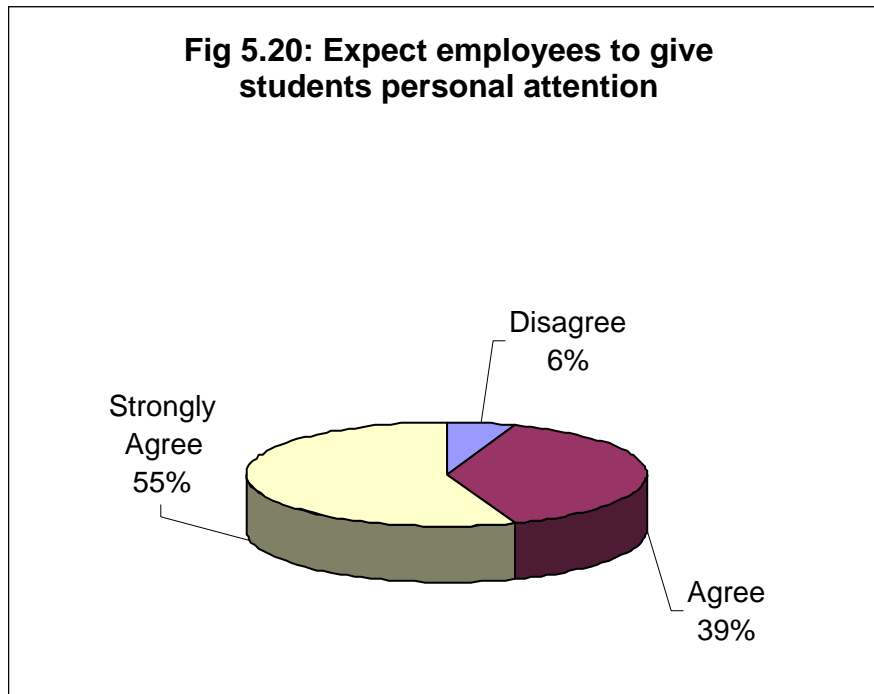
The majority of respondents (86%) agreed with the statement and expect a university to give students individual attention. Twenty four percent of the respondents were uncertain in their response to this statement.

5.2.19 An excellent university will have operating hours convenient to all their students.



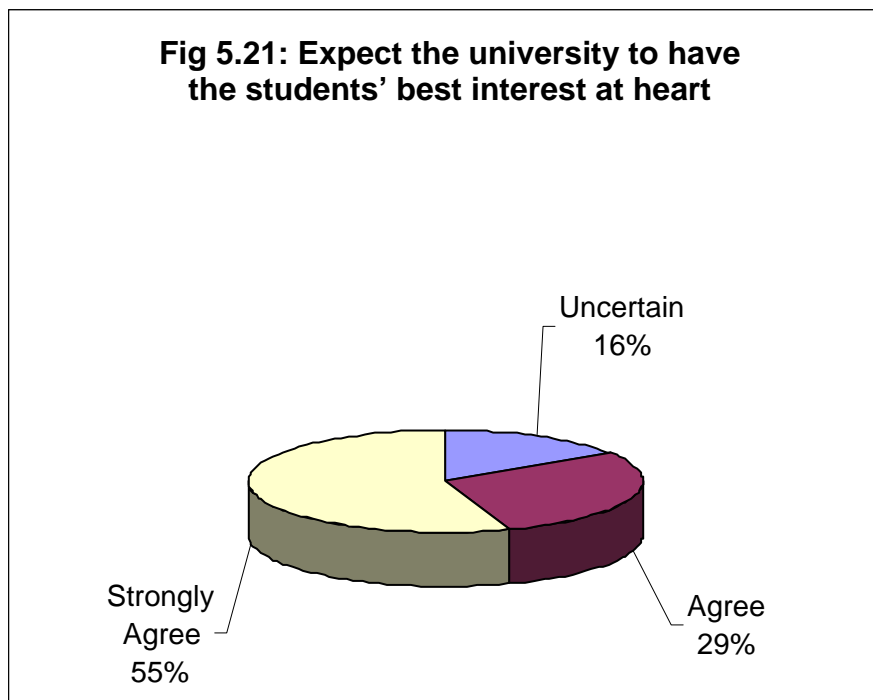
The majority of the respondents (84%) agreed with the statement and expect a university to have operating hours convenient to all their students. Five percent of the respondents were uncertain in their response to this statement, while 11% of the respondents disagreed with the statement and did not expect convenient operating hours for all students.

5.2.20 An excellent university will have employees who give students personal attention.



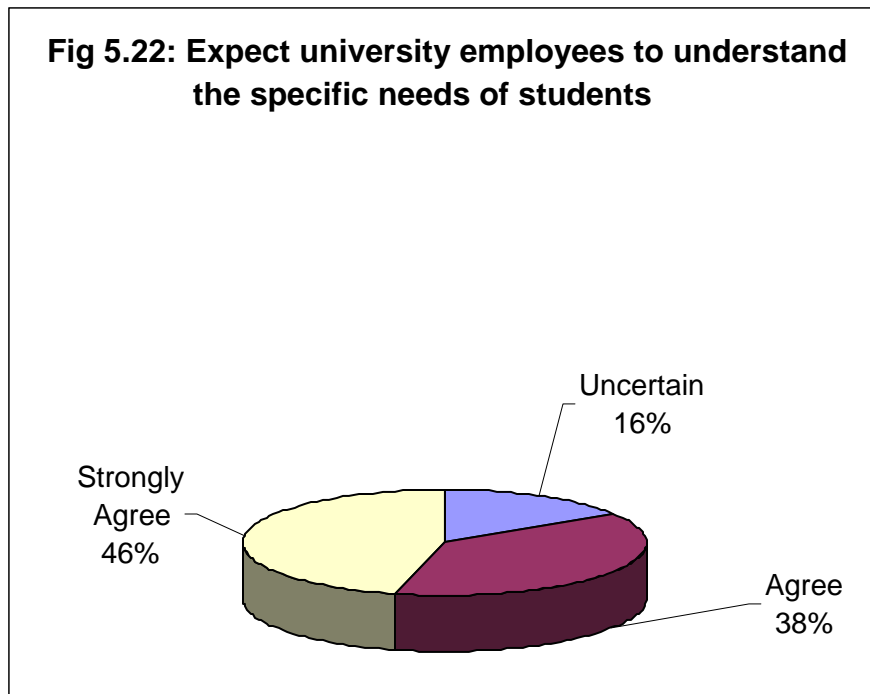
The majority of the respondents (94%) agreed with the statement and expect a university to have employees that give students personal attention. Six percent of the respondents disagreed with the statement and do not expect a university to employ staff that will provide individual attention.

5.2.21 An excellent university will have the students' best interest at heart.



The majority of the respondents (84%) agreed with the statement and expect a university to have the students' best interest at heart. Sixteen percent of the respondents were uncertain in their response to this statement.

5.2.22 Employees of an excellent university will understand the specific needs of their students.



The majority of the respondents (84%) agreed with the statement and expect a university to understand the specific needs of their students. Sixteen percent of the respondents were uncertain in their response to this statement.

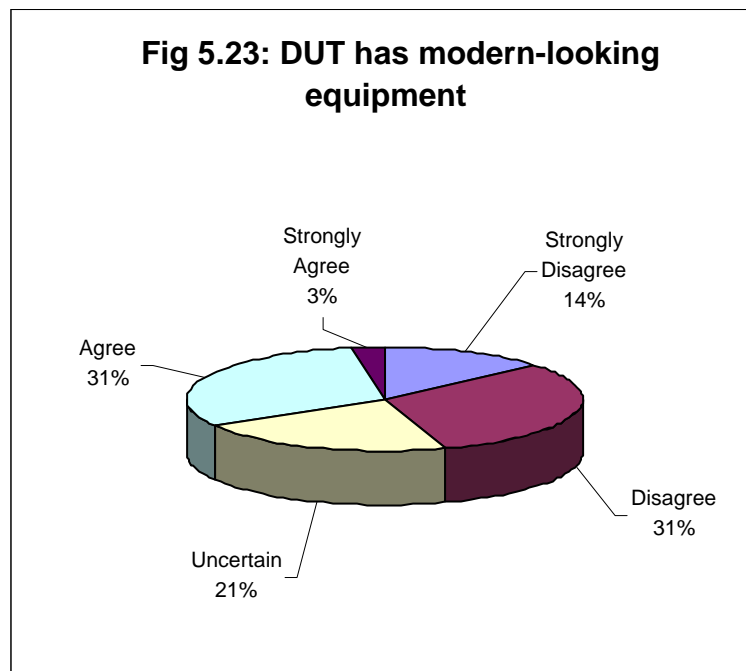
5.3 Expectations in terms of the dimensions

The highest expectation on tangibles was 4.47, related to staff appearance and the average score for tangibles was 4.39. The highest score for reliability was 4.68 and was linked to a university showing sincere interest in solving students' problems, while the average score for this dimension was 4.49. Responsiveness was rated at 4.61 in terms of willingness to help students, while the average score for this dimension was 4.41. The highest score for assurance was 4.56 and related to students feeling safe in their transactions at a university, while the average score was 4.37.

The highest expectation score on empathy was 4.44 and related to employees at a university giving students personal attention, while the average score for this dimension was 4.32. The average overall gap scores for each dimension was 4.39

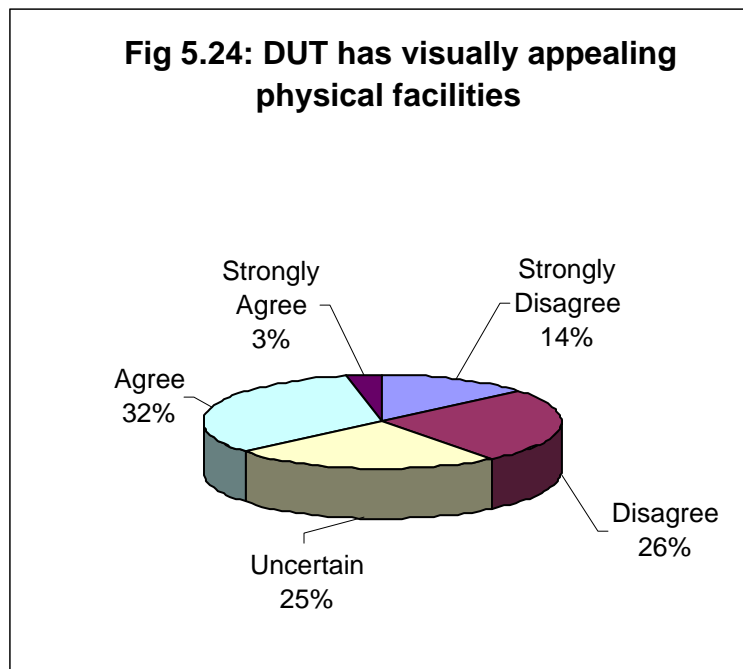
5.4 Graphic analysis of Perceptions

5.4.1 DUT has modern-looking equipment.



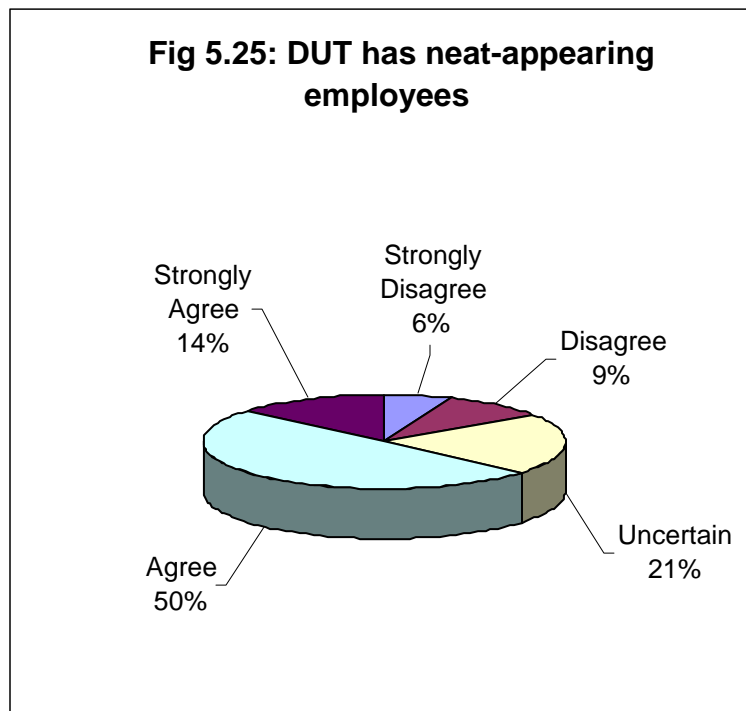
Based on the perception that students have of the equipment that the Durban University of Technology uses, 34% of the respondents agreed that the equipment was modern-looking, 21% were uncertain and 45% of the respondents disagreed with the statement that the Durban University of Technology has modern-looking equipment.

