



**CHALLENGES WITH STUDENT'S REGISTRATION PROCESSES
AT THE DURBAN UNIVERSITY OF TECHNOLOGY: A CASE STUDY
OF MIDLANDS CAMPUSES OF RIVERSIDE AND INDUMISO**

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Declaration

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ABSTRACT

In recent times, student protests over the challenges relating to registration have become rampant in South Africa. Consequently, the development often disrupts academic programmes. The implication of the above is the constant loss of time needed by the students to concentrate on their academic studies and its consequences on the quality of services. The study examined the challenges associated with students' registration processes and how it moulds the perceptions and expectations of the students in terms of service delivery at the Midlands Campuses of the DUT. This study followed a mixed method for data collection and analysis. The questionnaires were distributed to 360 students and interviews were conducted with four staff members of the Student Administration Department of the Midlands campuses of Indumiso and Riverside. The researcher used descriptive statistics based on data collected by using Statistical Package for the Social Sciences Software (SPSS version 2.0) to analyse the quantitative data. The data that emerged from the interview were deductively coded with the aid of software (NVIVO version 12). The quantitative factor loading reveals a strong loading above the recommended value of 0.5 while the confirmatory Factor Analysis (CFA) revealed a good fit in the model. However, the findings from the students indicated that Student Administration staff were not exactly meeting the desired and expected registration services. The SERVQUAL dimensions indicated gaps of 0.58 in reliability, responsiveness, and empathy. The qualitative analysis discovered several registration challenges, including NSFAS late payments, which affected late account clearance for registration, incorrect module selection for registration, and incorrect biographical

information capturing. It was recommended that the Student Administration Department of Indumiso and Riverside campuses should endeavoured to bridge the gap identified by SERVQUAL dimensions. The department should improve communication services to students. On-time NSFAS payment and student account clearance was recommended to avoid delays and challenges during registration. Proper creation of academic structure from the system was recommended to avoid incorrect module registration. Student biographical information should be always up to date to improve communication with students.

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ABBREVIATIONS

CATE	Colleges of Advances Technical Education
CFA	Confirmatory Factor Analysis
PCA	Principal Component Analysis
CPUT	Cape Peninsula University of Technology
CUT	Central University of Technology
DHET	Department of Higher Education and Training
DUT	Durban University of Technology
EFA	Exploratory Factor Analysis
MUT	Mangosuthu University of Technology
NMMU	Nelson Mandela Metropolitan University
NSFAS	National Student Financial Aid Service
TUT	Tswane University of Technology
UJ	University of Johannesburg
UNISA	University of South Africa
VUT	Vaal University of Technology

CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

Universities are the cornerstones for a better life as they strive to offer excellent teaching and learning. The Durban University of Technology, as a public institution, has the aim of promoting effective service delivery. This is expressed in the two threads that form the fabric of the university system: student-centeredness and engagement (DUT, 2015). In addition, the university has introduced 'ENVISION 2030' as a strategic plan to respond to the daily challenges of the community. One of the intentions of this strategic plan is to produce graduates who are creative, entrepreneurial, and able to adapt to daily changes in the world. The slogan of the policy is, "improving lives and livelihoods" (DUT, 2021).

This study examined the administrative challenges faced by the students regarding their registration at the Durban University of Technology (DUT) on the Midlands Campuses of Riverside and Indumiso; and how this affects the administrative service delivery of the university. This study examined students' perceptions of the registration processes at the university.

1.1 BACKGROUND AND RATIONALE FOR THE STUDY

Since 1994, the higher education landscape has gone through comprehensive reforms, such as the major of the higher education institutions' processes, which took place between 1994 and 2004. According to the Ministry of Education (2001), the Durban University of Technology was one of the former Technikons, which were converted into a University of Technology, since they offer vocationally based programs. The reform in the higher education sector created a debate on how the higher education institutions newly transformed should be administered. Higher education institutions were viewed as stand-alone sectors in the public sphere. However, they were incorrect because higher education institutions have a direct impact on society. These institutions play an important role in society as they are developing people's skills and knowledge, as well as research development that should contribute to eth creation of new knowledge, and empower and uplift the South African societies.

The South African Department of Higher Education and Training (2013: 04) stated that every South African citizen should have an equal chance/opportunity for education. In response, the South African DoE introduced a government funding scheme called NSFAS, which aimed at assisting those students who are from disadvantaged backgrounds, and without financial support. However, funding is continuing to be regarded as a major barrier to student registration from universities, as the administration and allocation of scheme funds are still under scrutiny.

The Department of Student Administration handles registration processes at the DUT Midlands Campuses of Indumiso and Riverside. All students are required to register each year; and some, every semester until they graduate. Electronic administration (e-administration) is a revolutionary tool for effective service delivery in tertiary institutions globally (Osakede, Ijimakinwa, Arijeniwa, Adesanya & Ojo, 2017). As a composite of information and communication technology (ICT), e-administration, among other things, streamlines easy access to educational institutions. It improves the availability of educational resources; facilitates the virtual registration of students; simplifies the student admission process; and removes artificial barriers to learning (Osakede, Ijimakinwa, Arijeniwa, Adesanya & Ojo, 2017). This new dimension in the management of information is a basic shift from the traditional functioning of administration and redefines the operations of university administrators and management.

Universities, as public institutions, are concerned with meeting the needs of the stakeholders; primarily the students. Crucial to this objective is the administration of the various activities of each institution in a manner that promotes the values and purposes of the establishment (Schuppan, 2008). Thus, the deployment of e-administration enhances the service delivery system (Egoeze, Misra, Maskeliūnas & Damaševičius 2018). A fundamental requirement in this regard is the planning or initiation of administrative processes. The

administrative unit, therefore, has a core responsibility in this dispensation.

The four strategic focus areas of the university are building sustainable student communities; research innovation and development; learning organisation; and ensuring a sustainable university (DUT, 2015). Inherent in these focus areas is the objective of promoting service delivery for the empowerment of the stakeholders; most especially, the students.

One of the elements that facilitate students' learning is registration. The Student Administration Department of the university is charged with this responsibility. At the various campuses, the department provides similar services, to those of the Faculty Office. Primarily, the officials in this department assist students with all the registration processes. These include registration of new and returning students; maintaining students' records, such as issuing academic transcripts, keeping proof of registration, and updating students' details; printing graduation certificates; and applying for, and printing, lost certificates.

This department is also responsible for planning and organising registration activities at the beginning of each academic year. Another responsibility of the department is to capture students' biographical information and exemptions and to keep the information for retrieval in the future (DUT, 2018). In respect of the Midlands Campuses, the Student Administration Department ensures the smooth running of all registration processes. The university's General Handbook for Students, 2018, stipulated that the administrative and academic staff required for registration preparations were expected to return first, whenever the university opens.

The implication of this is that, without registration, it would be difficult for students to benefit from the strategic focus areas of the university. Registration incorporates the students into the university system to enable them to learn and acquire knowledge. This core responsibility is at the centre of service delivery in the university. Thus, the bulk of service delivery to the students of the DUT rests on the effectiveness of the Student Administration Department.

Therefore, this study sought to ascertain the expectations and perceptions of students concerning the registration services provided by the Student Administration Department at the DUT Midlands Campuses of Indumiso and Riverside. This study used the Service Quality ('SERVQUAL') instrument which was developed by A. Parasuraman, L. Berry, and A. Zeithaml, in the 1980s (Ngibe, 2015), and which has remained a respected research instrument to this day. This instrument enables the identification of gaps in the required standards of service delivery across selected dimensions, namely reliability, responsiveness, and empathy. The researcher used this instrument to assess student and staff perceptions and expectations of the student registration processes provided by the Student Administration Department of the DUT. It also enabled the researcher to evaluate the differences between the perceived and expected registration services currently offered to students.

1.2 STATEMENT OF THE RESEARCH PROBLEM

It is understood that for South African education institutions to compete worldwide, they must be able to offer quality service to their clients and stakeholders. The increasing competition puts pressure on institutions to strive to be the best among other institutions. Students are there to receive their education to be able to meet the market requirements which might improve the country's economy. Failing to meet their student expectation can lead to students' protesting, which has unfavourable consequences (Mzangwa, 2019).

All staff members of the university, including administration staff, play the most important role in ensuring that student registration expectations are met. Students register each year for their studies and Faculty administration staff are there to ensure proper registration processes. However, due to the COVID-19 pandemic, the entire landscape of student registration was shifted and compelling the universities to fully adopt the online student registration processes. Furthermore, in response, the South African universities including the Durban University of Technology, issued a statement informing their students that all registration processes were going to be completely online and will be no on-site registration processes permitted. Furthermore, students with registration difficulties were only assisted remotely. Maphumulo (2021) says that with the system students are grappling with challenges such as not receiving feedback on time which has the potential to not only cause emotional stress to prospective students and their families but could result in a delay in the student registration processes.

1.2.1 AIM OF THE STUDY

This study aimed to examine the challenges associated with students' registration processes and how it moulds the perceptions of the students concerning service delivery at the Midlands campuses of the DUT.

1.2.2 OBJECTIVES OF THE STUDY

Main Objective: To examine the challenges faced by the students when navigating the DUT's registration processes.

Secondary Objectives:

1. To explore the perceptions of the students regarding the student-centered approach to accessing the required registration services
2. To examine how the Student Administration Department at the DUT responds to student registration challenges; and
3. To identify and recommend the available mechanisms to improve registration processes at the DUT.

1.2.3 RESEARCH QUESTIONS

Main research question: What are the challenges, facing the students of the DUT at the Midlands Campuses during the registration process?

Sub-research questions:

1. What are the perceptions of the students of DUT at the Midlands Campuses of the student-centeredness approach?

2. How does DUT's Student Administration Department respond to student registration challenges in respect of its service delivery responsibility?
3. What are the available mechanisms to improve registration processes at the Midlands Campus of DUT?

1.3 OVERVIEW OF CHAPTERS

This study consists of five chapters, namely:

- 1.3.1 CHAPTER ONE: Introduction** - This chapter contains the introduction, the research problem, the objectives, and the rationale for the study.
- 1.3.2 CHAPTER TWO: Literature review** - This chapter surveys existing literature on service delivery in the student registration process in higher institutions. It discusses the theoretical analysis of perceptions, expectations and service quality as the framework for the study.
- 1.3.3 CHAPTER THREE: Methodology** - This chapter presents the research methodology. The discussion includes the research design; population; research instruments; sampling; methods of data analysis; reliability and ethical considerations.
- 1.3.4 CHAPTER FOUR: Results and Discussion** - This chapter presents and discusses the findings of the study.
- 1.3.5 CHAPTER FIVE: Conclusion and recommendations** - This chapter draws conclusions, based on the findings of the study, and provides recommendations.

1.4 CONCLUSION

This chapter served as an introduction that entails all the processes to be followed up until the end of this study. The problem statement aims and objective of this study had been presented in this chapter. The following chapter two, present presents the literature underpinning this study.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter discusses the literature underpinning this study. It is increasingly important that universities understand student expectations and perceptions regarding the service offered (Pragholapati, 2020).

2.1 AN OVERVIEW OF THE UNIVERSITY OF TECHNOLOGY (UOT) IN SOUTH AFRICA

The higher education system in South Africa has a long history, dating from colonisation and apartheid (Ngobese, Mason & Maharaj 2017: 44). However, since the dawn of democracy in 1994, there have been a lot of changes and restructuring in the South African public sector, including in higher education. The main aim was to develop a new system, to get rid of the negative influences of the past. The restructuring process was informed by what is known as 'international best practice', which has become common amongst policymakers around the world (Smith, 2017: 32). The South African democratic government, post-1994, revisited and amended the higher education policy to ensure transformation. This was done to ensure that all previously disadvantaged black people in South African society have equal access to education. However, Mzangwa (2019) notes that after the transformation policy was formulated, the rich continued to afford and gain access to higher education whilst the poor majority, consisting mainly of black people, seemed not to benefit from the

introduction of policies aimed at transforming higher education in South Africa.