5.4.2 DUT's physical facilities are visually appealing.



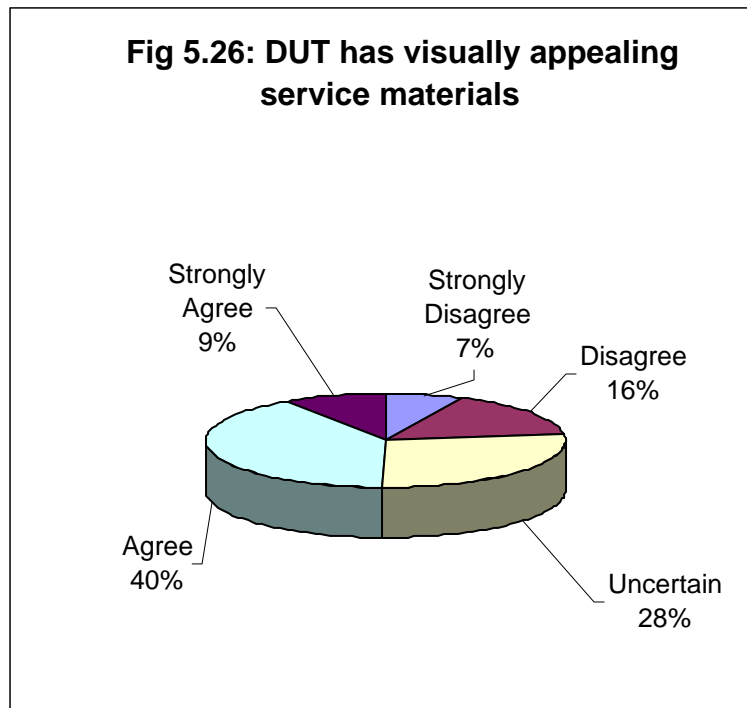
Slightly more than a third (35%) of the respondents agreed with the statement that the Durban University of Technology has visually appealing facilities, 25% of the respondents were uncertain in their response to this statement; while 40% of the respondents disagreed that the DUT has visually appealing facilities.

5.4.3 DUT's employees are neat-appearing.



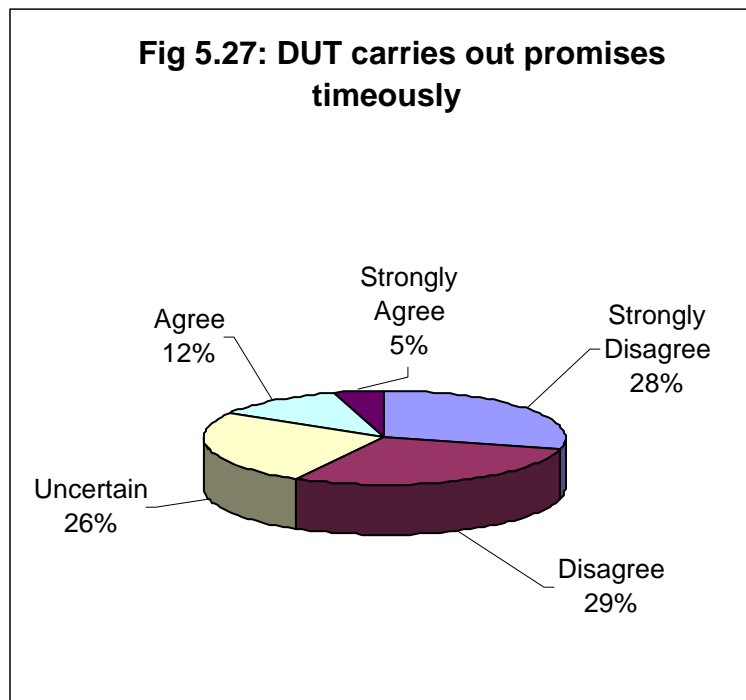
The majority of the respondents (64%) agreed with the statement that the Durban University of Technology has neat-appearing employees, 21% of the respondents were uncertain in their response to this statement and 15% of the respondents disagreed that the DUT has neat-appearing employees.

5.4.4 Materials associated with the service (such as pamphlets or statements) are visually appealing at the DUT



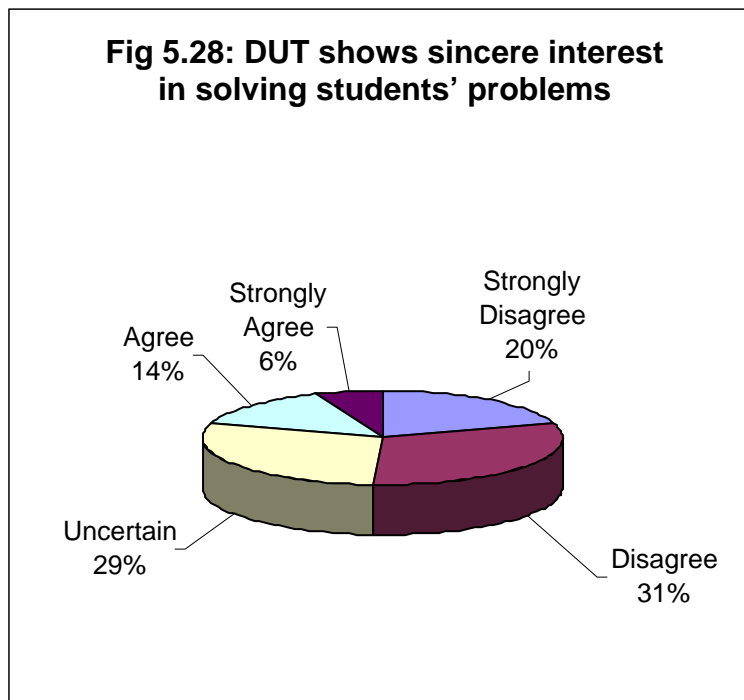
Slightly less than half (49%) of the respondents agreed with the statement that materials, such as brochures and pamphlets associated with the service at DUT, are visually appealing. Twenty eight percent of the respondents were uncertain in their answer to this statement and 23% of the respondents disagreed that the DUT has visually appealing materials associated with the service.

5.4.5 When DUT promises to do something by a certain time, it does so.



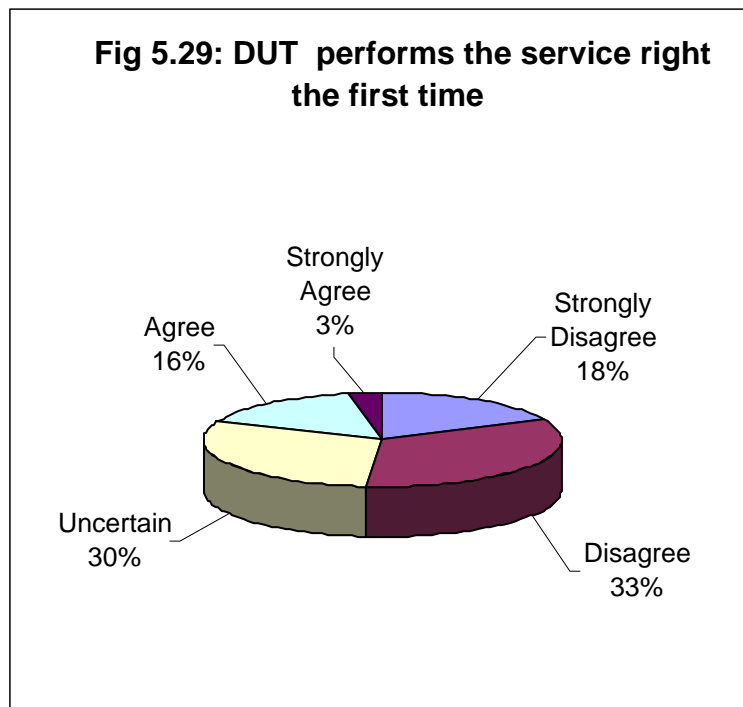
A minority of respondents (17%) agreed with the statement that the DUT delivers on service promises timeously, 26% of the respondents were uncertain in their response to this statement and the majority of respondents disagreed that the DUT delivers on service promises timeously.

5.4.6 When you have a problem, DUT shows sincere interest in solving it.



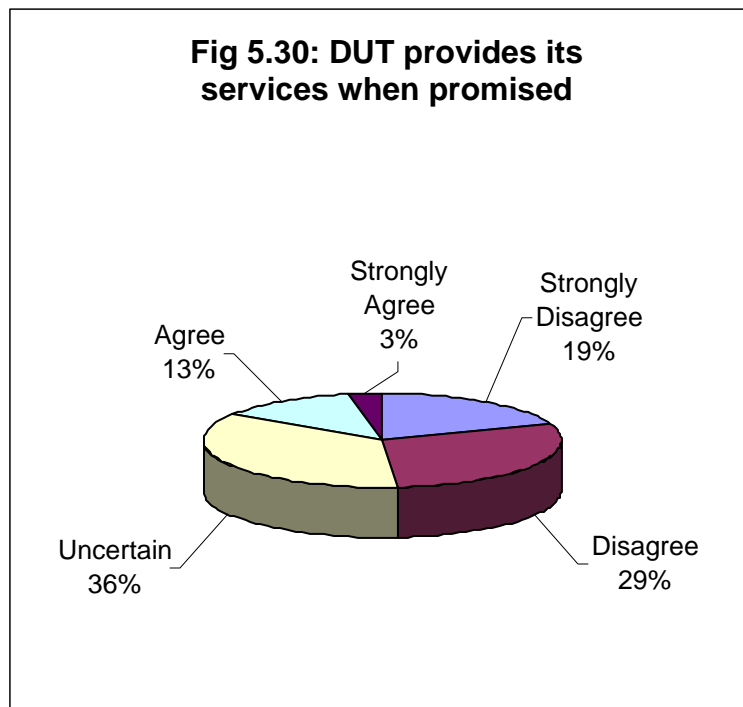
A minority of respondents (20%) agreed with the statement that the DUT shows sincere interest in solving students' problems, 29% of the respondents were uncertain in their response to this statement and slightly more than half (51%) disagreed that the DUT shows sincerity in solving students' problems.

5.4.7 DUT performs the service right the first time.



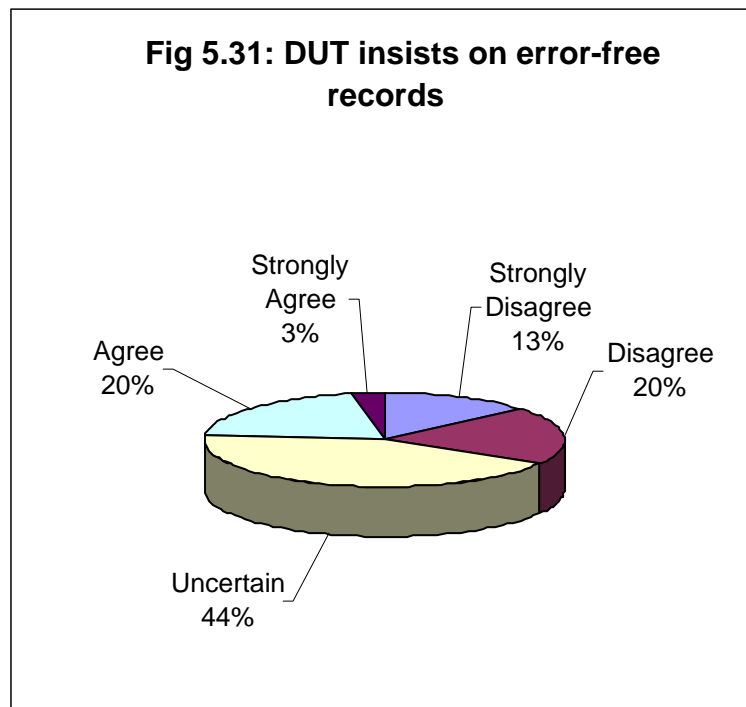
A minority of respondents (19%) agreed with the statement that the DUT performs services correctly the first time, 30% were uncertain in their response to this statement and 51% of the respondents disagreed that services at the DUT are performed correctly the first time and sometimes repeated effort is required in completing the service.

5.4.8 DUT provides its services at the time it promises to do so.



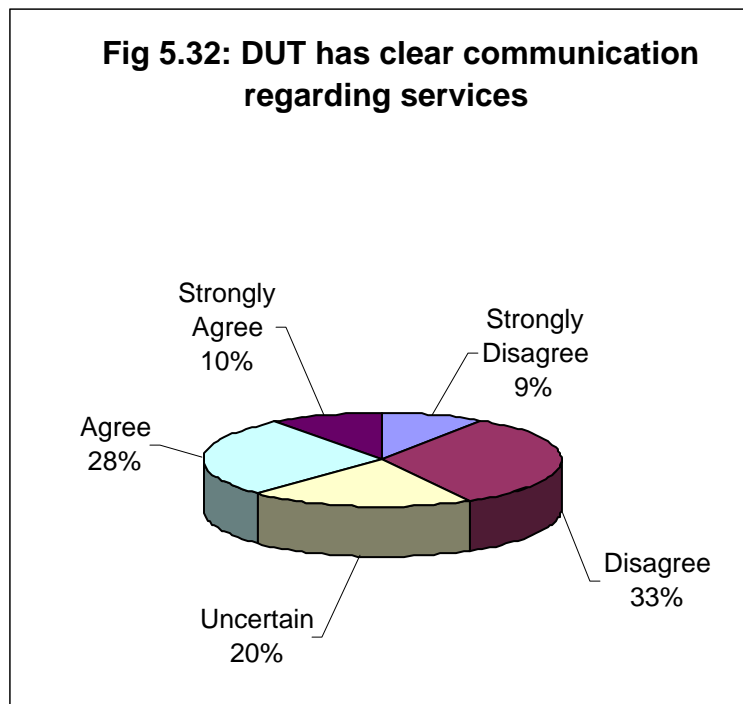
A minority of respondents (16%) agreed with the statement that the DUT provides its services when promised, 36% of the respondents were uncertain in their response to this statement, while 48% of the respondents disagreed that the DUT provides its services at the time it promises to do so.

5.4.9 DUT insists on error-free records.



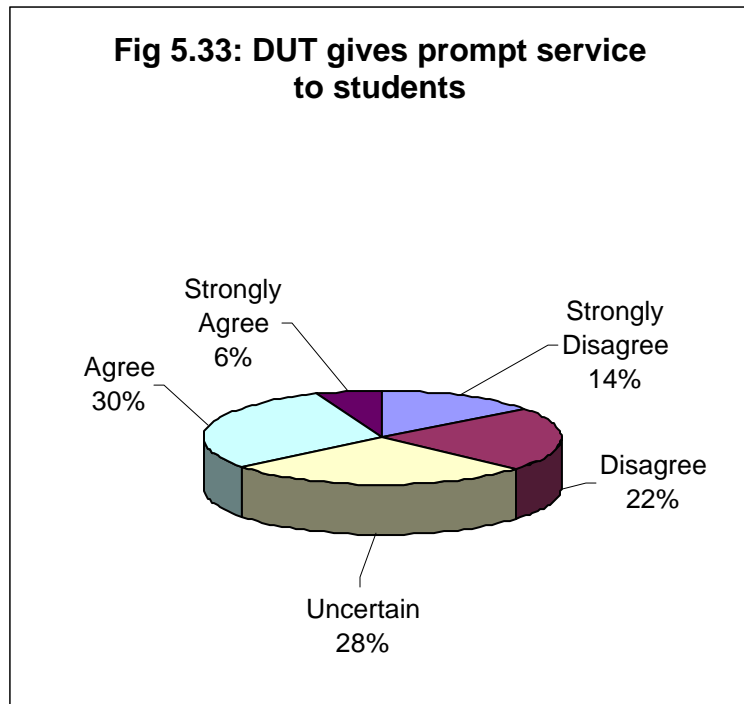
Twenty three percent of the respondents agreed with the statement that the DUT insists on error-free records, 44% of the respondents were uncertain in their response to this statement and 33% disagreed that the DUT insists on error-free records.

5.4.10 Employees at DUT tell you exactly when services will be performed.



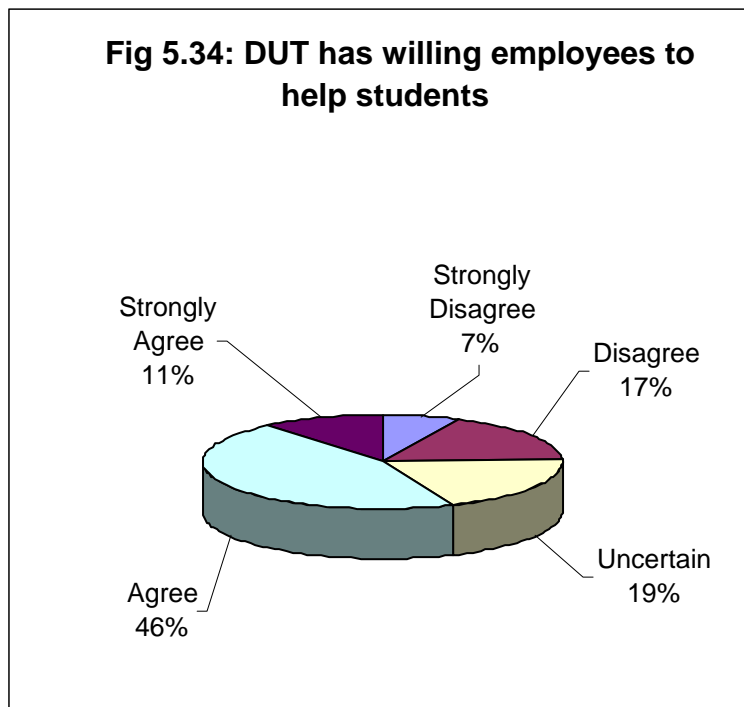
Thirty eight percent of the respondents agreed with the statement that the DUT informs students exactly when services will be performed, 20% were uncertain in their response to this statement and 42% of the respondents disagreed that the DUT informs students exactly when services will be delivered.

5.4.11 Employees at DUT give you prompt service.



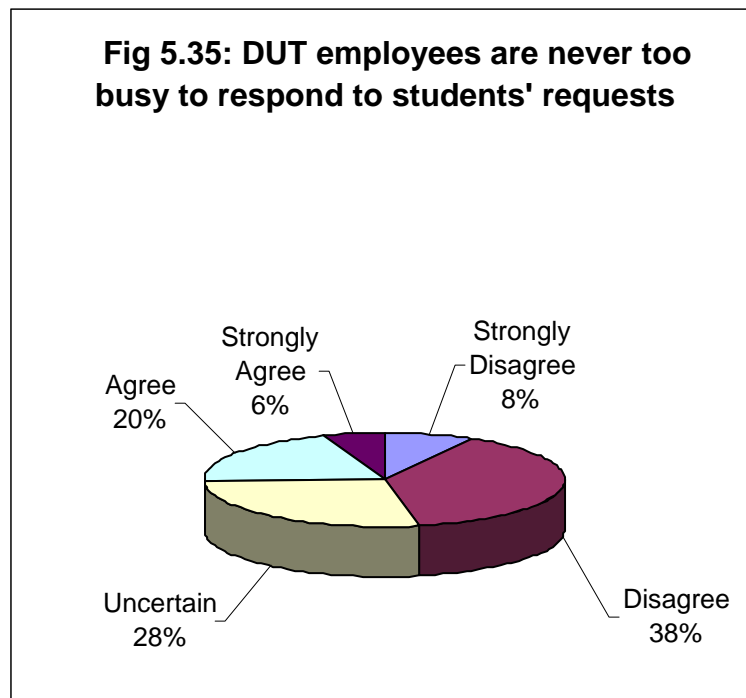
Slightly more than a third (36%) of the respondents agreed that the DUT gives students prompt service, 28% of the respondents were uncertain in their response to this statement and 36% of the respondents disagreed that staff at the DUT give prompt service.

5.4.12 Employees at DUT are willing to help you.



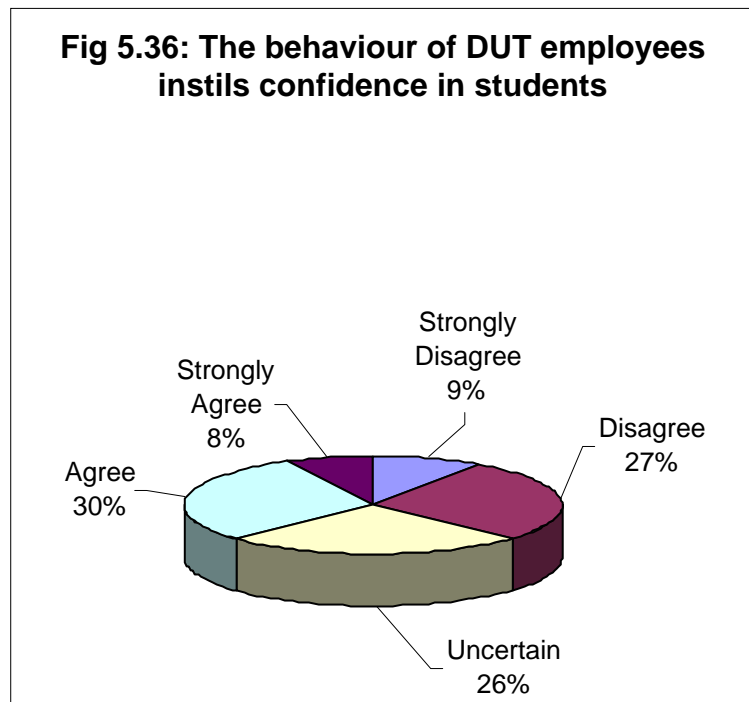
Fifty seven percent of the respondents agreed with the statement that the DUT employees are willing to help students, 19% were uncertain in their response to this statement; while 24% disagreed that the DUT employees are willing to help students.

5.4.13 Employees at DUT are never too busy to respond to your requests.



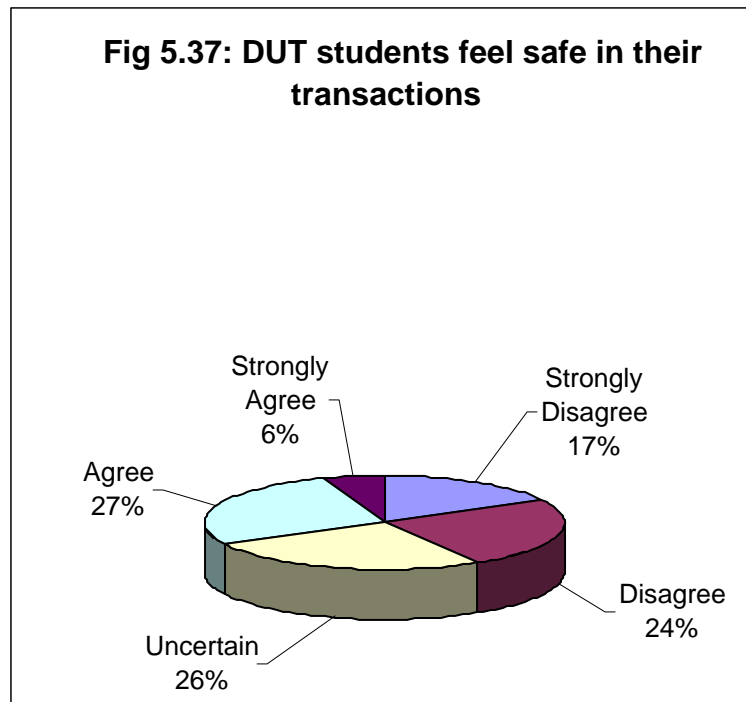
Twenty six percent of the respondents agreed with the statement that the DUT employees are never too busy to respond to students' requests, 28% were uncertain in their response to this statement, while 46% of the respondents disagreed that employees are never too busy to respond to students' requests.