According to du Pre (2009: vi), in 1967 the government identified six technical colleges in South Africa which were developed as Colleges of Advanced Technical Education (CATEs). In 1979, the government redesigned these CATEs as 'Technikons', and they were recognised as post-secondary higher education institutions. They offered career-oriented certificates and diplomas in the first three years of the tertiary level. For a long time, these Technikons were not regarded as part of the higher education sector (Ludeman, 2020). However, after the promulgation of the Technikon Act in 1993 (Act 125 of 1993), they were licensed to offer degrees up to doctoral level, in addition to their existing certificates and diplomas.

In 1997, the Committee of Technikon Principals recommended that Technikons become 'Universities of Technology', taking into consideration that they had already been granted degree-awarding status, and to bring them in line with world trends (du Pre, 2009: vi). In 2003, Professor Kader Asmal, the Minister of Education, announced that some Technikons would be redesignated as 'Universities of Technology' and that other Technikons would merge with universities to form comprehensive universities. Thus, the 'University of Technology' came into existence in South Africa on 01 January 2004.

From 2004 to 2005, the Department of Higher Education proposed the merging of tertiary institutions. This led to a reduction in the number of higher education institutions from 36 to 23 (Ngibe, 2015). These 23 public universities are state-funded institutions, with a generally low base income (Top Universities, 2018).

Universities of Technology are vocational-based universities, while traditional universities offer theoretically-oriented university degrees. Comprehensive universities offer a combination of both types of qualifications (Top Universities home page, 2020). Smit (2017) adds that the 23 merged public universities were public state-funded, had a low income-generating base, and were dependent on tuition paid by the students.

According to the Ministry of Education (2001), the universities in South Africa were divided into three categories. Five were Universities of Technology, which were former Technikons, namely: Cape Peninsula University of Technology (CPUT); Central University of Technology (CUT); Durban University of Technology (DUT); Mangosuthu University of Technology (MUT), and Vaal University of Technology (VUT). These universities offer mainly diploma and certificate courses, but also offer degree courses that take about three years to complete. The courses are designed to be career-oriented and practical, with experiential learning forming part of the course. These universities are vocationally based.

Another six were comprehensive universities, namely: the University of Johannesburg (UJ); Nelson Mandela Metropolitan University (NMMU); the University of South Africa (UNISA); the University of Venda; Walter Sisulu University, and the University of Zululand. This category of university offers both theoretically-oriented and vocational-based degrees.

Nine are traditional Universities: the University of Cape Town; the University of Fort Hare; the Free State University; the University of KwaZulu-Natal; the University of Pretoria; the University of

Stellenbosch; the University of the Western Cape; the University of the Witwatersrand; Rhodes University and North-West University. These universities offer theoretically-oriented degrees. The degrees take a minimum of three to four years to complete. Entrance requirements for courses vary greatly and can be quite specific. The longer you study, the more specialised the field becomes. Once you have completed your degree, you can continue studying at the postgraduate level.

The transformation of higher education in South Africa is experiencing various challenges. The identification of some challenges faced by Universities of Technology shows the need for improvement in different sectors, including strengthening co-operative education and increasing the intake of students as part of service delivery (Ngibe, 2015:11).

2.1.1 THE EVOLUTION AND COMPOSITION OF THE DURBAN UNIVERSITY OF TECHNOLOGY

In response to higher education transformation, in 2002, Technikon Natal and ML Sultan Technikon merged to form the Durban Institute of Technology (du Pre, 2008). In 2006, the name changed to Durban University of Technology (DUT), as part of the transformation of higher education.

The DUT is made up of five faculties, namely: Accounting and Informatics; Applied Sciences; Art and Design; Engineering and Built Environment; and Management Sciences. The university has five campuses in Durban (Brickfield; City; M. L. Sultan; Ritson and Steve

Biko) and two campuses in Pietermaritzburg (the Midlands campuses of Indumiso and Riverside)

The Midlands campuses of Indumiso and Riverside were developed later (DUT 100 Years of Wisdom, 2008: 14). The establishment of these campuses did not result from a structured plan for the DUT. Rather, they were developed from ad hoc decisions taken to provide opportunities for students in the area, who were unable to attend lectures in Durban. Originally, the operation was conceived as an extension of the part-time lectures to students, but today is operating full-time.

2.2 QUALITY IN HIGHER EDUCATION INSTITUTIONS

According to the White Paper on post-school education and training (2013), Universities in South Africa are crucial institutions in terms of reaching national development objectives. This includes supporting the rest of the post-school system and aligning curricula and research agendas to help meet national objectives, including tackling the challenge of poverty. However, the main focus now is to improve the quality and build appropriate diversity, within the sector. Therefore, high-quality service should be provided to support and meet the above objectives.

According to Masuku (2008), higher education is under pressure to add value to its activities. There is a need to enhance the value of education to ensure the provision of continual service for the improvement and development of society. Thus, there is a need to focus on the interests of the stakeholders and to increase student

satisfaction. Both students and their parents are looking for added value for their monetary and physical effort to access educational services. In other words, higher education institutions must deliver quality services that are compatible with students' expectations and needs (Greenfield, Mackey & Nelson, 2016).

According to Mohapi (2017:08), quoted in McIlrath and Huitt (1995), it is the function of the institutions of higher education to provide students with effective, quality education; and to ensure that students are given enough time and space to assimilate information at the university. The quest for improved research is a powerful influence in all universities. Universities are increasingly interested in how they can improve their competitive position by attracting more students to register (Ludeman & Schreiber, 2020: 325).

2.2.1 DELIVERY OF QUALITY SERVICE TO CUSTOMERS IN HIGHER EDUCATION

Service quality is becoming more important and necessary, due to growing customer expectations; competitor activity; environmental factors; the nature of services; and internal organisational factors (Munusamy & Chelliah, 2010). Customer expectations develop from what they believe a service should offer, and become the standard against which service performance is judged, and what a customer service provider should offer (Parasuraman et al., 1991), rather than what is on offer. Service quality can be defined as the difference between a customer's expectations for the service encounter and the perceptions of the service received.

Customer service in the business world is a prized commodity as it has a direct impact on profit. Given the struggling global and South African economy, due to the COVID-19 pandemic, universities have had decreased revenues. One way for universities to remedy this is to place a renewed focus on meeting or exceeding the expectations and needs of their customers, namely their students (Pragholapati, 2020). Mzangwa (2019) noted that service quality comprises various criteria that are intangible and subjective, and which are therefore not easy to measure, although important. However, it must be remembered that service quality depends upon the quality of the administration, which supports the services.

Since universities provide educational services to the public, they should be persistent in ensuring service delivery and student satisfaction. Academic activities cannot be performed efficiently without proper student administration services, such as student registration processes (Aldridge & Rowley, 2016). Most tertiary institutions offer a similar product in terms of fees and educational programmes. However, what is different is their administration services, which give them a distinct competitive advantage. Since severe competition results in little variation in facilities, the quality of student services has been regarded as one of the main factors that determine whether or not an institution operates successfully (Maluka & Moeti, 2014).

2.2.2 THE SERVICE QUALITY MODEL

The Service Quality Gap instrument 'SERVQUAL' was first developed by Parasuraman, Berry, and Zeithaml in the 1980s (Ngibe, 2015).

Service quality, unlike product quality, is hard to define or measure because of the inter-relationship between user expectations and the impact of specific service features such as intangibility, inseparability, heterogeneity, and perishability. SERVQUAL is a multi-item scale developed to assess customer perceptions of service quality in service organisations. It measures service quality as the difference between a customer's expectations of a service offering and the customer's perceptions of the service received (Parasuraman, Berry & Zietaml, 1988).

Service quality is the difference between customer expectations of service and perceived service. Service quality is perceived as good when the quality experienced meets the expectations of the customers (Muchado & Diggins, 2012). According to Hill and Alexander (2016), based on the SERVQUAL model, expectations and perceptions are measured based on five dimensions. These five factors can influence the quality of service by the organisation and are tangibles; reliability; responsiveness; assurance, and empathy.

Tangibles refer to something which an individual can touch and see. This also includes the employee's appearance. Reliability refers to the ability to perform the service dependably and accurately. According to Yeo (2008), the discrepancy between promise and delivery can be large: some institutions tend to oversell their service, leading to grand promises that misrepresent their actual potential and academic readiness.

Responsiveness is a willingness to assist customers and to provide prompt, continuous service which includes attentiveness and a willingness to deal with the request or query, resulting in a prompt

resolution of the complaint. Assurance is a dimension that focuses on the ability of the staff to inspire confidence and trust. Whether the quality of service is judged as good or bad depends largely on how the customers perceive the actual performance based on their expectations. Empathy refers to the extent to which caring, individual service is given.

For an organisation to compete successfully, it must understand the influence of individual perceptions of the quality of service rendered. Managing perceived service quality means that the organisation must match the expected service and the perceived service to achieve individual satisfaction. Fielding (2014) identifies three components of service quality: technical quality, functional quality, and image (Fielding, 2014). According to Hill and Alexander (2016), service quality is a function of the differences between expectations and performance along the quality dimensions.

The service quality model was developed, based on gap analysis. Gap 1 is the difference between consumer expectations and management perceptions of those expectations. Gap 2 is the difference between management's perceptions of customer expectations and service quality specifications. Gap 3 refers to the difference between service quality specifications and the service delivered.

Gap 4 refers to the difference between service delivery and communication to customers about service delivery, and Gap 5 is the difference between customers' expectations and perceived service. This gap depends on the size and direction of the four gaps associated with the delivery of service quality.

Perceived Service Quality Gap (Gap5)

Gap 5 of service quality is important to this study as it is directly related to the focus of the study, which is staff and student perceptions of registration processes and other related services. According to Ngibe (2015), this gap relates directly to everyone's perception of service quality, as customers (the students) expect certain things from their companies (higher learning institutions). If Gaps 1 to 4 are close to a minimum, then Gap 5 should follow. If there are any gaps in steps 1 to 4, then customer perceptions of service quality will be negatively affected. The way to make sure these gaps are closed or minimised is through thorough system design, precise communication with customers, and a well-trained workforce (Coppola, 2001).

Satisfying customers is one of the main objectives of any organisation. Therefore, expectations and perceptions are measured separately to produce a relative measurement of how well the service was performed relative to the customer's expectations. Keeping customers is more profitable than having to win new ones to replace those lost (Hills & Alexander, 2016)

A service quality gap indicates that the perceived or experienced service is not consistent with the expected service, resulting in negatively confirmed quality and a quality problem. Bad word-of-mouth reports lead to a negative impact on the corporate or local image, and lost business (Ngibe, 2015, as quoted in Jaipuria, 2006:22). Therefore, it is safe to say that universities should constantly provide quality services to their students, to the extent that they can be seen as customers.

Providing excellent service, which should be the goal of every organisation, leads to greater efficiency and effectiveness and a loyal customer base (Ngibe, 2015:03). To translate this into a university situation, university management should recruit qualified people for the job (student administration and faculty offices) and should train them for general administration and student registration, using technology to increase efficiency in the provision of quality services.

2.2.3 PERCEPTIONS AND EXPECTATIONS OF CUSTOMERS AND SERVICE QUALITY

The study adopted a service quality model (SERVQUAL) as a framework of analysis. SERVQUAL is the instrument normally used to measure service quality gaps (Parasuraman, Berry & Zietaml, 1991). It is a multi-item scale developed to assess customer perceptions of service quality in service organisations and to measure service quality as the gap between a customer's expectations of a service offering and the customer's perception of the service received (Parasuraman, Berry & Zietaml, 1991). Service quality is a function of the difference between expectations and performance along the quality dimensions.

Service quality is unlike product quality: It is hard to define or measure, because of the inter-relationships between user expectations and the impact of specific features of service such as intangibility, inseparability, heterogeneity, and perishability. Service quality is the difference between customer expectations of service and perceived service. Good perceived service quality is achieved when the quality experienced meets the expectations of the customers (Muchado &

Diggines, 2012). This model is useful for this study because it allows the researcher to measure and compare data on the perceptions of students to the challenges of registration, with the views of the administrators.

An understanding of expectations and perceptions is crucial to the survival of any organisation in the provision of quality services (Muchado & Diggines, 2012). An evaluation of the quality of services, as perceived by the customers, stems from a comparison of what the customers feel that the organisation should offer, and their perceptions of the actual performance of the organisation in the provision of services (Aldridge & Rowley, 2016: 200). According to Orel and Kara (2014), customers judge the standard of the performance of an organisation based on their opinions and expectations about service delivery.

In the case of the universities, as well as other institutions of learning, students have their expectations of the performance of the management, especially in registration activities. It is very important to address the expectations of the students, as they might influence their behaviour. Students' expectations are not stable but are human preconceptions based on verbal information, personal needs, experience, and commercial information (Fielding, 2014). Thus, the protest behaviour of students is a function of their perception of the quality of services provided, concerning their expectations.

The first sub-objective of the study will be met by exploring the views of participants about registration services that are provided to them by the Student Administration staff at the Riverside campus of Indumiso and Riverside.

2.2.4 CUSTOMER SERVICE DELIVERY AND SATISFACTION

In response to transformation, the government has released some White Papers that have bearing on the transformation of the South African public services, to make the public service more efficient, effective and economical (Crous, 2004). In 1997, the Department of Education published White Paper 3, which set out the programmes for the transformation of higher education in South Africa. The fundamentals of this paper remain relevant: the university sector has to change substantially, and because of the changing context, it has been necessary to further develop policies for universities to tackle current challenges. The Batho Pele White Paper was also introduced by the South African government and gives a better understanding of how government institutions should respond to current challenges, by putting the needs of the public first.

According to Makgoro (2003), the term 'customer' is used interchangeably with the term 'citizen' throughout the Batho Pele White Paper. In the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) (Section 239 (b)(ii)), the term 'organ of the state' includes any institution exercising a public power or performing a public function (Crous, 2004). Therefore, higher education institutions in South Africa, as organs of the state, must deliver quality service by putting the needs of the public first in achieving a better life for all.

The White Paper on Transforming Public Service Delivery, or the Batho Pele White Paper of 1997 (Notice No. 1459 of 1997), is one of the most important policy documents. 'Batho Pele' is Sesotho for 'People First' and this title was derived from the motto adopted by the

post-1994 public service: 'Service to the People' (Pietersen, 2014: 254).

According to Maluka, Diale, and Moeti (2014), the term 'Batho Pele' means 'People First'. Therefore, in this context, it refers to putting other people's needs first before considering yourself. The author continues by saying that this can be achieved by pointing to small important things that might immediately improve the quality of service you are providing to customers. The Batho Pele principles being referred to here are as follows:

Consultation – The students, parents, and other stakeholders should be consulted by the university to inform them about the level and quality of the public service they will receive; and whenever possible they should be given a choice about the services that are offered.

Service Standards – These people should also be told what level and quality of public services they should receive, so that they are aware of what to expect.

Access – The university should make it easy for students to benefit from the services it provides.

Courtesy – Students and parents should be treated with respect and consideration since they are the university's customers.

Information – Students should be given full and accurate information about the service they are about to receive from the university.

Openness and Transparency – The DUT and its finance section should be open about day-to-day activities, including their financial obligation.

Redress – It should also be easy for students and parents to report back if they are not happy about the service they are receiving from the university.

Value for Money – The university should make the best use of available resources, and avoid wasting time, money, and other resources.

Encouraging Innovation and Rewarding Excellence – The new ideas of doing things should be brought on board and staff should be allowed to voice their opinions. Those staff members who are involved in student registration and go the extra mile should be rewarded.

Customer Impact – The active implementation of Batho Pele principles can increase the chances for an improvement in the university service delivery strategy.

Leadership and Strategic Direction – The heads of divisions within the university should create an atmosphere that allows creativity, and management should ensure that proper planning is done, and goals are set.

Higher education institutions provide education-related services which aim at improving the lives of individuals around the world as a whole. Therefore, students and other stakeholders become customers of the university as they are the receivers of educational services. As such, they have expectations and perceptions regarding the services provided to them by the university.

In the contemporary corporate world, customer services and satisfaction are major, important factors in the survival of any organisation. They are prized commodities because they have a direct

impact on the profit and the continuity of the organisation. With a struggling South African economy, higher education institutions are operating with declining revenues. The only way in which the universities can accomplish their set objectives is to focus on meeting or exceeding the expectations and needs of their customers and stakeholders (Spencer, Weiler & Vogel: 2015).

According to Hill and Alexander (2016), customer satisfaction has become the key operational goal for many organisations. They have invested heavily in improving performance in areas that improve service delivery and enhance customers' satisfaction, such as quality customer services. Customer satisfaction is a measure of how an organisation's total product performs to a set of the requirements and expectations of the customers.

Therefore, this will assist the study to meet the second sub-objective by examining/exploring the views and ideas of staff involved about the challenges they encounter during student registrations; and how to respond to them as far as service delivery is concerned.

2.2.5 THE IMPORTANCE OF TRAINING ADMINISTRATIVE PERSONNEL IN HIGHER EDUCATION

In a study conducted by Osakede, Ijimakawa, Arijenjwa, Adesany, and Ojo (2017) on Nigerian Universities, they found that the university administrative staff lacked adequate monitoring skills, information, and training. They also noted that university administrators perform a range of professional duties which include providing services to students and staff members. They noted that, in these duties,

mentoring is also required in some areas. This is lacking in most of the universities in South Africa. Administrative staff, most often, learn on the job, and this may compromise their efficiency in providing satisfactory administrative services.

Staff training refers to a planned effort by the company to facilitate the learning of job-related competencies, knowledge, skills, and behaviour by employees. The main objective in training employees is for them to master the knowledge, skills, and behaviours emphasised in training and to apply them to their day-to-day activities (Kanyumba, 2018:07). Spencer, Weiler, and Vogel (2015) agree with this assertion, saying that no institution can deliver services effectively without qualified and competent personnel.

Training, both physically, socially, intellectually, and mentally, is essential in facilitating, not only the level of productivity but also the development of personnel in any organisation. Administrative staff should receive proper training. Knowledge is the ability; the skill; the understanding; and information, which every individual needs to function effectively and perform efficiently (Olaniyan & Ojo, 2008).

The effectiveness and success of an organisation, therefore, depend on the people who work within and form the organisation. It follows, therefore, that for the employees in an organisation to be able to perform their duties and make meaningful contributions to the success of the organisational goals, they need to acquire the relevant skills and knowledge (Shields, 2007). Lutaaya (2016) agrees, by saying that training increases productivity; improves the quality of work; and improves skills, knowledge, and understanding. The author adds that

a lack of implementation or inadequate training and development of staff results in inefficient service delivery.

Kanyumba (2018) refers to service delivery as the provision of public activities, benefits, or satisfaction for clients in an organisation. It also relates to the way clients' needs are met. Spencer, Weiler, and Vogel (2015) argue that no institution can deliver services effectively without qualified and competent personnel. Training is divided into two parts, namely:

Formal training – This type of training refers to training and development programmes, courses, and events that are developed and organised by the company, and which employees are required to attend. They include face-to-face training programmes as well as online programmes.

Informal training – This refers to learning that is learner-initiated. It involves action and doing, and is motivated by the intent to develop. This training occurs without a trainer or facilitator, e.g., learning alone, or technology-aided social interaction.

This, therefore, suggested that the university should understand the importance of employing qualified and trained personnel, people who should be able to identify the problem and also be able to provide a possible solution to a particular challenge (Fielding: 2014:132). Guilbault (2018:296) adds by stating that mechanisms are designed or aimed at solving a particular issue. A mechanism is a chain of connected tools/parts to transport something and if one part suddenly stops, the entire system functioning will lapse (Ludeman and Schreiber: 2020). The third sub-objective will be met by identifying

and understanding the existing registration mechanism, which will help to recommend possible solutions.

2.3 STUDENTS' REGISTRATION PROCESSES IN UNIVERSITIES

The purpose of universities, as public institutions, is the production of human resources through learning and research activities (DUT, 2018). Students' registration processes are at the centre of achieving this purpose (Naidoo, 2012; Temple, Callender, Grove & Kersh, 2014). Thus, the administrative focus of any university is how to ensure the success of the students; and this begins with the inclusion of the students into the entire university system through the registration process. Guilbault (2018) identifies students as key stakeholders in the university system, which require immense consideration in the process of promoting academic integrity, as the overall output. In other words, as the provision of high-quality customer service is to the business world, so is the focus of the universities on the promotion of integrity in the process of producing human resources through learning. This quality assurance starts with the registration process.

Weiler and Vogel (2015) focused their study on registration and enrolment barriers in Colorado Charter Schools in the United State of America. They identify three barriers: admission and registration requirements, fees, and registration. The purpose of the study was to document the registration and enrolment practices of the Colorado Charter Schools to determine the nature and types of available access for interested students. They identified four sections in registration. These are 'first come first served'; lottery; parent involvement; and fees. The 'first come, first served' rule applied to wait-listed students

only. According to them, several states required the charter schools to manage waiting lists on a first-come, first-served basis, to ensure greater equity in the selection process. This factor applies to the DUT, which works with a waiting list that is applied when the available spaces for admission of students into programmes are full (Ngwane, 2016). Therefore, wait-listed students should be considered priorities once the spaces become available after registration. Thus, inadequate admission spaces keep the affected students out of school for a period.

A study conducted by Temple (2014) in England emphasised the importance of administrative adherence to the principle of 'students as customers to be satisfied, as a way of ameliorating the challenges of students' registration. The author also noted that the priority of the university administration was "to use existing institutional cultures to encourage greater concern for student's needs on the part of both academic and professional staff" (Temple, 2014). Even though students faced a series of challenges, the approach of the administrative staff in ensuring effective service delivery created an environment that was conducive for the students.

Egoeze (2018) notes the importance of the deployment of ICT for the effective administrative processing of students' needs. The author notes that the effective use of e-administration was important in overcoming the various challenges of registration and other allied matters in universities. Thus, service delivery as prompt attention to the needs of the students should no longer be an obstacle to the attainment of the core values of learning and the production of human resources.

Lekena and Bayaga (2018), in their study on the experience of university students in South Africa, note that some students, especially those in their first year, were ignorant of the processes of registration and other allied matters. Aside from this, they also found that students with financial challenges were unable to complete their registration, and invariably had to drop out of the university. They suggest that the administrative departments of universities in South Africa should pay attention to the unique needs of first-year students to facilitate their registration process.

Masuku (2008) investigated the role of information systems in the registration processes at the Tshwane University of Technology (TUT). The author identified students' financial problems as one of the factors affecting the registration process. The findings of the study showed that students were not satisfied with the registration performance, which affected their perceptions and expectations.