5.4.14 The behaviour of employees at DUT instils confidence in you.



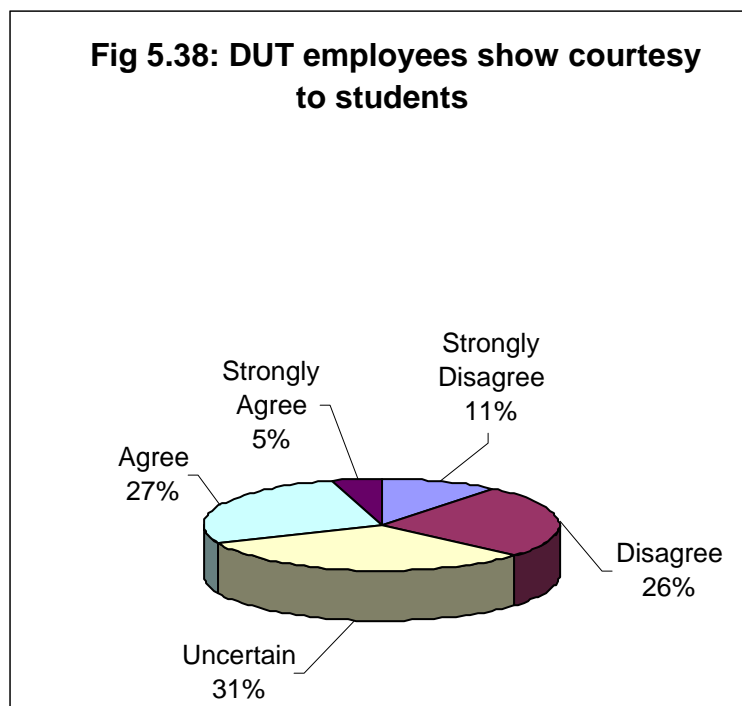
Thirty eight percent of the respondents agreed with the statement that behaviour of the DUT employees instils confidence in students, 26% were uncertain in their response to this statement and 36% disagreed that employees' behaviour at the DUT instils confidence in students.

5.4.15 You feel safe in your transactions with DUT.



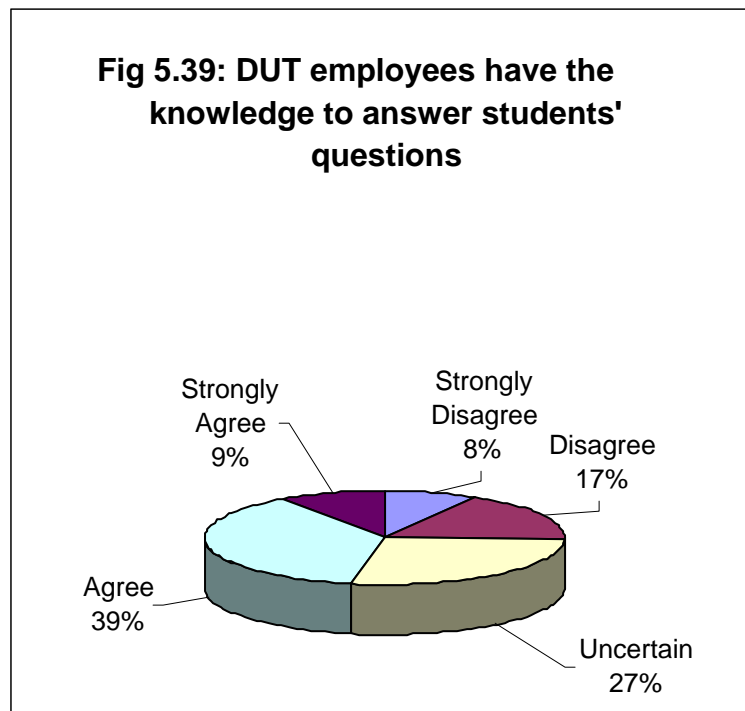
Thirty three percent of the respondents agreed that students feel safe in their transactions with the DUT, 26% were uncertain in their response to this statement, while 41% of the respondents disagreed with the statement and do not feel safe in their transactions with the DUT.

5.4.16 Employees at DUT are consistently courteous to you.



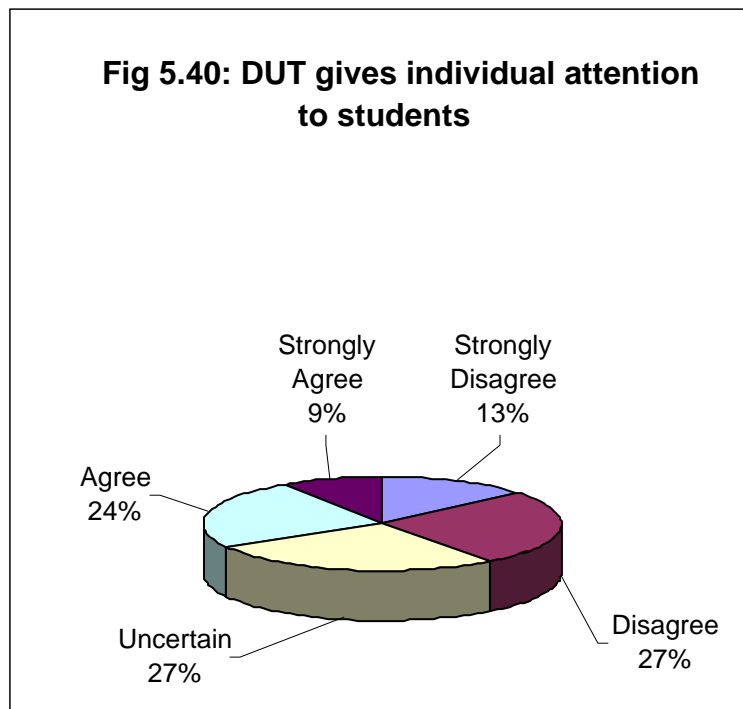
Thirty two percent of the respondents agreed with the statement that the DUT employees show courtesy to students, 31% were uncertain in their response to this statement and 37% disagreed that employees show students courtesy.

5.4.17 Employees at DUT have the knowledge to answer your questions.



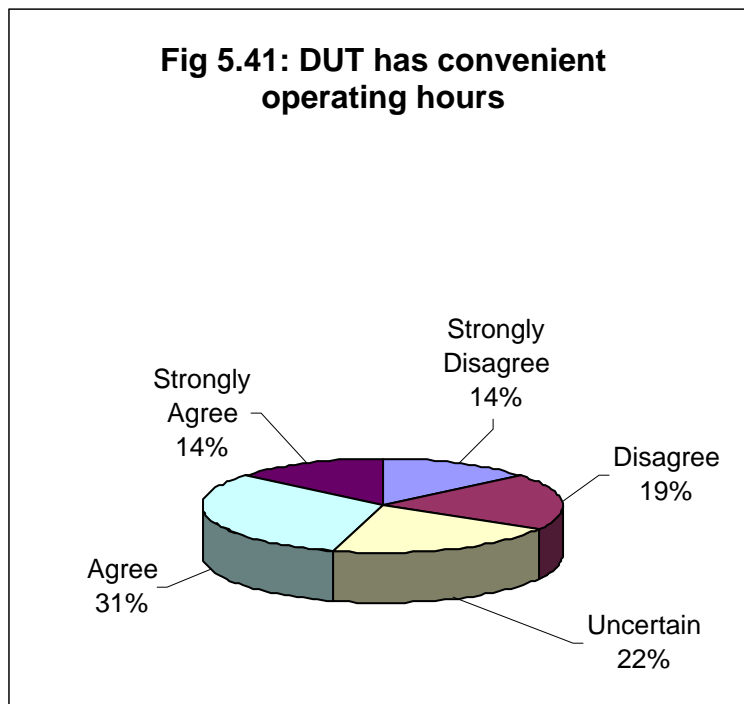
Slightly less than half of the respondents (48%) agreed that the DUT employees have the knowledge to answer their questions, 27% were uncertain in their response to this statement and 25% disagreed that DUT employees have the knowledge to answer their questions.

5.4.18 DUT gives you individual attention.



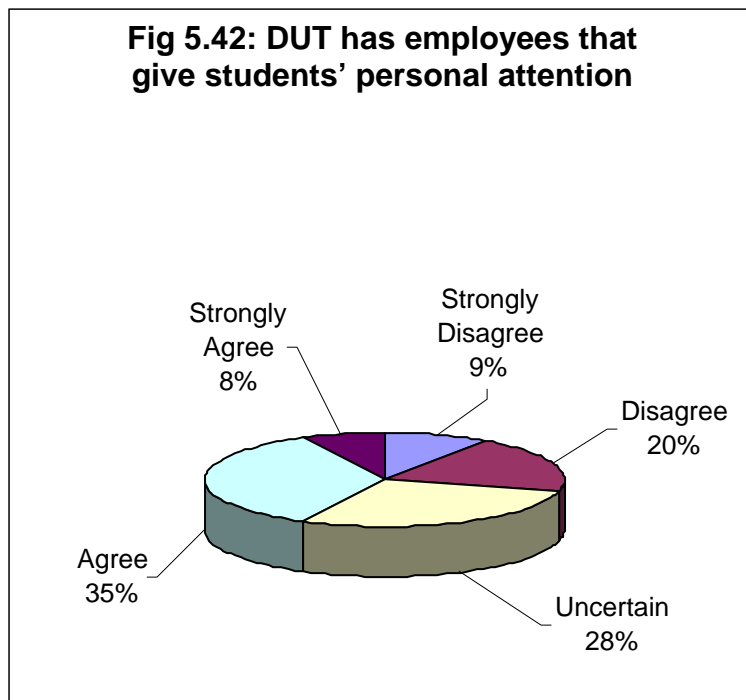
Thirty three percent of the respondents agreed with the statement that DUT gives you individual attention, 27% were uncertain in their response to this statement and 40% of the respondents disagreed that the DUT gives personal attention based on the large number of students on the campus.

5.4.19 DUT has operating hours convenient to all its students.



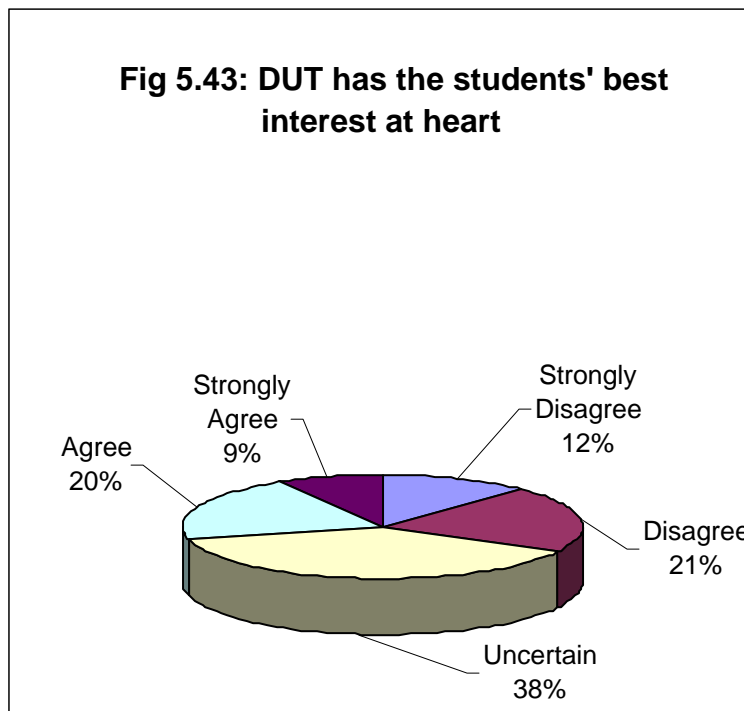
Forty four percent of the respondents agreed with the statement that DUT has operating hours convenient to all students, 22% were uncertain in their response to this statement and 33% of the respondents disagreed that the operating hours are convenient to all students.