The study by Ngwane (2016) focused on the use of online web registration as an efficient and effective registration process. The author has discovered that to register online at the DUT, first-time entering students must pay the first installment of the minimum fee. This was different from the wait-listed situation at the Charter Schools of Colorado, where students were not required to pay tuition fees (Spencer, Wailer & Vogel, 2015).

According to Ngwane (2016), DUT onsite online-web registration consists of 10 steps in the registration process for first-year and returning students, which commence with the payment of "the minimum registration fee before or on the day of registration". He continues by saying that, upon the completion of registration, students

would “then proceed to Financial Aid for NSFAS/Bursaries/Incentives” (Ngwane (2016). These steps are a combination of both online and manual processes, indicating the crucial role of administrative staff in the registration process. Service delivery in the administrative processes, therefore, requires a mastery of the unique needs of the student, vis-à-vis the existing facilities and rules in the university, to avert incessant disruption and its repercussions on the core objectives of the university.

2.3.1 THE DUT REGISTRAR’S OFFICE

The office of the registrar at the university fulfils different functions. One of these activities is to ensure an effective and efficient registration process within the university. This office has a primary administrative arm that supports the academic vision and mission of the university. Services to the wider community by the registrar's office include coordinating and managing registration-related activities of students from different programmes and courses. This includes online web registration and other services which are record-related (Ludeman & Schreiber, 2020: 325).

2.3.2 THE STUDENT ONLINE WEB REGISTRATION SYSTEM (I-ENABLER)

According to Ngwane (2016), the Durban University of Technology online web registration allows students to register on their own via computer interaction without the help of institution personnel. The process was adapted to incorporate a smooth and effective intake at

the institution by making sure that all students are catered for. Student I-enabler is the self-service system that is currently being used by students to register online and access other related self-services at the Durban University of Technology (DUT). I-Enabler is Java-based application software. It is a framework that helps to develop an application or modify an application, which makes it easier for students to use (Dara, Gopu & Fiaidhi, 2019: 2).

It is an in-house student information system, developed to allow students to manage their academic and financial information, as well as to register for courses online during the registration period. It has proven to be easy to use and is fast, reliable, and highly available (Al-Hawari, 2017: 119). The online system meets most of the registration objectives by displaying courses offered in an organised manner. This makes it easier for students to check more information; blocking students from selecting the wrong programmes or subjects; allowing students to update their personal information, and then viewing and printing their registration confirmation.

Kumar (2016: 11) identified the effectiveness of online registration systems, saying that, nowadays, mobile and other PDA devices allow students to access the worldwide web anytime by using fully functional mobile browsers. From the study conducted at Fiji National University, the author found that most of the students were using mobile phones to register their programmes and update other necessary information.

The DUT Online Registration Guide (2020), stipulates that students can register online while at home. However, they must ensure that they are financially cleared and those who anticipate a problem are still able to register traditionally by visiting the campus. The NIC

Registration Policy (2020) indicated that, for the online web registration to be successful, the proper academic structure should be incorporated into the system; and for continuing students, subject progression rules should also be captured into the system.

2.3.3 THE EFFECT OF COVID-19 ON STUDENT REGISTRATION

According to the National Institute of Communicable Diseases (2020), the Minister of Health, on 05 March 2020, made the official announcement of a local confirmed COVID-19 case in South Africa, of a 38-year-old man from KwaZulu-Natal who had travelled to Italy. On March 23, 2020, President Cyril Ramaphosa announced a 21-day national lockdown to curb the rapid spread of the Coronavirus in the country (SA News.gov.za, 2020). The operation of tertiary institutions was also shut down and, thereafter, the Minister of Higher Education in South Africa communicated the way forward regarding the operation of the universities. The minister disclosed that university staff would work remotely, with online student classes, to prevent the spread of the virus. The DUT was included in these regulations.

According to the DUT Communique 2021, which laid out the registration arrangements for 2021, due to level 3 lockdown restrictions, all university registrations were to be conducted online and off-campus. This was in keeping with global trends during the pandemic. Students had to use their tablets/handheld devices or any other computer facility at their disposal. The students and applicants were informed not to come to campus, as unregistered individuals would not be allowed onto any of the campuses. Students were also given the web links, which guided them through the step-by-step

registration process. However, a student needed to be financially cleared, which meant that students had to fulfill all financial requirements before they could register. For example, previous outstanding balances and current registration amounts had to be paid.

Al-Hawari (2017), in his study conducted at German Jordanian University, also confirmed that, for the student to register online, there had to be a sufficient balance in his/her account, or sponsor letters should have been submitted to the finance section for clearance before the commencement of registration. However, due to COVID-19, the DUT students were advised to make online payments or bank deposits. This, therefore, became a challenge for students, as some payments were reflected late on the university's payment systems, and this affected students' account clearance for registration.

Bemile, Gborgla, Mensah, Boateng, Ansa, and Twun (2014), in their study conducted at the Methodist University College in Ghana, found that students needed to be physically present on their campuses when completing online-web registration in case of technical errors that could prevent them from completing registration. Al-Hawari (2017) agrees, mentioning that some other students were unable to complete online registration successfully due to certain system blocks, such as exclusions, clearance, books owing, or disciplinary matters. However, due to COVID-19, the DUT students were not allowed to access their campuses unless they had completed their registration online.

Long queues for registration have become a thing of the past. Most universities have now switched to online registration (Mzangwa, 2019). However, Masiteng (2021) reported that University of the Free State students, due to COVID-19, were compelled to complete online

registration on their own. However, they were frustrated by the challenges they encountered with online registration. Students were worried that the challenges could delay the commencement of their academic programmes. Many students did not have sufficient data or struggled with their internet connection, and some said they struggled to get assistance from the university when they experienced a problem with online registration. This, therefore, shows the inefficiency of online registration as it relies on the internet data connection. The system did not cater to students who are coming from disadvantaged backgrounds. The university should have provided alternatives to assist students who are without internet data connection available.

2.4 CONCLUSION

The chapter presented an overview of South Africa's higher education, and its transformation, which was implemented by the DHET. Student registration challenges have been addressed, in connection with the COVID-19 pandemic.

In support of the main study objective, the theory around perceptions concept had been supported by the literature provided in this chapter and gave an idea of what happens if the expected service is not delivered. The concept of service delivery gives a better understanding of how to identify certain problems/challenges which are affecting the community and how to respond to them. As far as student registration is concerned, employment of well-skilled, trained, and qualified personnel is important. This set of staff would be able to identify the existing problem and be able to provide solutions by using the existing mechanism in place.

The use of the SERVQUAL service quality model, as the preferred instrument for measuring the gap between student expectations and their perceptions of the quality in service organisations, including universities, was explored. Also, the importance of Gap 5 (the difference between customer expectations and perceptions of service quality) is highlighted as the most important service quality gap, forming the theoretical basis of this research. The following chapter three presents the methodology used for the study.

CHAPTER 3

METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the methods used for data collection and analysis in the study. The research paradigms and methodology, design, population, sample, and data collection are discussed in this chapter. Ethical considerations, and reliability and validity issues within the scope of this study are further highlighted in the chapter.

3.1 RESEARCH METHODOLOGY

Rehman and Alharthi (2016:51) state that a researcher should be able to understand and articulate beliefs about the nature of reality, what can be known about it, and how to go about attaining that knowledge. They continue saying that ontology and epistemology are to research what 'footings' are to a house; they form the foundation of the construction.

This study used envisioned how things could change for the better, and seeks representation of diverse and under-represented views, as it is characterised by continual redefinition of problems and cooperative interaction (Bunniss and Kelly, 2010:361). The study was suited to both quantitative and qualitative research paradigms. Mixed methods of quantitative and qualitative allowed for detailed investigations of statistical overviews and experiences in a specific and natural context and situation as a balance.

Ontology refers to the “nature of beliefs about reality and epistemology refers to “the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated” (Tubey, Rotich, Phil & Bengat, 2015:224). Methodology is referred as “strategy plan of action, process or design” that informs one’s choice of research method. Methods are specific means of collecting and analysing data, such as questionnaires and open-ended interviews.

According to Blumberg (2014:29), research is an intensive and purposeful search for knowledge and understanding of social and physical phenomena. Research can be undertaken for two different purposes: to solve a current problem by an organization, which is called applied research; or to generate a body of knowledge by trying to comprehend how certain problems that occur in organizations can be solved, which is basic research (Creswell, 2015:8). Methodology implies more than simply the methods, which the researcher intends to use to collect data. It is necessary to include a consideration of the concept and theories underlying the method chosen (Plowright, 2011).

Deciding on which type of research to follow, depends on the purpose of the study and the type and availability of the information, which is required. There are two types of research approaches, namely: qualitative and quantitative research (Aldridge and Rawley, 2016:34). In an attempt to obtain a suitable research outcome, this study adopted a mixed-method approach which involves the mixing of quantitative and qualitative research methods, approaches, or other paradigm characteristics. This method combines elements of qualitative and quantitative research approaches for breadth and depth of

understanding a corroboration (Coe, Waring, Hedges & Arthur, 2017:104).

Plowright (2011: 56) explains that in many instances, the collection of mixed data is achieved through the use of two or more complementary methods of data collection that separately collect qualitative and quantitative data either sequentially or concurrently. Questionnaires, structured interviews, and semi-structured interviews were used in the case study, which comprised both qualitative and quantitative data gathering stages to address the research objectives.

Therefore, this basic research study sought to use a suitable research approach to address the aims and objections of the study.

3.2 RESEARCH DESIGN

According to Creswell (2014:11), the research design is a type of inquiry within the qualitative, quantitative, and mixed-method approaches that provides specific direction for the procedure. The author continues by saying that a research design typically includes the methods of data collection, what instruments will be employed, how the instruments will be used, and the intended means for analysing data collected.

A mixed method was used for data collection. The mixed-method comprises qualitative and quantitative approaches. Questionnaires were prepared as part of the qualitative data collection instrument and interviews were conducted as part of the qualitative data collection instrument.

In this study, data were gathered from students (undergraduate and postgraduate) and student administration staff on the Midlands campuses of Indumiso and Riverside. To achieve the aims of the study, a questionnaire was distributed to students, and interviews were conducted with staff members of the Student Administration Department at both the Indumiso Campus and Riverside Campus.

3.3 POPULATION

A target population is the complete group of objects or elements related to the research project. They are relevant because they possess the information which the research project is designed to collect (Ngibe, 2015:34). They are a group of people to whom the results of the research will apply. The target population for this study consisted of registered students and student administration staff members at the Durban University of Technology, Midlands Campuses of Indumiso, and Riverside. The reason for selecting these groups is because student administration is in charge of student registration.

A list of registered students from both the Midlands Campuses of Indumiso and Riverside was obtained from the Administration Department on 28 July 2020, indicating a total of 3838 registered students (1454 at Indumiso and 2384 at Riverside).

Table 3.3: Total Number of Registered Students at Indumiso and Riverside Campuses

Indumiso	Indumiso Sample	Riverside	Riverside Sample	Total
673 (Females)	90	1480 (Females)	90	2153
781 (Males)	90	904 (Males)	90	1685
1454	180	2384	180	3838

3.4 SAMPLING METHOD

A sample is drawn from the larger group that the research is focusing on (Plowright, 2011:36). According to Quinlan (2011), the main intention of sampling is to enable the researcher to estimate the characteristics of the participants. Sampling is used to obtain unbiased information from the representatives of the target population. There are two major sampling methods: probability and non-probability. Probability sampling involves making a random selection of participants to research a topic (Plowright, 2011:38). This enables the researcher to use a representative sample taken from a population (Morgan, 2013:14). Non-probability sampling, on the other hand, involves the selection of participants based on criteria that provide a sample that meets a particular need, depending on the aims of the research (Baumgarten, 2010:19). It involves selecting cases that do not necessarily represent groups outside of the research (Daniel, 2012:19).