5.4.20 DUT has employees who give you personal attention.



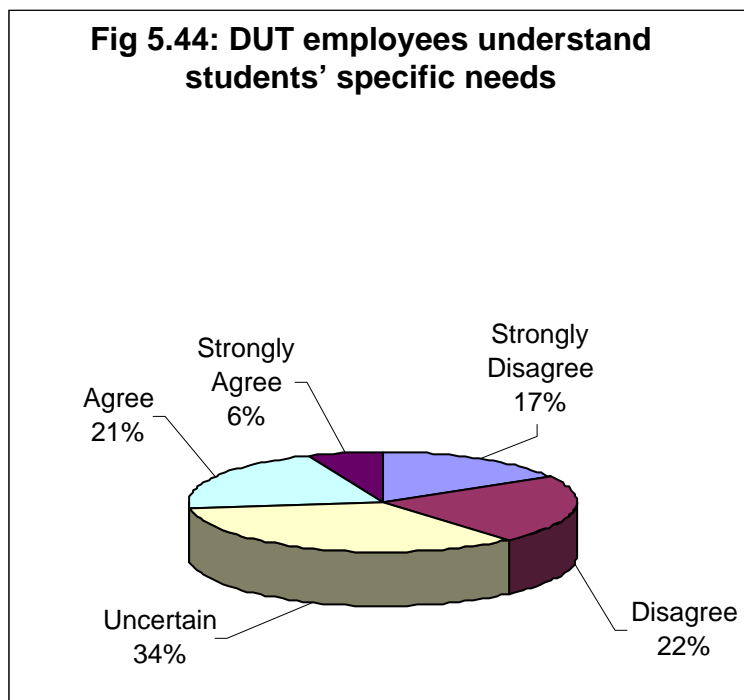
Forty three percent of the respondents agreed with the statement that DUT has employees who give you personal attention, 28% were uncertain in their response to this statement and 29% disagreed that employees at the university give students personal attention.

5.4. 21 DUT has your best interests at heart.



Twenty nine percent of the respondents agreed that the DUT has students' best interests at heart, 38% were uncertain in their response to this statement and 33% disagreed that the DUT has students' best interest at heart.

5.4.22 *Employees at DUT understand your specific needs.*



Twenty seven percent of the respondents agreed with the statement that DUT employees understand students' specific needs, 34% were uncertain in their response to this statement and 39% disagreed that the DUT understands the specific needs of students.

5.5 Perceptions in terms of the dimensions

The highest perception score on tangibles was 3.56 and related to the physical appearance of staff, while the average for this dimension was 3.12. Reliability rated 2.80, with an average score of 2.54. The highest perception score for responsiveness was 3.36, with an average score of 3. The perception of assurance at the DUT had a highest score of 3.22 and an average of 2.97. The highest perception score on the empathy dimension was 3.13, with an average of 2.97. The average of overall gap scores for each dimension was 2.92.

5.6 Gap Analysis

Gap 5 is the difference between customers' expectations of the service they will receive and what they perceive they have received (Parasuraman et al., 1988). In order to achieve this difference, an average score is calculated on a five-point rating scale for each response to each statement. This calculation is done for all statements in both the expectation and perception sections of the SERVQUAL questionnaire (Parasuraman et al., 1988). Once the different scores have been calculated, the score on each of the five dimensions can be computed, namely, tangibility, reliability, responsiveness, assurance and empathy (refer to appendix 2).

The highest statement gap score on tangibles (-1.26), related to modern-looking equipment and the smallest gap score (-0.91), related to physical appearance of employees (refer to figure 5.45).

The highest statement gap score for reliability (-2.16) linked to promises being carried out on time and the smallest gap score (-1.72), related to error-free records. The highest statement gap score for responsiveness (-1.52), related to clear communication regarding the service, while the smallest gap score (-1.25) linked to willingness of employees to help.

The highest gap score for assurance (-1.77) related to students feeling safe in their transactions with the DUT, while the smallest gap score (-1.19) linked to the DUT employees having the knowledge to answer students' questions.

The highest gap score for empathy (-1.53) related to the DUT employees understanding the specific needs of the students, while the smallest gap score for this dimension (-1.06) linked to convenient operating hours for all DUT students.

Figure 5.45: Gap analysis results

Question	Expectation Mean	Perception Mean	GAP	Dimension Score	Dimension
1	4.41	2.78	-1.63	-1.26	Tangibles
2	4.46	2.86	-1.60		
3	4.47	3.56	-0.91		
4	4.21	3.29	-0.92		
5	4.50	2.34	-2.16	-1.94	Reliability
6	4.68	2.55	-2.13		
7	4.28	2.53	-1.75		
8	4.47	2.51	-1.96		
9	4.51	2.80	-1.72		
10	4.48	2.97	-1.52	-1.42	Responsiveness
11	4.35	2.91	-1.44		
12	4.61	3.36	-1.25		
13	4.23	2.76	-1.47		
14	4.33	2.98	-1.35	-1.39	Assurance
15	4.56	2.80	-1.77		
16	4.16	2.89	-1.27		
17	4.41	3.22	-1.19		
18	4.29	2.89	-1.40	-1.36	Empathy
19	4.19	3.13	-1.06		
20	4.44	3.11	-1.33		
21	4.39	2.93	-1.47		
22	4.30	2.78	-1.53		

5.7 Research Discussions

The four objectives that guided the investigation of students' perceptions of service quality at the Durban University of Technology were as follows:

- To identify students' expectations in terms of higher educational services provided;
- To ascertain the perceptions of students towards the service provided by the Durban University of Technology;
- To measure the gaps between students' expectations and perceptions of service quality, using the SERVQUAL score; and
- To calculate and measure the score of the five SERVQUAL dimensions.

5.7.1 Objective 1: To identify students' expectations in terms of higher educational services provided.

Expectations are formed before purchasing the service (Muddie and Cottam, 1999). Mc Coll et al. (1996) suggest that customer's expectations form an important element of quality; Parasuraman et al. (1988) reinforce this point by stating that companies need to be aware of customers' expectations and strive to meet or exceed them.

Expectations of tangibles

Most students' (83%) strongly agreed that universities have to have modern-looking equipment, so that staff can provide efficient service to students. Students' expectations are very high regarding the appearance of physical facilities at a university. Most respondents (87%) expect employees at universities to appear neatly dressed.

The majority of respondents (76%) agreed that materials such as brochures and handouts, which provide information to students, must be visually appealing. Students look at tangibles as quality indicators of the service quality at a university.

Expectations of reliability

The highest expectation score for reliability related to a university showing sincere interest in solving students' problems. This score means that respondents expect university staff to show sincerity in solving their problems. Reliability is defined by Lovelock et al. (2004) as the ability to perform the promised service dependably and accurately.

Expectation of responsiveness

University staff are expected to help students. Responsiveness was rated the highest statement gap score (4.61) in relation to university staff willing to help their students. Responsiveness refers to the willingness displayed when helping a customer. To meet expectations of customers, staff should make provision for timely services (Parasuraman et al., 1988).

Regarding the performance of service, the majority of respondents (93%) expect employees at a university to tell students exactly when a service will be performed, while 88% of the respondents expect that university employees will never be too busy to respond to students requests and the majority of respondents (87%) expect staff to give prompt service to students at all times.

Expectations of assurance

The behaviour of staff is expected to inspire confidence in customers. Assurance was rated the highest gap score (4.56) in relation to students feeling secure in their transactions with a university.

Trust and confidence may be expected to be embodied in the person who links the customer to the company (Parasuraman et al., 1988).

The majority of respondents (95%) expect behaviour of university employees to instil confidence in them, while 90% of respondents expect to feel safe in their transactions with a university. University employees are expected to be constantly courteous with students and 89% of the respondents reinforced this point. 93% of the respondents expect university employees to have the knowledge to answer students' questions. The assurance dimension of service quality is highly dependent on employee's ability to communicate their credibility and to inspire trust and confidence (Ziethaml et al., 2003). Overall, respondents have a high expectation of responsiveness in terms of service delivery at a university.

Expectations of empathy

The highest expectation score for empathy was rated for students expecting personal attention from university staff. Universities deal with a large student base making it especially difficult to offer students individual attention. Staff must understand the students' needs and be willing to meet their requirements efficiently. The majority of the respondents (94%) agreed that a university should have employees that are able to give students personal attention.

Empathy implies that employees will pay attention, listen, adapt and be flexible in delivering what individual customers need (Ziethaml et al., 2003).

The majority of respondents felt that a university should have operating hours convenient to all students; universities should have students' best interest at heart and understand students' specific needs.

5.7.2 Objective 2: To ascertain the perceptions of students towards the service provided by the Durban University of Technology.

Perception becomes an influential factor when measuring customers' satisfaction with the service they receive. Perceptions are considered relative to expectations. Customers perceive service in terms of the quality of the service they receive and whether or not they are satisfied with their experiences (Parasuraman et al., 1988). According to Brown et al. (1992), service organizations know that if their customers do not enjoy the experience, do not value it, and do not think it meets their needs and expectations, they will not return.

Perception of tangibles

The appearance of the DUT staff was rated the highest perception score (3.56) on the tangible dimension. Staff image portrays the image of the DUT. Staff has to be well groomed and professional. The majority of the respondents (64%) agreed that staff at the Durban University of Technology are neat-appearing.

The physical environment, along with the goods, can be seen as a tangible element (Palmer, 2001). The design of the external and internal building can be used by customers to compare the quality of service from one institution to another (Palmer, 2001). Only 34% of the respondents agreed that equipment at the DUT was modern-looking.

Physical evidence of service includes all the tangible representations of the service such as brochures and pamphlets (Parasuraman et al., 1988). Slightly less than half (49%) of the respondents agreed with the statement that materials, such as brochures and pamphlets associated with the service at DUT, are visually appealing.

Perception of reliability

The highest perception score for reliability (2.80) was that the DUT insists on error-free records. Only 23% of the respondents agreed that the DUT insists on error-free records. A minority of respondents (17%) agreed with the statement that the DUT delivers on service promises timeously, while 57% of respondents disagreed with the statement, creating cause for concern on the reliability dimension for the DUT.

A minority of respondents (20%) agreed that the DUT shows sincere interest in solving students' problems, and slightly more than half (51%) disagreed with the statement, creating another area of concern that needs to be addressed by the DUT.

Accuracy means that staff must actively attempt to do things correctly the first time, as mistakes cost time and money (Dorian, 1996). A minority of respondents (19%) agreed that the DUT performs services correctly the first time, while 51% of the respondents disagreed that services at the DUT are performed correctly the first time and sometimes repeated effort was required in completing the service.

Perception of responsiveness

The highest statement score for responsiveness was that DUT has willing employees to help students. Responsiveness is the willingness to help customers and to provide prompt service (Parasuraman et al., 1988). Promptness also captures the notion of flexibility and the ability to customize the service to customer needs. Slightly more than a third (36%) of the respondents agreed that the DUT gives students prompt service, while 36% of respondents disagreed that they receive prompt service from the DUT. Changing students' perception in this area may involve staff training and a focus on efficiency.

Thirty eight percent of the respondents agreed that the DUT informs students exactly when services will be performed, while 42% of the respondents disagreed with this statement. Communication skills and feedback systems may need assessment, and if any weak areas exist, improvements should be implemented.

Staff shows willingness and prompt service when interacting with customers (Jude, 1998). Fifty seven percent of the respondents agreed with the statement that the DUT employees are willing to help students, while 24% disagreed with the statement. Customer service programs for all staff dealing with students may ultimately improve students' perception in this area.