This study used probability sampling to address objectivity and to ensure that sufficient data was collected to meet the aims and objectives of the study. According to Blumberg, Cooper, and Schindler (2014: 183), in this type of sampling, every element in the

population would have an equal chance of being included. The study focused only on the students at the DUT Midlands Campuses of Riverside and Indumiso and the Student Administration staff members. Participants in this study were selected randomly according to the probability sampling technique.

There were 14 (four permanent and ten temporary) staff members in the Student Administrative Departments at the Indumiso and Riverside Campuses who were expected to participate in the study. However, due to COVID-19, no temporary staff was employed; therefore out of the fourteen (14) staff members which were going to be selected for an in-depth interview, only four (4) permanent staff members were available for interview.

From the total population of 3838 registered students on both the campuses of Indumiso and Riverside, the researcher selected 360 (180 female and 180 male) students per campus, which made a total number of 360 participants from both campuses. Respondents were selected randomly to provide answers to the questionnaires. Students were selected according to gender, campus, level of study, and faculty.

3.5 MEASURING INSTRUMENT

Data collection instruments play an important role in designing and developing a research project. It is therefore of vital importance to select suitable instruments (Blessing & Chakrabarti, 2009). Below are the two data collection instruments used for this study.

3.5.1 Questionnaires

Questionnaires and interview schedules were the two measuring instruments used for data collection. A questionnaire is a data collection instrument that consists of a series of questions and other prompts to gather information from respondents (Abiwi, 2013:3). It is a printed list of questions that respondents are asked to answer (Goddard & Melville, 2007:47). Questions were in the open and closed format. Open-format questions are questions without a predetermined set of responses and closed-format questions take the form of multiple-choice questions (Cooper & Schindler, 2008:339).

Three hundred and sixty (360) questionnaires with closed-format questions were administered to the students on the two campuses in groups. One hundred and eighty (180) students were selected from the Indumiso Campus, while another one hundred and eighty (180) participants were drawn from the Riverside Campus. However, due to the COVID-19 pandemic, the researcher did not have full access to easily distribute and collect questionnaires from the participants. The researcher had to seek assistance from Student Residence House Committees to help distribute and then collect questionnaires from participants, using group contact. Group contact is one of the best methods for data collection. It allows the researcher to work with a captive audience and this procedure corresponds to the administration (Welman & Kruger, 2003).

The Department of Student Administration also assisted with the registration list of all students which was used to select some of the students, including postgraduate students, to participate by

communicating with them via emails and electronic links to complete the questionnaires which were also sent to the participants. A WhatsApp contact number was also supplied to participants, in case they required clarity regarding the questionnaires. Data were collected between September 2020 and February 2021.

3.5.2 Interviews

In-depth interviews are purposeful interactions in which an investigator attempts to learn what another person knows about a topic, to discover and record what that person has experienced, what he/she thinks and feels about it, and what significance or meaning it might have (Coe, Waring, Hedges & Arthur, 2017). Semi-structured interview questions were drawn up to engage the selected participants. This data collection instrument was used to collect data from staff members of the Departments of Student Administration at the Midland Campuses of Indumiso and Riverside.

Due to COVID-19 pandemic restrictions, there were no face-to-face interviews. Instead, opened-ended questionnaires were prepared and sent to participants via emails, with follow-up telephone calls. These questionnaires also contain a cover letter, a letter of information, and a consent form. The covering letter contained brief information about the researcher and also provided more information to the participants about the questions to be asked. A brief introduction was given, and the purpose of the study was explained in the letter of information. The letter of information also explained the procedures used in the study and staff members were informed that participation was voluntary and they could also withdraw from the study if they chose to do so. The

letter also outlined the measures taken to ensure the participants' anonymity and confidentiality. The consent form guaranteed the participants of their confidentiality and anonymity, and protection of the information provided.

Due to the COVID-19 regulations, there were no temporary staff members employed specifically for registration, which would have increased the total number of participants. Thus, interviews were only conducted with the four (4) Student Administration staff members. Two of them were permanent and the other two were on long-term contracts. They were able to provide information about the provision of quality services to the students. The interviews were conducted in September 2020.

3.6 SCOPE OF THE STUDY

The scope of the study is limited to the students and the staff of the Students Administration Department of the Midlands Campuses of the DUT at Riverside and Indumiso.

3.7 RELIABILITY, VALIDITY AND TRUSTWORTHINESS

Reliability is the test of how well a research instrument can always produce accurate results (Cooper, 2014:12). It is the consistency of the indicators used in the research, expressed as a correlation value between them. The development of the questionnaires was based on the SERVQUAL measurement instrument. Cooper and Schindler (2014: 201) state that, even when an experiment is an ideal research, it is not without problems. There is always a question about whether

the results are true. The validity of measurement is the extent to which the instrument measures what it is intended to measure (Baumgarten, 2010). Reliability and validity in research refer to the measurement of the data used to answer the research questions. An accurate representation of the population under study is referred to as reliability. If the results of the study can be reproduced using a similar methodology, then the research instrument is reliable (Baumgarten, 2010:02). The results of the pilot study indicated that the questionnaire prepared was clear as it answered all the objectives of the study and therefore proved reliable.

Cronbach's coefficient alpha is a reliability co-efficient that shows how each item in a set is positively correlated to the others. Cronbach's alpha is computed in terms of the average inter-correlations among the items measuring the concept. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability (Ngibe, 2015: 46). Due to the nature of the student administration staff's research questionnaire, it was difficult to determine reliability. However, reliability was achieved in Section B of the students' questionnaire. The overall reliability scores for both sections were high (0.951 for expectations and 0.903 for perceptions). This shows a high degree of acceptance and consistent scoring for the different categories in the research. All of these categories have high and acceptable reliability values that exceed the minimum required value of 0.700.

Trustworthiness is another vital component of the research process. Attending to trustworthiness and important activities of reliability add to the comprehensiveness and the quality of the research product (Amankwa, 2016: 122). The trustworthiness was achieved in section B of the interview questions which were conducted with the Student

Administration Department staff members. Similar questions were asked and the same response was achieved e.g. when asked about “challenges that students usually encounter during registration” they all mentioned “*NSFAS account clearance and incorrect module registration*”, which also proves the validity of the responses. Furthermore, to prove trustworthiness, it was also revealed that the mechanism to solve the challenges is in place, however, accountability still needs to be enforced.

Table 3.7: The service quality dimensions

Items	Dimensions	Cronbach alpha score	
		Expectation	Perception
3	Reliability	0.804	0.727
6	Responsiveness	0.897	0.811
6	Empathy	0.907	0.813
15	Overall service quality	0.951	0.903

Lincoln and Guba (1985) contend that the beauty of research manifests in its trustworthiness. Thus, in conducting research, the researcher should be able to ascertain the credibility of the findings; the applicability of the findings in other contexts; the consistency of the findings when repeated; and the confirmability of the findings, as the true reflection of the respondents rather than the formulation of the researcher. This study adhered to these rules to establish the worth of the research as a credible study. The researcher detached his feelings and interests from the research and relied solely on the data from the respondents as the tool of analysis and discussion. Since the study used a mixed method of qualitative and quantitative data, the researcher triangulated the data from various sources to ensure a

presentation of a comprehensive account that would be able to corroborate the findings. Triangulation as a tool of analysis assists researchers in using multiple sources of data to present a rich understanding of the phenomenon under study (Patton, 1999).

3.8 RESEARCH LIMITATIONS

This study produced limited findings and was only conducted on the DUT's Midlands Campuses of Indumiso and Riverside. Therefore, this study only explored registration challenges faced by the registered students on two out of the five campuses of the university. Thus, the findings are limited to the scope of the study. This does not, however, limit the usefulness of the findings as a basis for further research on the challenges of student registration.

3.9 DATA ANALYSIS

Schindler (2014: 172) states that the unit of analysis describes the level at which the research is performed, and which objects are researched. People or individuals are perceived as a common unit of analysis (Blumberg, 2014: 172). The elements of this study were only individuals who could contribute to this study, namely students and staff members. The data collected from these different sources were then analysed.

Data was recorded into a spreadsheet, coded, and loaded into the software for analysis. The researcher was assisted by the approved statistician and data analyst who has helped most of the researchers at the DUT. The researcher used descriptive statistics in the Statistical

Package for the Social Sciences Software (SPSS version 2.0) to analyse the quantitative data collected.

3.10 ETHICAL CONSIDERATIONS

According to Hammersley and Traianou (2012), the establishment of ethics has been closely associated with the specification of the principles of research ethics. The design, review, and undertaking of research are aimed at ensuring integrity, quality, and transparency. All participants were informed fully about the purpose, method, and possible intended uses of the research. They knew what their participation in the research entailed and what risks, if any, were involved. It is important to note that participation in the research, as a respondent, was voluntary, and free from any form of coercion. The research participants were not harmed in any way. This study adhered to the necessary ethical principles.

Justice: The researcher ensured that all participants received fair and equal treatment during data collection. It was also ensured that there was no discrimination in the selection of the participants, as all participants were selected without any prejudice against gender, race, nationality, and religion.

Autonomy: The participants were all asked to sign the letter of information and informed consent, before participating in the study. No participant was forced into this study. They participated voluntarily.

Confidentiality and Record Management: The data obtained from the participants was kept safe to ensure confidentiality and the details

of the participants were not disclosed in the process of reporting the data.

3.11 CONCLUSION

The study used a mixed methodology, to get more information from both the students and Student Administration Department staff at the Midlands Campuses of Indumiso and Riverside. Both quantitative and qualitative data collection instruments were used. They were successfully distributed and collected, although it was not easy to reach participants due to COVID-19 restrictions. Finally, all ethical principles were followed, to ensure that all participants were treated fairly. Full information about the study was supplied and the information obtained was kept safe. The following chapter four presents the results and related discussions.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 INTRODUCTION

This chapter presents the results and discusses the findings obtained from the questionnaires and the interviews. In this study, the questionnaire was the primary tool that was used to collect data and was distributed to students as participants. The data collected from the responses were analysed using SPSS (version 27®) to meet the objectives outlined in Chapter One.

4.1 QUANTITATIVE DATA ANALYSIS

This section details the social demographic characteristics of the respondents.

4.1.1 Age group

Table 4.1 indicates that 48.5% of the respondents were between the ages of 31 and 50; 32.7% were between 21 and 25 years of age; 36.2% were 16 to 20 years of age; 11% were between 26 and 31 years of age, and 4.3% were between 32 and 37 years of age. The analysis suggests that the majority (84.7%) of the respondents were young adults in the 16-to-25 year age group.

Table 4.1: Age group distribution

		Frequency	Percent
Age group	6 – 20 years	109	36.2
	21 – 25 years	146	48.5
	26 – 31 years	33	11.0
	32-37 years	13	4.3
	Total	301	100.0

4.1.2 Home language

Figure 4.1 shows the respondents' home languages. The majority of the respondents (76.4%) spoke IsiZulu; 14% Xhosa; 4% other languages; 3% English; and 2.7% spoke Sesotho.

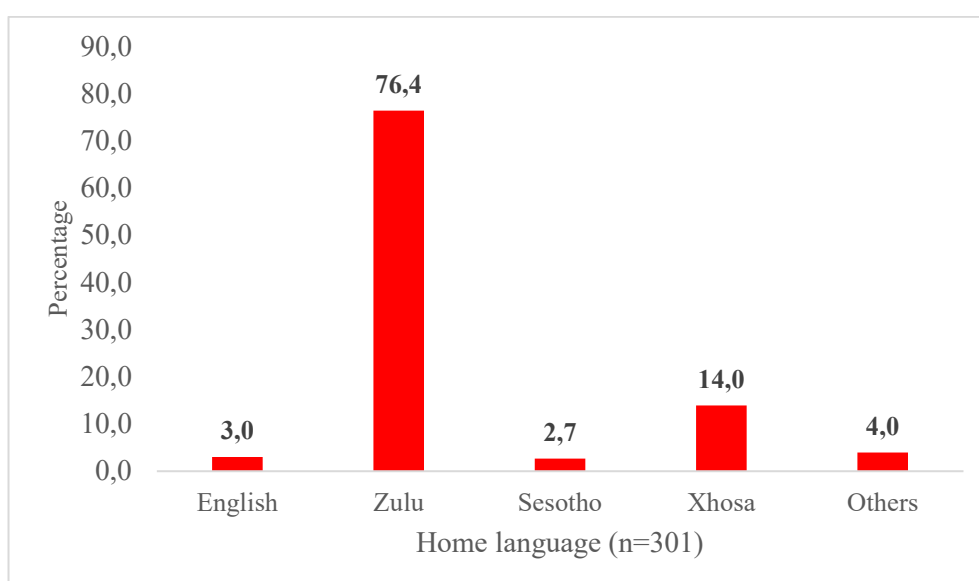


Figure 4.1: Respondents' home language

4.1.3 Qualifications for which respondents were registered

The qualifications for which the respondents were registered are given in Table 4.2. The results indicate that the overwhelming majority (80.1%) registered for full-time diplomas.

Table 4.2: Qualifications for which respondents were registered

		Frequency	Percent
Qualification	Diploma: full-time registered	241	80.1
	Diploma: part-time registered	4	1.3
	BTech: full-time registered	29	9.6
	BTech: part-time registered	4	1.3
	Advanced Diploma: part-time registered	20	6.6
	Masters: full-time registered	1	.3
	Masters: part-time registered	1	.3
	Ph.D.: part-time registered	1	.3
	Total	301	100.0

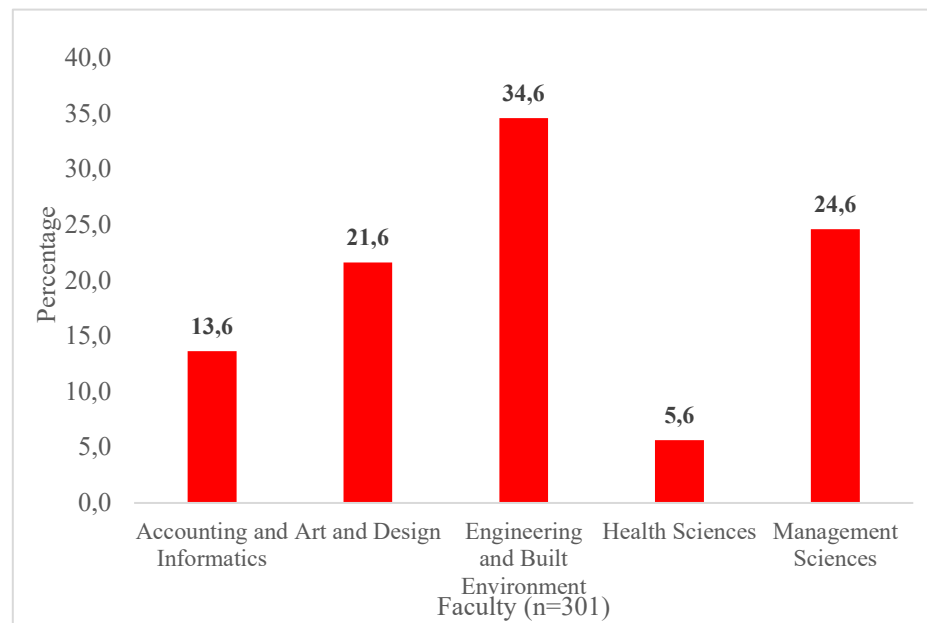


Figure 4.2: Faculties in which respondents were registered

4.1.4 Length of time students had been registered for their qualifications

When asked to indicate how long the respondents had registered for the qualifications shown in Figure 4.2, nearly half (41.9%) indicated 7 to 13 months; 20.3% indicated 21 to 27 months; 11% indicated 0 to 6 months; 10.3% indicated 35 to 41 months; while 8.3% had been registered for the qualification for 14 to 20 months or 28 to 34 months. The results indicated that the respondents who were more able to participate in this study were first-year students, followed by second-year students. This served the objectives of the study, as the participants were currently on the system, and continuing, and had the experience of the registration processes at the Midlands Campuses of Indumiso and Riverside.

Table 4.3: Length of time students had been registered for their qualifications

		Frequency	Percent
Duration of qualification registration	0 – 6 months	33	11.0
	7 – 13 months	126	41.9
	14 – 20 months	25	8.3
	21 – 27 months	61	20.3
	28 – 34 months	25	8.3
	35 – 41 months	31	10.3
	Total	301	100.0

4.1.5 Student Administration Services

When asked to indicate how often the respondents used the services of the student administration, more than half (53.2%) indicated that

they used the service when they needed information. One-third (23.3%) used it when they had registration-related issues. It is worth noting that only 11 (3.7%) of the respondents indicated that they used student administration services every day (Table 4.4). This, therefore, showed that participants understood the functioning of the Student Administration Department, as registrations only take place once a year and the majority only visit the department when they need information. This showed a positive outcome for 'student centredness', as the students knew where to go when in need of registration information.

Table 4.4: Frequency of respondent use of student administration services

		Frequency	Percent
Reason	When I need information	161	53.5
	Each week	25	8.3
	Once a month	7	2.3
	Once a term	11	3.7
	Once a semester	15	5.0
	When I have registration-related issues	70	23.3
	Everyday	11	3.7
	Other	1	.3
	Total	301	100.0

4.1. Registration

Table 4.5 indicates that the majority (84.1%) of the respondents found it easier to register online, while only 15.9% found it easier to register in person.

Table 4.5: Ease of registration platforms

		Frequency	Percent
Platforms	Online	253	84.1
	In-person	48	15.9
	Total	301	100.0

4.1.7 Registration service time

Table 4.6 indicates that 31.9% spent between 0 and 15 minutes on registration; 20.6% spent 46 to 60 minutes; and 15.6% spent 31 to 45 minutes registering.

Table 4.6: Time respondents spent registering

		Frequency	Percent
Time	0 - 15 minutes	96	31.9
	16 - 30 minutes	66	21.9
	31- 45 minutes	47	15.6
	46 – 60 minutes	62	20.6
	Others	30	10.0
	Total	301	100.0

4.2 RELIABILITY TEST

Before discussing the findings of this study, this section focuses on the reliability of the service quality dimensions. The internal reliability of the component variables of all dimensions for service quality was tested using Cronbach's coefficient alpha. According to Hair, Black, Bablin, Anderson and Tatham (2006), an alpha value of 0.70 and above is regarded as acceptable. The Cronbach alpha coefficients for

service quality expectation dimensions ranged from 0.804 to 0.907; with 0.951 for overall service quality expectations; 0.727 to 0.813 for service quality perception dimensions; and 0.903 for overall service quality perceptions, indicating that the instrument is sufficiently reliable. Table 4.7 summarises the results of the above-mentioned reliability tests.

Table 4.7: Reliability tests for the service quality dimensions

Items	Dimensions	Cronbach alpha score	
		Expectation	Perception
3	Reliability	0.804	0.727
6	Responsiveness	0.897	0.811
6	Empathy	0.907	0.813
15	Overall service quality	0.951	0.903

4.3 SERVICE QUALITY DIMENSIONS

This section details the three service dimensions (reliability, responsiveness, and empathy) measured in this study. The mean gap was used to compare the differences in the respondents' perceived expectations and their perceptions of the service quality dimensions.

4.3.1 Reliability dimension

The mean score of the reliability expectations, reliability perceptions, and reliability gap scores are shown in Table 4.8. The average reliability expectation score was high, ranging from 3.73 on a scale of 1-5, where 1 is poor and 5 is excellent for 'The registration processes provided by the DUT Student Administration Department are satisfactory'; 3.83 for "The DUT Student Administration Department provides registration services right for the first time". The reliability

expectations had a total mean score of 3.78. This value is closest to 'very good, which suggests that the respondents rated the reliability service quality expectation as very good.

The mean score for the reliability perceptions varied from 3.15 for 'The DUT Student Administration provides adequate registration information that assisted you to register'; and 3.31 for 'The DUT Student Administration Department provides registration services right for the first time'. The overall mean score for reliability dimension perception was 3.23. This value is closest to 'good', which suggests that the respondents rated the reliability service quality perception as good.

The gap score was calculated by subtracting the expectation score from the perception score for each item (P-E). The findings reveal that there is a negative gap difference between perceptions and expectations for all three items measuring the reliability of the service quality.

Table 4.8: Reliability service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std	Factor loading	Mean	Std	Factor loading	
DUT Student Administration provides adequate registration information that assisted you to register	3.79	1.16	0.837	3.15	1.08	0.816	-0.64
DUT Student Administration Department provides registration services right for the first time	3.83	1.17	0.864	3.31	1.16	0.817	-0.52

The registration processes provided by the DUT Student Administration Department are satisfactory	3.73	1.17	0.841	3.22	1.20	0.783	-0.51
Average score	3.78	1.17		3.23	1.15		-0.56

4.3.1.1 Demographics and reliability of service quality dimension

The differences between the reliability dimensions of expectations and perceptions, based on the respondents' demographic characteristics (age, home language, qualification for which registered, faculty, and length of registration for qualification) were calculated using a one-way analysis of variance (ANOVA).

The results of the ANOVA, shown in Table 4.9, reveal that there was no statistically significant difference between the respondents' expectations and perceptions concerning their age group, home language, or courses ($P > 0.05$). However, there were differences in terms of the expectations ($p < 0.001$) and perceptions ($P = 0.034$) and the respondents' faculties. The reliability expectation for the Health Science Faculty was the highest ($M = 4.29 \pm 0.83$), while that of the Engineering and Built Environment was the lowest ($M = 3.43 \pm 1.08$). This suggests that respondents from the Health Science Faculty had higher expectations of service quality reliability compared to those from the Engineering and Built Environment Faculty.

The perception of the Accounting and Informatics students was the highest ($M = 3.42 \pm 0.83$), whilst the lowest was measured for respondents from Engineering and Built Environment students

($M=3.00\pm 0.98$). This suggests that respondents from the Accounting and Informatics perceived that service quality reliability was good when compared to the Engineering and Built Environment respondents.

There were also significant differences in the expectations ($p<0.001$) and perceptions ($P=0.015$) of the service quality reliability, depending on the duration of registration for their qualification. Respondents registered for between 35 and 41 months (4.18 ± 0.79) for their qualifications had the highest expectations; while the lowest expectation was among those registered for 28 to 34 months (3.04 ± 1.20). This suggests that respondents who had been registered for 31 to 41 months had higher expectations of the reliability of service quality when compared to those registered for 28 to 34 months.

Regarding perceptions, respondents registered for 7 to 13 months had the highest score (3.41 ± 0.84), while the lowest was measured among the respondents who had been registered for 28 to 34 months (2.89 ± 1.03). This suggests that respondents registered for 7 to 13 months had a better perception of the reliability of service quality than those registered for 28 to 34 months.