Twenty six percent of the respondents agreed with the statement that the DUT employees are never too busy to respond to students' requests, while 46% of respondents disagreed. Considering the size of the student base at DUT, this is not an easy task and staff resources can only deal with a definite number of student issues at any one particular time.

Perception of assurance

The highest perception score on assurance (3.22) related to the DUT employees having the knowledge to answer students' questions. Slightly less than half of the respondents (48%) agreed that DUT employees have the knowledge to answer their questions, while 25% disagreed. Correct recruitment and training are areas that may need assessment in order to insure correct job-fit and proficiency in dealing with students.

Assurance is the ability of the company and its employees to inspire trust and confidence in what they do (Parasuraman et al., 1988). Staff should be sincere and trustworthy, in order to build long-lasting relationships with their customers (Canning, 1999). Thirty eight percent of the respondents agreed with the statement that behaviour of the DUT employees instils confidence in students, while 36% of the respondents disagreed.

Thirty two percent of the respondents agreed that the DUT employees show courtesy to students, while 37% disagreed. Staff must make customers feel important at all times (Jude, 1998).

Perception of empathy

The highest perception score (3.11) on the empathy dimension was that the DUT has operating hours convenient to all students. Forty four percent of the respondents were satisfied with the operating hours, while 33% of the respondents felt that more flexibility in operating hours was needed.

Thirty three of the respondents agreed with the statement that the DUT gives you individual attention, while 40% of the respondents disagreed and felt more individual attention is necessary from the institution.

Fourty three percent of the respondents agreed with the statement that the DUT has employees that give you personal attention, while 29% disagreed that employees at the university give students personal attention, linking back to the sheer size and number of the student base.

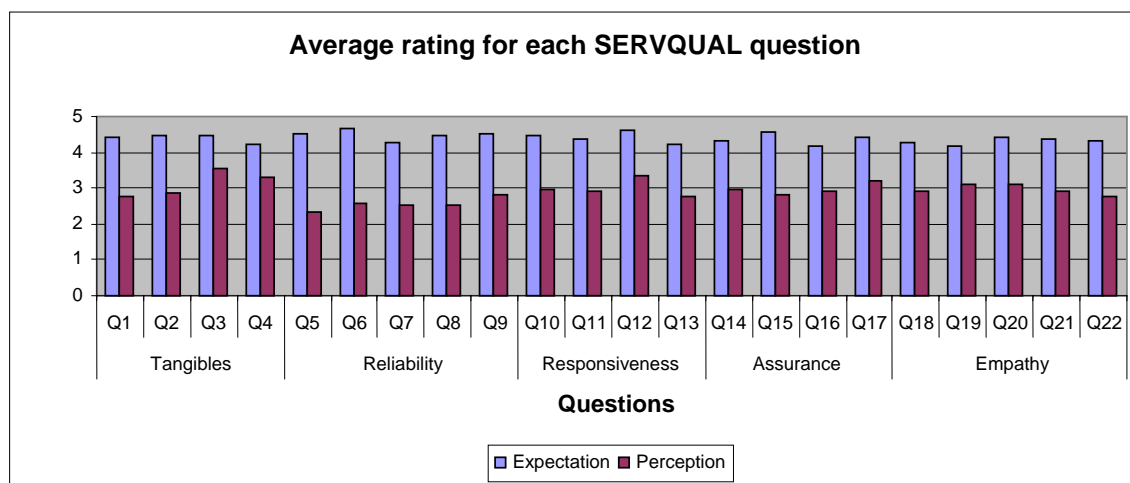
Empathy implies that employees will pay attention, listen, adapt and be flexible in delivering what individual customers need (Ziethaml et al., 2003). Twenty nine percent of the respondents agreed that the DUT has the students' best interests at heart, while 27% agreed that the DUT employees understand student's specific needs.

The dimension of empathy is difficult to evaluate when the DUT staff have vast numbers of students to deal with and deliver individual attention. Time and resource constraints could hamper any large university delivering exceptional service in this area. Private universities that have smaller classes may be able to perform well in this dimension.

5.7.3 **Objective 3: To measure the gaps between the expectations and perceptions, using the SERVQUAL score.**

Objective 3 dealt with the overall gap scores of students' expectations and perceptions using the SERVQUAL instrument (refer to figure 5.46). The smallest statement gap score (-0.91) for the tangibility dimension was that the DUT has visually appealing physical facilities. The largest statement gap score for tangibility (-1.63) related to the modern-looking equipment at DUT, which means that students feel that the equipment looks out dated and should be replaced.

Figure 5.46: Average rating for each SERVQUAL question.



The smallest statement gap score (-1.72) for the reliability dimension was that the DUT insists on error-free records. The largest statement gap score (-2.16) was that the DUT carries out promises on time, which indicated the area of most concern amongst the respondents.

The smallest statement gap score (-1.25) for the responsiveness dimension was that the DUT has willing employees to help students, while the largest statement gap score (-1.52) for responsiveness related to the DUT giving clear communications regarding service delivery.

The smallest statement gap score (-1.19) for assurance, was that the DUT employees have the knowledge to answer students' questions. The largest statement gap score (-1.77) for the assurance dimension related to the DUT students feeling safe in their transactions with institutions.

The smallest statement gap score (-1.06) for the empathy dimension related to the DUT having convenient hours for all students, while the largest gap score (-1.53) highlighted the fact that students do not feel that the DUT employees understand their specific needs.

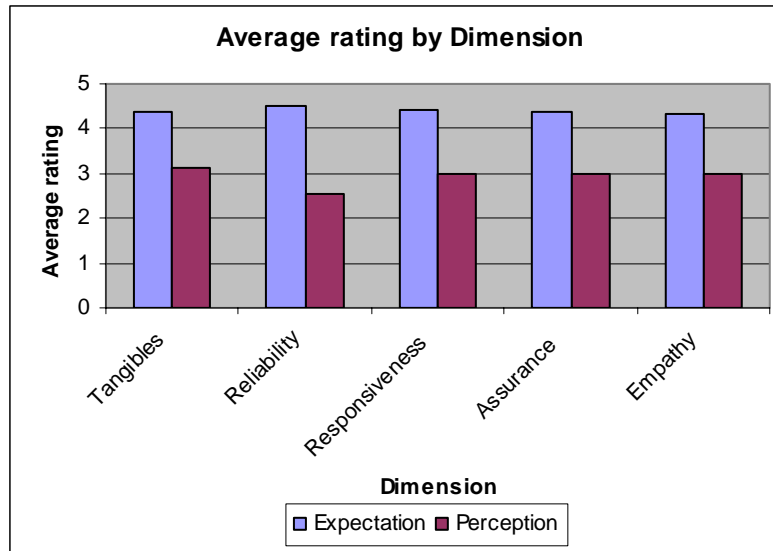
After comparing the differences between students' perceptions and expectations, the results have shown a negative score, as the student's expectations exceeded their perceptions. The researcher calculated the average gap score of -1.47, based on the results of the five dimensions.

5.7.4 Objective 4: To calculate and measure the score of the five SERVQUAL dimensions.

Tangibility

When comparing students' expected and perceived beliefs of the quality of the service that is offered to them, it is evident that the gap does not appear to be large, relative to the other dimensions. Tangibility was rated the best dimension, at -1.26 (refer to figure 5.47 and figure 5.45).

Figure 5.47: Average rating for each SERVQUAL dimension



The following items contributed to this negative dimension score: expected appearance of staff scored highest on the tangible dimension at 4.47, but the highest perception on the same area was 3.56.

The lowest expectation on tangibles (4.21) relates to the DUT having visually appealing service materials, such as brochures, pamphlets and handouts, while the lowest perception score on tangibles was 2.78, which related to modern-looking equipment.

Although the results point to a shortfall in terms of what students expect from tangibles at universities and what they actually receive, there is ample opportunity for changing students' perceptions regarding the appearance of equipment at the DUT.

Reliability

Reliability was rated the worst dimension with a score of -1.94 (refer to figure 5.47 and figure 5.45). Excellent universities must show sincere interest in solving students' problems. This score was rated highest (4.68) for expectations, while the same perception score of the DUT was rated at 2.55.

The lowest expectation score for reliability was 4.28, and related to a university performing the service right the first time, while the lowest perception score for the reliability dimension (2.51), related to the DUT providing its services when promised.

Canning (1999) suggests that reliability is based on the ability of staff to provide what they promise. The company must go to great lengths to close the gap between the performance of their services and what customers expect (Dorian, 1996),

Ziethaml et al. (2003) suggest that a common fault that can be attributed to most companies is over promising. This fault occurs when a service company makes promises they cannot keep. Companies have to keep to their promises and do things in a definite time period and staff must perform the service right the first time. It is suggested that the DUT management and staff focus on reliability as a matter of priority.

Responsiveness

In this study, responsiveness rated the second worst dimension with a score of -1.42, when comparing expectations and perceptions. The highest score for expectations was 4.61, and related to willing university employees helping students, while the highest score for perception was 3.36 and related to the DUT having willing employees to help students. The lowest score for expectation was 4.23, and related to university employees being never too busy to respond to student's requests, while the lowest perception score (2.76) occurred on the same statement.

Ziethaml et al. (2003), define responsiveness as the willingness to help customers and to provide prompt service. This dimension focuses on attentiveness and promptness in dealing with customer requests, questions, complaints and problems. It is expected that university staff respond promptly to student requests.

Assurance

Assurance rated the third worst service quality dimension (-1.39) when comparing the difference between expectations and perceptions of students at the DUT. The highest expectation score of 4.56 related to students feeling safe in their transactions with a university, compared to the highest score (3.22) for perceptions which referred to DUT employees having the knowledge to answer students' questions. The lowest expectation score (4.16) related to university staff showing courtesy to students, while the lowest perception score (2.80) for the assurance dimension referred to students feeling safe in their transactions with the DUT.

Empathy

Empathy can be defined as having good communication with people and being able to understand their needs (Mc Coll et al., 1996).

The results show that empathy rated fourth worst (-1.36) in terms of dimensional scores. The highest score for expectation was 4.44 and related to university employees that give students personal attention, while the highest perception score was 3.13 and related to the DUT having convenient operating hours for all students. The highest gap score for empathy was (-1.53) and related to university employees' understanding the specific needs of students.

5.8 Conclusion

The results have indicated that the majority of respondents expect a university to deliver service that will exceed their expectations. The respondents rated reliability the highest, followed by responsiveness, assurance, empathy and, lastly, tangibles was rated the least important expectation according to the respondents. The results have shown that students' perception of service quality at the Durban University of Technology falls below their expectations, presenting a great challenge to the DUT, especially in such areas as reliability and responsiveness.

Chapter 6

Conclusions and Recommendations

6.1 Introduction

Chapter 6 deals with the conclusions of the study and recommends what future research can be done to improve the quality of service that the Durban University of Technology offers its students. The following conclusions have emerged from the study:

6.2 Conclusions

The results have shown that students' expectations about the service they receive from universities exceed their perceptions. These results present challenges to the staff and management at the DUT as the institution is expected to offer their students excellent service at all times. Excellent service can happen if management and staff employ teamwork, communicate well and share ideas on improving service quality, which will result in improving students' satisfaction.

The service quality dimensions that showed the largest gaps proved to be reliability and responsiveness. Management and staff need to focus their attention on these dimensions so that they can increase the service quality that they offer their students, thereby meeting or exceeding student expectations.

6.3 Recommendations

The gaps mean that the DUT should be willing to affect changes that would meet or exceed the expectations of students. According to Mudie & Cottam (1999), expectations are formed before purchasing the service and Mc Coll et al. (1996) highlight the importance of expectations, by stating that expectations form an important element in service quality.

The gap between management's understanding of customers' expectations and the translation of these expectations into service quality depends on a number of

factors, such as management commitment to service quality, the extent to which the service role in the organization is standard and routine, goal setting and the existence of a formal system for setting the quality of service goals (Parasuraman et al., 1988).