Table 4.9: Association between reliability dimension and respondents' socio-demographic variables

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.87±1.01	3.21±0.90
	21 – 25 years	3.75±1.00	3.23±0.93
	26 – 31 years	3.84±1.11	3.15±1.04
	32-37 years	3.67±0.89	3.49±0.78
	Sig.	0.748	0.730
Language	English	4.04±0.95	2.63±0.90

	Zulu	3.80±1.01	3.23±0.91
	Sesotho	3.75±1.14	3.75±0.75
	Xhosa	3.86±0.84	3.38±0.86
	Others	3.53±1.06	2.97±1.23
	Sig.	0.813	0.076
Qualifications	Diploma: full-time registered	3.83±1.00	3.25±0.94
	Diploma: part-time registered	2.75±0.32	3.42±0.74
	BTech: full-time registered	3.97±0.84	3.18±0.84
	BTech: part-time registered	3.08±0.74	3.33±0.47
	Advanced diploma: part-time registered	3.60±1.07	2.93±1.07
	Masters: full-time registered	2.67±0.00	2.67±0.00
	Masters: part-time registered	3.33±0.00	3.33±0.00
	Ph.D.: Part-time registered	4.67±0.00	3.67±0.00
Sig.	0.145	0.882	
Faculty	Accounting and Informatics	3.81±0.93	3.42±0.83
	Art and Design	4.23±0.82	3.38±0.89
	Engineering and Built Environment	3.43±1.08	3.00±0.98
	Health Sciences	4.29±0.83	3.24±1.05
	Management Sciences	3.84±0.86	3.30±0.85
Sig.	0.000	0.034	
Duration of qualification registration	0 – 6 months	3.62±1.04	3.16±1.08
	7 – 13 months	4.00±0.89	3.41±0.84
	14 – 20 months	3.47±0.88	3.28±0.81
	21 – 27 months	3.75±1.00	2.96±1.01
	28 – 34 months	3.04±1.20	2.89±1.03
	35 – 41 months	4.18±0.79	3.29±0.75
	Sig	0.000	0.015

4.3.2 Responsiveness dimension

The mean scores of the responsiveness expectations, perceptions, and mean gap scores are shown in Table 4.10. The average responsiveness expectation scores were high, ranging from 3.71 (on a scale of 1-5 where 1 is poor and 5 is excellent) for 'the Student Administration Department assists with the printing of proof of registration', to 3.88 for 'the DUT Student Administration provides accurate information regarding student registration'. The total mean score for the responsiveness expectations was 3.79. This value is

closest to 'very good', which suggests that the respondents rated the responsiveness service quality expectation as very good.

The mean scores for the responsiveness perceptions varied from 3.18 for 'the DUT Student Administration provide accurate information regarding student registration', to 3.31 for 'the Student Administration Department assists with the printing of proof of registration'. The overall mean score for the responsiveness perception dimension was 3.32. This value is closest to 'good', which suggests that the respondents rated the responsiveness service quality perception as good.

The gap score was calculated by subtracting the expectation score from the perception score for each item (P-E). The findings reveal that there is a negative gap difference between perceptions and expectations for all six items measuring the responsiveness of the service quality.

Table 4.10: Responsiveness service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std	Factor loading	Mean	Std	Factor loading	
DUT registration officers are always reliable and efficient, and willing to assist students.	3.85	1.23	0.800	3.20	1.31	0.722	-0.65
DUT Student Administration provides accurate information regarding student registration.	3.88	1.14	0.832	3.18	1.22	0.784	-0.70
When students encounter problems regarding registration, staff members of the Student Administration intervene or assist promptly.	3.76	1.23	0.830	3.24	1.32	0.754	-0.52

Staff members of the Student Administration Department assist in all registration issues.	3.76	1.16	0.761	3.25	1.14	0.707	-0.51
Staff members of the Student Administration Department assist students in the completion of registration forms.	3.79	1.25	0.874	3.47	1.21	0.745	-0.32
The Student Administration Department assists with the printing of proof of registration	3.71	1.24	0.808	3.57	1.28	0.594	-0.14
Average score	3.79	1.21		3.32	1.25		-0.47

4.3.2.1 Demographics and responsiveness of service quality dimension

The differences in the responsiveness dimensions of expectations and perceptions, based on the respondents' demographic characteristics (age, home language, qualification for which registered, faculty, and the duration of registration for qualification), were calculated using a one-way analysis of variance (ANOVA).

The results of the ANOVA, shown in Table 4.11, reveal that there were no statistically significant differences measured for the respondents' expectations and perceptions about their age group, home language, or courses ($P > 0.05$). While there were no differences between responsiveness perception and the respondents' faculties ($P > 0.05$), there were, however, significant differences in responsiveness expectations, depending on the respondents' faculties ($p < 0.001$). The responsiveness expectations for the Art and Design students were the highest ($M = 4.25 \pm 0.86$); while those of the Engineering and Built Environment students were the lowest ($M = 3.46 \pm 1.00$). This suggests that Art and Design Faculty respondents' expectations of service

quality responsiveness were very good when compared to those from the Environment and Built Environment Faculty.

In terms of the length of time students registered their qualifications, the ANOVA test reveals statistically significant differences in the responsiveness for both expectations ($p < 0.001$) and perceptions ($p < 0.01$). Respondents registered for 35 to 41 months for their qualifications had the highest expectations (4.26 ± 0.72); while the lowest expectations were among those registered for 28 to 34 months (3.07 ± 1.21). This suggests that respondents who had been registered for 31 to 41 months had expectations of the service quality responsiveness that were very good, compared to those registered for 28 to 34 months.

Regarding perception, respondents registered for 7 to 13 months measured the highest (3.51 ± 0.85), while the lowest was measured among the respondents who had been registered for 28 to 34 months (2.85 ± 1.06). This suggests that respondents who had been registered for 7 to 13 months had a better perception of the service quality responsiveness, compared to those who had been registered for 28 to 34 months.

Table 4.11: Association between responsiveness dimension and respondents' socio-demographic variables

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.90±0.95	3.37±0.88
	21 – 25 years	3.78±0.97	3.28±0.90
	26 – 31 years	3.82±1.15	3.16±1.01
	32-37 years	3.95±0.95	3.73±0.64
	Sig.	0.742	0.222
Language	English	4.39±0.69	2.98±0.93

	Zulu	3.84±0.99	3.29±0.94
	Sesotho	3.79±0.94	3.88±0.52
	Xhosa	3.72±1.02	3.34±0.71
	Others	3.71±0.79	3.60±0.77
	Sig.	0.452	0.221
Qualifications	Diploma: full-time registered	3.85±0.99	3.33±0.91
	Diploma: part-time registered	3.13±0.42	3.75±0.57
	BTech: full-time registered	3.88±0.89	3.16±0.73
	BTech: part-time registered	3.96±0.79	3.63±0.55
	Advanced diploma: part-time registered	3.61±1.15	3.15±1.09
	Masters: full-time registered	3.67±0.00	3.83±0.00
	Masters: part-time registered	3.17±0.00	3.83±0.00
	PhD: part-time registered	5.00±0.00	3.83±0.00
Sig.	0.630	0.771	
Faculty	Accounting and Informatics	4.06±0.83	3.52±0.88
	Art and Design	4.25±0.86	3.40±0.97
	Engineering and Built Environment	3.46±1.00	3.12±0.91
	Health Sciences	4.15±0.79	3.46±0.93
	Management Sciences	3.79±0.98	3.38±0.78
	Sig.	0.000	0.084
Duration of qualification registration	0 – 6 months	3.92±0.88	3.22±1.00
	7 – 13 months	3.96±0.93	3.51±0.85
	14 – 20 months	3.61±0.88	3.42±0.71
	21 – 27 months	3.71±1.01	3.19±0.90
	28 – 34 months	3.07±1.21	2.85±1.06
	35 – 41 months	4.26±0.72	3.18±0.76
	Sig	0.000	0.007

4.3.3 Empathy dimension

The mean scores for the empathy expectations, perceptions, and mean gaps are shown in Table 4.12. The average empathy expectation scores were high, ranging from 3.82 (on a scale of 1-5 where 1 is poor and 5 is excellent) for 'The Student Administration Department has convenient operating hours during the registration period', to 3.99 for 'The facilities at the registration computer labs are adequate to facilitate timeous completion of online registration'. The empathy expectations had an overall mean score of 3.87. This value

is closest to 'very good', which suggests that the respondents rated their expectation of student administration empathy as very good.

The mean scores for the empathy perceptions varied from 3.18 for 'Students find it easy to find help when registering at the DUT', to 3.45 for 'The facilities at the registration computer labs are adequate to facilitate timeous completion of online registration'. The overall mean score for empathy perception was 3.29. This value is closest to 'good'. which suggests that the respondents' perception of student administration empathy is good.

The gap score was calculated by subtracting the expectation score from the perception score for each item (P-E). The findings reveal that there is a negative gap of 0.58 between perceptions and expectations for all six items measuring the empathy of the service quality.

Table 4.12: Respondents' rating of empathy service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std	Factor loading	Mean	Std	Factor loading	
Staff members at the Student Administration Department always welcome students on registration.	3.84	1.28	0.860	3.34	1.30	0.733	-0.5
The Student Administration Department provides personal attention to each student on registration.	3.83	1.23	0.827	3.22	1.23	0.689	-0.61
The Student Administration Department has convenient	3.82	1.14	0.785	3.17	1.18	0.751	-0.65

operating hours during the registration period.							
Students find it easy to find help when registering at the DUT.	3.84	1.25	0.864	3.18	1.35	0.773	-0.66
The facilities at the registration computer labs are adequate to facilitate the timeous completion of online registration.	3.99	1.15	0.748	3.45	1.18	0.665	-0.54
The registration staff is professional in their treatment of students.	3.87	1.22	0.865	3.35	1.32	0.699	-0.52
Average score	3.87	1.21		3.29	1.26		-0.58

4.3.3.1 Demographics and empathy of service quality dimension

The differences between the empathy dimensions of expectations and perceptions, based on the respondents' demographic characteristics (age, home language, qualification for which registered, faculty, and the duration of registration for qualification) were calculated using a one-way analysis of variance (ANOVA).

The results of the ANOVA, shown in Table 4.13, reveal that there were no statistically significant differences measured for the respondents' expectations and perceptions about their age group, home language, or courses ($P > 0.05$). While there were no differences in their empathy perception, depending on the respondents' faculties ($P > 0.05$), there were, however, significant differences in their empathy expectations, depending on the respondents' faculties ($p < 0.001$). The expectations for the Art and Design students were the highest ($M = 4.25 \pm 0.83$), while those of the Engineering and Built Environment students were the

lowest ($M=3.57\pm 1.07$). This suggests that respondents from Art and Design had very good expectations of the empathy of the student administration of service, compared to those from the Environment and Built Environment Faculty.

In terms of the length of time respondents were registered for their qualifications, the ANOVA test reveals a statistically significant difference in empathy for both expectations ($p<0.001$) and perceptions ($p<0.01$). Respondents registered for 35 to 41 months for their qualifications had the highest expectations (4.24 ± 0.81), while the lowest expectations were among those registered for 28 to 34 months (3.23 ± 1.22). This suggests that respondents who had been registered for 31 to 41 months had higher expectations of the empathy of the student administration, compared to those who had been registered for 28 to 34 months.

Regarding perception, respondents registered for 7 to 13 months (3.43 ± 0.86) and 14-20 months (3.43 ± 0.58) had the highest scores, while the lowest were measured among the respondents who had been registered for 28 to 34 months (2.89 ± 1.07). This suggests that respondents who had been registered for 7 to 13 months, as well as for 14 to 20 months, perceived the empathy of the students' administration as good when compared to those who had been registered for 28 to 34 months.