The DUT should ensure that enough resources are allocated to tangibles at the institution. Tangibles are defined as the appearance of physical facilities, equipment, personnel and communication materials such as brochures and handouts. Tangibles provide physical representations or images of the service that customers will use to evaluate quality (Ziethaml et al., 2003).

Although tangibles was the best performing dimension at the DUT, with a gap score of -1.26, the highest gap scores for the tangible dimension related to equipment, and the appearance of physical facilities at the institution. It is recommended that management focus attention and resources on the purchase of new equipment and ensure that the facilities that students utilize are well maintained and visually-appealing.

The empathy dimension rated second best with a gap score of -1.36. Empathy is defined as the caring, individualized attention the organization provides its customers (Ziethaml et al., 2003). Empathy is a difficult dimension to fulfil, especially in a service organization like the DUT that has a large student enrolment, proving very difficult to offer students individual attention. The highest gap scores in this dimension were the DUT having students' best interest at heart as well as the institution understanding the specific needs of students.

It is recommended that the DUT employees be trained in service quality programs and that management focus on deploying a service culture amongst all employees, enabling all staff to improve on satisfying students' expectation and thereby improving perception of service quality.

Research highlighting the different profiles of students at the institution may offer management and staff insight into their different backgrounds, cultural diversity and expectations of this student base.

Assurance proved the third best performing dimension in this study with a gap score of -1.39. Assurance is defined as employees' knowledge and courtesy and the ability of the organization to inspire trust and confidence (Ziethaml et al., 2003). The role attached to any position in an organization represents a set of behaviours and activities to be performed by the person occupying that position (Parasuraman et al., 1988).

It is recommended that management investigate the possibility of a gap between service quality specifications and service delivery at the DUT. Key contributing factors to this gap include role ambiguity which requires that the correct information and training be provided to all staff enabling them to handle students' requests and problems, employee-job fit which relates to the match between the skill of employees and the jobs they are required to perform, Technology-job fit could include all DUT staff being trained in computer literacy, thereby boosting efficiency and performance standards.

Parasuraman et al. (1988) highlight the issue of perceived control and the assurance dimension. If university staff do not have the authority to solve student problems and are forced to deal with multiple layers of management before student issues are resolved, perceived assurance as a quality dimension for students may prove to be negative. Parasuraman et al. (1988) recommend teamwork as a solution. Management and staff at DUT need to view servicing students as a team effort and a good support service for all student-contact personnel needs to be in place.

The second worst performing service quality dimension proved to be responsiveness with a score of -1.42. Responsiveness is the willingness to help customers and to provide prompt service (Ziethaml et al., 2003).

The time it takes for staff to respond to students should be studied so that efficiency and competency can be evaluated and any suggested improvements be investigated. Responsiveness also captures the notion of flexibility and the ability to customize the service to customer needs. If student-contact personnel

at the DUT have to conform to specific systems in responding to students' requests, and there is no flexibility in such a system, then responsiveness by employees is dependant on the service system and channels that need to be followed. DUT management should ensure that the fastest possible response systems or channels are being utilized to reduce response times to student requests or issues.

Students also need to consider the number of students that DUT employees have to deal with and how this number impacts on responsiveness. The fact that the DUT is a public tertiary institution, that has a large student base impacts on the response time as university staff can only handle a certain number of student issues at once. Individual attention for students at a university of this size is almost impossible and very difficult to accommodate.

The worst performing service quality dimension in this study proved to be reliability with a gap score of -1.94. Customers want to do business with organizations that keep their promises, particularly their promises about service outcomes and core service attributes (Ziethaml et al., 2003). The highest gap scores in this dimension related to the DUT carrying out promises timeously and the sincerity shown by staff trying to resolve students' problems. It is suggested that management and staff ensure mechanisms are in place to check deadlines promised to students are strictly adhered to at all times, and that feedback systems and good communication channels between staff and students are always utilised.

6.4 Recommendations for future Research

The study investigated students' perceptions of service quality at the Durban University of Technology. Literature has shown the importance of student feedback in the higher education quality assurance process. It is recommended that continuous research along the five service quality dimensions, covered in this study, be applied to the Durban University of Technology as a vital input to the quality assurance programs at the institution, enabling university management and staff insight into changes they need to affect, thereby improving service quality and student satisfaction.

It is also recommended that SERVQUAL be used to assess the performance within faculties at the institution and between departments that interact with each other on a continual basis, enabling staff to understand what other departments expect and perceive of them and vice-versa. The possibility of inter-departmental SERVQUAL studies at the Durban University of Technology may also improve communications and facilitate teamwork amongst staff, thereby improving overall service at the institution.

Bibliography

Archambault, S. (2000). *Chi Square Goodness of Fit*. [Online] Wellesley College. Available from: <http://www.wellesley.edu/Psychology/Psych205/chisquaregood.html>. [Accessed 10 June 2007]

Archambault, S. (2000). *Paired Samples T Test*. [Online] Wellesley College. Available from: <http://www.wellesley.edu/Psychology/Psych205/pairttest.html> [Accessed 10 June 2007]

Asubonteng, P., McCleary, K.J. and Swan, J.E. (1996). SERVQUAL revisited: a critical review of service quality. *Journal of Services Marketing*, Vol. 10, No. 6, pp. 62-81.

Birley, G and Moreland, N. (1998). *A practical guide to academic research*. London: Kogan Page.

Brown, T.J., Churchill, G.A., and Peter, J.P. (1992). Improving the Measurement of Service Quality. *Journal of Retailing*, Vol. 69, No. 1, pp. 127-139.

Canning, V. (1999). *Being successful in customer care*. Dublin: Blackhall.

Cheng, Y.C. (1990). Conception of school effectiveness and models of school evaluation: a dynamic perspective. *Education Journal*, Vol. 18, No. 1, pp. 47-62.

Coates, H. (2005). The value of Student Engagement for Higher Education Quality Assurance. *Quality in Higher Education*, Vol. 11, No. 1, pp. 25-36.

Creative Research Systems (2003). *Sample Size Calculator*. [Online] Creative Research Systems. Available from: <http://www.surveysystem.com/sscalc.htm> [Accessed 19 September 2006].

Council on Higher Education (CHE) (2006). *HEQC supports South Africa-Australia higher education links*, [Online]. South Africa. Available from: http://www.che.ac.za/heqc_cq/links_network/links_network.php [Accessed 24 October 2006].

Darlaston-Jones, D., Pike, L., Cohen, L., Young, A., Haunold, S. and Drew, N. (2003). Are they being served? Student expectations of higher education. *Issues in Educational Research*, Vol. 13, No.1, pp. 31-52.

Dorian, P. (1996). *Intensive Customer Care*. Sandton: Zebra Press.

Durban University of Technology (DUT) 2006. *DUT News*, [Online]. South Africa. Available from: <http://dut.ac.za/news.aspx> [Accessed 12 December 2006].

Du Toit, A. (2003). *How satisfied are our students*. University of Johannesburg, Quality Management Unit.

Groonroos, C. (2000). *Service management and marketing: A customer relationship management approach*. 2nd Edition. West Sussex: John Wiley & Sons.

Harvey, L. (2001). *Student Feedback: A report to the Higher Education Funding Council for England*. Birmingham, Centre for Research into Quality.

Heck, R.H. & Johnsrud, L.K. (2000). Administrative effectiveness in higher education: improving assessment procedures. *Research in Higher Education*, Vol. 41, No. 6, pp. 663 -85.

Jude, B. (1998). *The psychology of customer service*. Goodwood: National Book Kingklip.

Kotler, P. (1996). *Marketing Management*. 7th Edition. New Jersey: Prentice-Hall.

Lovelock, C.H., & Wirtz, J. (2004). *Services Marketing*. 5th Edition. New Jersey: Prentice-Hall.

Mc Coll, R., Callaghan, B and Palmer, A. (1996). *Services Marketing: a managerial perspective*. Boston: McGraw-Hill.

Mudie, P. & Cottam, A. (1999). *The management and marketing of Services*. 2nd Edition. Butterworth: Heinemann.

Palmer, A. (2001). *Principles of service marketing*. 3rd Edition. Berkshire: McGraw-Hill.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, Vol. 49, pp. 41-50.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988) SERVQUAL: a multi-item scale for measuring consumer perceptions of the service quality, *Journal of Retailing*, Vol. 64, No. 1, pp. 12-40.

Perreault, W.D. & McCarthy, E.J. (1999). *Basic Marketing: a global managerial approach*. 11th Edition. Boston: McGraw-Hill.

Powney, J., & Hall, S. (1998). *Closing the loop: The impact of student feedback on students' subsequent learning*. Edinburgh, Scottish Council for Research in Education.

- Quintana, J. (2006). *The greatest blind spot: Customer perception*. [Online] MYCUSTOMER.com. Available from: <http://www.mycustomer.com/cgi-bin/item.cgi?id=132560&u=pnd&m=phnd>. [Accessed 24 October 2006].
- Tan, K.C. & Sei, W.K. (2004). Service Quality in Higher Education using an enhanced SERVQUAL Approach, *Quality in Higher Education*, Vol. 10, No. 1, pp. 17-24.
- Walker-Garvin, A. (2003). *Unsatisfactory Satisfaction: Student feedback and closing the loop. Quality Promotion and Assurance*. University of KwaZulu-Natal.
- Wisniewski, M. and Donnelly, M. (1996). Measuring service quality in the public sector: the potential for SERVQUAL, *Total Quality Management*, Vol. 7, No. 4, pp. 357-365.
- Welman, J.C. & Kruger, S.J. (2003). *Research Methodology. 2nd Edition*. Cape Town: Oxford University Press.
- Wikipedia (2007). *Customer*. [Online] Wikimedia Foundation Inc. Available from: <http://en.wikipedia.org/wiki/Customer> [Accessed 10 June 2007]
- Williams, J. (2002). Student satisfaction: a British model of effective use of student feedback in quality assurance and enhancement. *Paper presented at the 14th International Conference on assessment and Quality in Higher Education*. Vienna, 24-27 July.
- Zeithaml, V.A & Bitner M.J. (2003). *Services Marketing: Integrating customer focus across the firm*. 3rd Edition. New York: Mcgraw-Hill.

Appendices

Appendix 1: Questionnaire

Acknowledgement of Consent

I am currently undertaking a research project as part of my studies towards an MBA with the Business Studies Unit at the Durban University of Technology.

The aim of the research is to investigate students' perception of service quality at the Durban University of Technology.

The answers you will provide in the questionnaire will be for research purposes only. Participation is completely voluntary and you may decide to withdraw from the study at any time.

As a willing participant in this research can you please sign and date your consent.

Ivoluntarily agree to participate by completing the attached questionnaire and fully understand that I may withdraw at any time.

Signature.....Date.....
.....

Your participation in this research is greatly appreciated.

Yours faithfully,
Justin Arpin
Masonite (Africa) Limited

Please provide the following information regarding your studies at the Durban University of Technology:

FACULTY	
YEAR OF FIRST REGISTRATION	
CURRENT YEAR OF STUDY	

Directions for Service Expectations Questionnaire

Based on your experiences as a student of the Durban University of Technology, please think about the kind of university that would deliver excellent quality of service. Think about a university with which you would be pleased to do business. Rating guide is as follows:

RATINGS	
1	STRONGLY DISAGREE
2	DISAGREE
3	UNCERTAIN
4	AGREE
5	STRONGLY AGREE

		EXPECTATIONS QUESTIONNAIRE				
		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	Excellent universities will have modern-looking equipment.	1	2	3	4	5
2	The physical facilities at an excellent university will be visually appealing.	1	2	3	4	5
3	Employees at an excellent university will be neat-appearing.	1	2	3	4	5
4	Materials associated with the service (such as pamphlets or statements) will be visually appealing at an excellent university.	1	2	3	4	5
5	When excellent universities promise to do something by a certain time, they will do so.	1	2	3	4	5
6	When a student has a problem, an excellent university will show a sincere interest in solving it.	1	2	3	4	5
7	Excellent universities will perform the service right the first time.	1	2	3	4	5
8	Excellent universities will provide their services at the time they promise to do so.	1	2	3	4	5
9	Excellent universities will insist on error-free records.	1	2	3	4	5
10	Employees in excellent universities will tell students exactly when services will be performed.	1	2	3	4	5
11	Employees in excellent universities will give prompt service to students.	1	2	3	4	5

		EXPECTATIONS QUESTIONNAIRE				
		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
12	Employees in excellent universities will always be willing to help students.	1	2	3	4	5
13	Employees in excellent universities will never be too busy to respond to students' requests.	1	2	3	4	5
14	The behaviour of employees in excellent universities will instill confidence in students.	1	2	3	4	5
15	Students of excellent universities will feel safe in their transactions.	1	2	3	4	5
16	Employees at excellent universities will be constantly courteous with students.	1	2	3	4	5
17	Employees at excellent universities will have the knowledge to answer students' questions.	1	2	3	4	5
18	Excellent universities will give students' individual attention.	1	2	3	4	5
19	Excellent universities will have operating hours convenient to all their students.	1	2	3	4	5
20	Excellent universities will have employees who give students personal attention.	1	2	3	4	5
21	Excellent universities will have the students' best interest at heart.	1	2	3	4	5
22	The employees of excellent universities will understand the specific needs of their students.	1	2	3	4	5

Directions for Service Perceptions Questionnaire

Show the extent to which you believe the Durban University of Technology has a feature described by the statement. Once again, circling a 1 means you strongly disagree that the Durban University of Technology has that feature, and circling a 5 means that you strongly agree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right and wrong answers - all we are interested in is a number that best shows your perceptions about the Durban University of Technology.

RATINGS	
1	STRONGLY DISAGREE
2	DISAGREE
3	UNCERTAIN
4	AGREE
5	STRONGLY AGREE

		PERCEPTIONS QUESTIONNAIRE				
		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	DUT has modern-looking equipment.	1	2	3	4	5
2	DUT's physical facilities are visually appealing.	1	2	3	4	5
3	DUT's employees are neat-appearing.	1	2	3	4	5
4	Materials associated with the service (such as pamphlets or statements) are visually appealing at the DUT	1	2	3	4	5
5	When DUT promises to do something by a certain time, it does so.	1	2	3	4	5
6	When you have a problem, DUT shows sincere interest in solving it.	1	2	3	4	5
7	DUT performs the service right the first time.	1	2	3	4	5
8	DUT provides its services at the time it promises to do so.	1	2	3	4	5
9	DUT insists on error-free records.	1	2	3	4	5
10	Employees at DUT tell you exactly when services will be performed.	1	2	3	4	5
11	Employees at DUT give you prompt service.	1	2	3	4	5

		PERCEPTIONS QUESTIONNAIRE				
		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
12	Employees at DUT are willing to help you.	1	2	3	4	5
13	Employees at DUT are never too busy to respond to your requests.	1	2	3	4	5
14	The behaviour of employees at DUT instills confidence in you.	1	2	3	4	5
15	You feel safe in your transactions with DUT	1	2	3	4	5
16	Employees at DUT are consistently courteous with you.	1	2	3	4	5
17	Employees at DUT have the knowledge to answer your questions.	1	2	3	4	5
18	DUT gives you individual attention.	1	2	3	4	5
19	DUT has operating hours convenient to all its students.	1	2	3	4	5
20	DUT has employees who give you personal attention.	1	2	3	4	5
21	DUT has your best interests at heart.	1	2	3	4	5
22	Employees at DUT understand your specific needs.	1	2	3	4	5

Appendix 2: Calculation of SERVQUAL Scores

Question	Expectation Mean	Perception Mean	GAP
1	4.41	2.78	-1.63
2	4.46	2.86	-1.60
3	4.47	3.56	-0.91
4	4.21	3.29	-0.92
5	4.50	2.34	-2.16
6	4.68	2.55	-2.13
7	4.28	2.53	-1.75
8	4.47	2.51	-1.96
9	4.51	2.80	-1.72
10	4.48	2.97	-1.52
11	4.35	2.91	-1.44
12	4.61	3.36	-1.25
13	4.23	2.76	-1.47
14	4.33	2.98	-1.35
15	4.56	2.80	-1.77
16	4.16	2.89	-1.27
17	4.41	3.22	-1.19
18	4.29	2.89	-1.40
19	4.19	3.13	-1.06
20	4.44	3.11	-1.33
21	4.39	2.93	-1.47
22	4.30	2.78	-1.53

Appendix 3: Descriptive Statistics

	Mean	Median	Mode	Std. Deviation	Variance
Exp1	4.409	5	5	0.863	0.745
Exp2	4.462	4	4	0.500	0.250
Exp3	4.466	5	5	0.708	0.501
Exp4	4.208	4	4	0.669	0.447
Exp5	4.496	5	5	1.013	1.027
Exp6	4.682	5	5	0.556	0.309
Exp7	4.280	5	5	0.977	0.955
Exp8	4.473	5	5	0.813	0.661
Exp9	4.511	5	5	0.692	0.479
Exp10	4.485	5	5	0.623	0.388
Exp11	4.348	5	5	0.868	0.753
Exp12	4.610	5	5	0.575	0.330
Exp13	4.235	4	4	0.645	0.416
Exp14	4.333	4	4	0.561	0.314
Exp15	4.564	5	5	0.672	0.452
Exp16	4.155	4	4	0.752	0.565
Exp17	4.409	4	5	0.622	0.387
Exp18	4.292	5	5	0.829	0.686
Exp19	4.186	4	5	0.963	0.927
Exp20	4.443	5	5	0.768	0.590
Exp21	4.394	5	5	0.748	0.559
Exp22	4.303	4	5	0.729	0.531
Per1	2.777	3	2	1.110	1.231
Per2	2.864	3	4	1.119	1.251
Per3	3.561	4	4	1.034	1.069
Per4	3.292	3	4	1.058	1.120
Per5	2.341	2	2	1.146	1.313
Per6	2.553	2	2	1.139	1.298
Per7	2.527	2	2	1.053	1.110
Per8	2.511	3	3	1.039	1.080
Per9	2.795	3	3	1.011	1.023
Per10	2.970	3	2	1.176	1.383
Per11	2.905	3	4	1.155	1.333
Per12	3.364	4	4	1.101	1.213
Per13	2.761	3	2	1.039	1.080
Per14	2.985	3	4	1.120	1.255
Per15	2.799	3	4	1.177	1.385
Per16	2.886	3	3	1.062	1.128
Per17	3.223	3	4	1.103	1.216
Per18	2.890	3	3	1.179	1.391
Per19	3.125	3	4	1.271	1.615
Per20	3.114	3	4	1.104	1.219
Per21	2.928	3	3	1.116	1.246
Per22	2.777	3	3	1.137	1.292

Appendix 4: Paired sample t-test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Expect modern-looking equipment - DUT has modern-looking equipment	1.63	1.361	0.084	1.47	1.8	19.486	263	0
Pair 2	Expect visually appealing physical facilities - DUT has visually appealing physical facilities	1.6	1.217	0.075	1.45	1.75	21.344	263	0
Pair 3	Expect neat-appearing employees - DUT has neat-appearing employees	0.91	1.209	0.074	0.76	1.05	12.163	263	0
Pair 4	Expect visually appealing service materials - DUT has visually appealing service materials	0.92	1.209	0.074	0.77	1.06	12.323	263	0
Pair 5	Expect promises to be carried out timeously - DUT carries out promises timeously	2.16	1.58	0.097	1.96	2.35	22.163	263	0
Pair 6	Expect sincere interest in solving student problems - DUT shows sincere interest in solving student problems	2.13	1.29	0.079	1.97	2.29	26.814	263	0
Pair 7	Expect correct service performance the first time - DUT performs the service right the first time	1.75	1.458	0.09	1.58	1.93	19.546	263	0
Pair 8	Expect services to be provided when promised - DUT provides its services when promised	1.96	1.308	0.08	1.8	2.12	24.383	263	0
Pair 9	Expect error-free records - DUT insists on error-free records	1.72	1.284	0.079	1.56	1.87	21.711	263	0
Pair 10	Expect clear communication regarding services - DUT has clear communication regarding services	1.52	1.322	0.081	1.35	1.68	18.616	263	0
Pair 11	Expect prompt service for students - DUT gives prompt service for students	1.44	1.458	0.09	1.27	1.62	16.082	263	0

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 12	Expect willing employees to help students - DUT has willing employees to help students	1.25	1.235	0.076	1.1	1.4	16.398	263	0
Pair 13	Expect employees never to be too busy to respond to students' requests - DUT employees are never too busy to respond to students' requests	1.47	1.189	0.073	1.33	1.62	20.135	263	0
Pair 14	Expect behaviour of employees to instill confidence in students - The behaviour of DUT employees instills confidence in students	1.35	1.215	0.075	1.2	1.5	18.04	263	0
Pair 15	Expect students to feel safe in their transactions - DUT students feel safe in their transactions	1.77	1.316	0.081	1.61	1.92	21.794	263	0
Pair 16	Expect employees to show courtesy to students - DUT employees show courtesy to students	1.27	1.279	0.079	1.11	1.42	16.126	263	0
Pair 17	Expect employees to have the knowledge to answer students' questions - DUT employees have the knowledge to answer students' questions	1.19	1.251	0.077	1.03	1.34	15.393	263	0
Pair 18	Expect individual attention for students - DUT gives individual attention to students	1.4	1.416	0.087	1.23	1.57	16.08	263	0
Pair 19	Expect convenient operating hours for all students - DUT has convenient operating hours for all students	1.06	1.588	0.098	0.87	1.25	10.853	263	0
Pair 20	Expect there to be employees to give students personal attention - DUT has employees who give students personal attention	1.33	1.279	0.079	1.17	1.48	16.888	263	0
Pair 21	Expect the institution to have the students' best interest at heart - DUT has the students' best interest at heart	1.47	1.328	0.082	1.3	1.63	17.938	263	0
Pair 22	Expect the employees to understand the specific needs of the students - DUT employees understand the specific needs of the students	1.53	1.311	0.081	1.37	1.69	18.923	263	0

Appendix 5: Chi Square Goodness-of-fit test

Question	Asymp. sig	Occurred significantly more than expected	Occurred significantly less than expected
Exp1	<.0005	Strongly Agree	
Exp2	<.0005	Agree	
Exp3	<.0005	Strongly Agree	
Exp4	<.0005	Agree	
Exp5	<.0005	Strongly Agree	
Exp6	<.0005	Strongly Agree	
Exp7	<.0005	Strongly Agree	
Exp8	<.0005	Strongly Agree	
Exp9	<.0005	Strongly Agree	
Exp10	<.0005	Strongly Agree	
Exp11	<.0005	Strongly Agree	
Exp12	<.0005	Strongly Agree	
Exp13	<.0005	Agree	
Exp14	<.0005	Agree	
Exp15	<.0005	Strongly Agree	
Exp16	<.0005	Agree	
Exp17	<.0005	Strongly Agree	
Exp18	<.0005	Strongly Agree	
Exp19	<.0005	Strongly Agree	
Exp20	<.0005	Strongly Agree	
Exp21	<.0005	Strongly Agree	
Exp22	<.0005	Strongly Agree	
Per1	<.0005		Strongly Agree
Per2	<.0005		Strongly Agree
Per3	<.0005	Agree	
Per4	<.0005	Agree	
Per5	<.0005		Strongly Agree
Per6	<.0005		Strongly Agree
Per7	<.0005		Strongly Agree
Per8	<.0005		Strongly Agree
Per9	<.0005	Undecided	
Per10	<.0005	Disagree	
Per11	<.0005		Strongly Agree
Per12	<.0005	Agree	
Per13	<.0005	Disagree	
Per14	<.0005		Strongly Agree
Per15	<.0005		Strongly Agree
Per16	<.0005		Strongly Agree
Per17	<.0005	Agree	
Per18	<.0005		Strongly Agree
Per19	<.0005	Agree	
Per20	<.0005	Agree	
Per21	<.0005	Undecided	
Per22	<.0005	Undecided	