Table 4.13: Association between empathy dimension and respondents' socio-demographic variables

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.91±0.95	3.30±0.88
	21 – 25 years	3.80±0.99	3.29±0.94
	26 – 31 years	3.87±1.13	3.19±0.89
	32-37 years	4.12±1.19	3.32±0.96
	Sig.	0.658	0.945
Language	English	4.31±0.74	2.98±0.69
	Zulu	3.86±1.03	3.22±0.95
	Sesotho	3.69±1.07	3.73±0.84
	Xhosa	3.86±0.89	3.51±0.71
	Others	3.81±0.95	3.60±0.77
	Sig.	0.714	0.087
Qualifications	Diploma: full-time registered	3.88±1.00	3.29±0.91
	Diploma: part-time registered	3.38±0.97	3.25±0.63
	BTech: full-time registered	3.91±0.89	3.24±0.79
	BTech: part-time registered	4.08±1.29	3.63±0.83
	Advanced Diploma: part-time registered	3.66±1.28	3.02±1.11
	Masters: full-time registered	3.17±0.00	4.50±0.00
	Masters: part-time registered	4.33±0.00	4.00±0.00
	Ph.D.: part-time registered	5.00±0.00	4.50±0.00
Sig.	0.776	0.474	
Faculty	Accounting and Informatics	4.06±0.94	3.23±0.95
	Art and Design	4.25±0.83	3.42±0.94
	Engineering and Built Environment	3.57±1.07	3.19±0.88
	Health Sciences	4.10±0.84	3.45±0.95
	Management Sciences	3.78±1.00	3.28±0.88
	Sig.	0.000	0.525
Duration of qualification registration	0 – 6 months	3.93±0.91	3.20±0.98
	7 – 13 months	3.99±0.95	3.43±0.86
	14 – 20 months	3.68±0.89	3.43±0.58
	21 – 27 months	3.70±1.06	3.16±0.97
	28 – 34 months	3.23±1.22	2.89±1.07
	35 – 41 months	4.24±0.81	3.19±0.88
	Sig	0.002	0.057

4.3.4 Overall service quality gap

The Gap analysis clearly shows that there is a large disparity between the respondents' expectations and perceptions. A large number of gaps, which can be seen across all dimensions, indicates that there is a significant difference between respondents' expectations and their perceptions, or experiences (Table 4.14). Among the three dimensions, the highest gap score was related to the empathy dimension (mean gap score = -0.58) and the lowest gap score was related to the responsiveness dimension (mean gap score = -0.47).

Table 4.14: Overall ServQual Index score

Dimensions	Score
Reliability	-0.56
Responsiveness	-0.47
Empathy	-0.58
Overall ServQual	-0.54

4.3.4.1 Analysis of the reliability services gap

The overall average gap score for the dimension, reliability services, was -0.56. The highest contributor (-0.64) to this difference between expectations and perceptions in this dimension was the statement: 'The DUT student administration provides adequate registration information that assisted you to register.'

4.3.4.2 Analysis of the responsiveness services gap

The overall average gap score for the dimension, responsiveness services, was -0.47. The highest contributor (-0.70) to this difference between expectations and perceptions in this dimension was the statement: 'The DUT student administration always provides accurate information regarding student registration'. This suggests that student administration provides accurate student information.

4.3.4.3 Analysis of the empathy services gap

The overall average gap score for the dimension, empathy services, was -0.58. The highest contributor (-0.66) to this difference between expectations and perceptions in this dimension was the statement: 'Students find it easy to find help when registering at the DUT'. This suggests that the DUT student administrative staff is always willing to help students with their registration.

4.4 RELATIONSHIP BETWEEN THE OVERALL SERVICE QUALITY AND SOCIO-DEMOGRAPHIC VARIABLES

One-way analysis of variance was performed to determine whether there is a difference in the overall service quality expectations and perceptions, depending on the respondents' demographic characteristics (age, home language, qualification for which registered, faculty, and the duration of registration for qualification). The ANOVA value reveals that there were no statistically significant differences measured for the respondents' expectations and perceptions concerning their age group, home language, or courses

($P>0.05$). While there were no differences in their perceptions, depending on their faculties ($P>0.05$), there were, however, significant differences in their expectations, depending on their faculties ($p<0.001$). The expectations of the Art and Design students were the highest ($M=4.24\pm0.78$) while those of the Engineering and Built Environment students were the lowest ($M=3.49\pm0.96$). This suggests that respondents from Art and Design had very good expectations of quality service when compared to those from Engineering and Built Environment.

In terms of the length of time registered, the ANOVA test reveals a statistically significant difference in both expectations ($p<0.001$) and perceptions ($p<0.01$) of overall service quality. Respondents who had been registered for 35 to 41 months for their qualifications had the highest expectations (4.23 ± 0.72), while the lowest expectations were among those registered for 28 to 34 months (3.11 ± 1.18). This suggests that respondents who had been registered for 31 to 41 months had very good expectations of the service quality when compared to those registered for 28 to 34 months.

Regarding perceptions, respondents registered for 7 to 13 months had the highest scores (3.45 ± 0.72), while the lowest was measured among the respondents who had been registered for 28 to 34 months (2.88 ± 0.99). This suggests that the perceptions of the respondents registered for 7 to 13 months were better than those registered for 28 to 34 months.

Table 4.15: Association between overall service quality and respondents' socio-demographic variables

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.90±0.91	3.29±0.78
	21 – 25 years	3.98±0.89	3.27±0.80
	26 – 31 years	3.85±1.07	3.17±0.87
	32-37 years	3.91±0.94	3.51±0.71
	Sig.	0.763	0.611
Language	English	4.25±0.70	2.86±0.77
	Zulu	3.83±0.94	3.24±0.83
	Sesotho	3.74±1.02	3.78±0.64
	Xhosa	3.81±0.82	3.41±0.60
	Others	3.68±0.88	3.39±0.78
	Sig.	0.689	0.110
Qualifications	Diploma: full-time registered	3.85±0.92	3.29±0.80
	Diploma: part-time registered	3.08±0.44	3.47±0.42
	BTech: full-time registered	3.92±0.80	3.19±0.69
	BTech: part-time registered	3.71±0.92	3.53±0.34
	Advanced diploma: part-time registered	3.62±1.13	3.03±0.98
	Masters: full-time registered	3.17±0.00	3.67±0.00
	Masters: part-time registered	3.61±0.00	3.70±0.00
	Ph.D.: part-time registered	4.89±0.00	4.00±0.00
	Sig.	0.532	0.750
Faculty	Accounting and Informatics	3.98±0.85	3.39±0.76
	Art and Design	4.24±0.78	3.40±0.86
	Engineering and Built Environment	3.49±0.96	3.10±0.80
	Health Sciences	4.18±0.77	3.38±0.88
	Management Sciences	3.80±0.85	3.32±0.69
	Sig.	0.000	0.101
Duration of qualification registration	0 – 6 months	3.82±0.87	3.19±0.96
	7 – 13 months	3.98±0.85	3.45±0.72
	14 – 20 months	3.59±0.78	3.38±0.57
	21 – 27 months	3.72±0.93	3.10±0.81
	28 – 34 months	3.11±1.18	2.88±0.99
	35 – 41 months	4.23±0.72	3.22±0.69
	Sig	0.000	0.005

4.5 VALIDATING THE SERVICE QUALITY DIMENSION

Factor analysis was performed to validate the three dimensions for both expectation and perception, using both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

4.5.1 Validating the expectations of service quality

Using the eigenvalues greater than one, the principal component analysis (PCA) for the extracted items for respondents, rating of their expectations of service quality, reveals a clear dimension for reliability (Table 4.8), responsiveness (Table 4.10), and empathy (Table 4.12). Confirmatory factor analysis (CFA) was computed to validate the EFA analysis. All items loaded significantly on their hypothesised latent constructs. The CFA for the service quality expectations shows a good fit (Chi Square= 243.952; df=84; $p < 0.001$; $cmindf=2.904$; RMSEA=0.080; GFI= 0.906; CFI=0.949; TLI =0.936; IFI=0.949). The CFA model, shown in Figure 4.3, confirms that all items loaded significantly on their hypothesised latent constructs, which demonstrates construct validity. Similarly, convergent validity was assessed using the average variance extracted (AVE). Hair et al. (2010) state that a standardised factor loading with a value of 0.50, or higher, provides strong evidence of convergent validity. As shown in Table 4.16, the average variance extracted (AVE) for all three dimensions had factor loadings above the recommended value, which suggests adequate convergent validity.

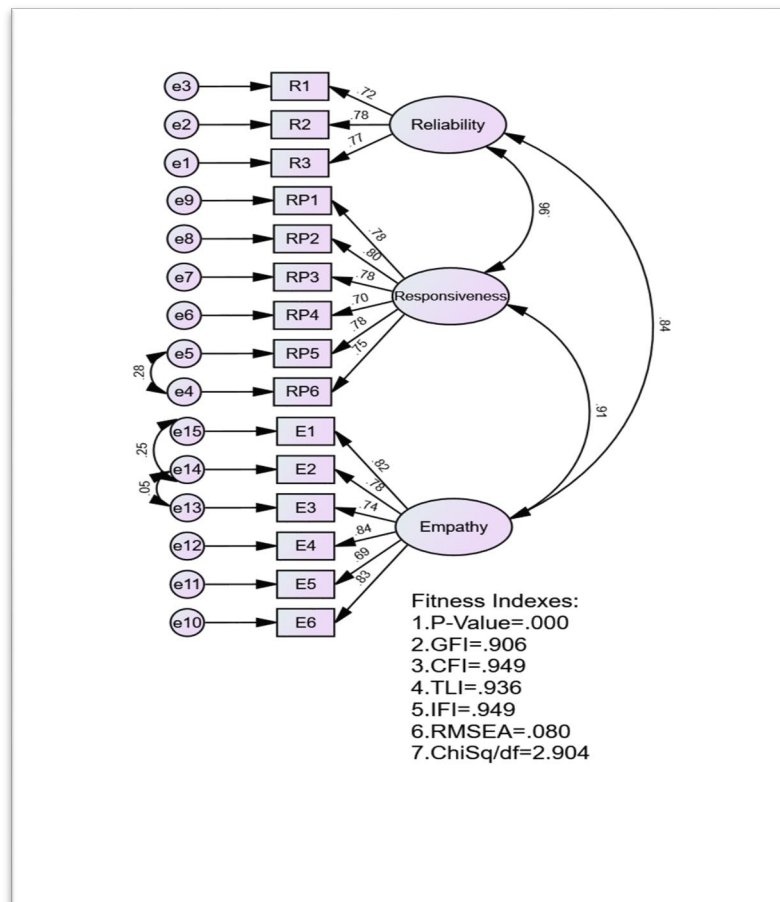
Discriminant validity, on the other hand, was assessed using maximum shared square variance (MSM). Based on the rule of thumb, the AVE value should be greater than the MSV (Mimouni-Chaabane & Volle, 2010:34). The AVE values for all three dimensions are lower

than the measured MSV values, thus failing to support discriminant validity.

Table 4.16: Convergent and discriminant validity of service quality expectations

	CR	AVE	MSV	MaxR(H)	Reliability	Empathy	Responsiveness
Reliability	0.804	0.578	0.924	0.807	0.760		
Empathy	0.906	0.617	0.828	0.912	0.837	0.785	
Responsive-ness	0.895	0.587	0.924	0.897	0.961	0.910	0.766

Figure 4.3: CFA model for service quality expectations



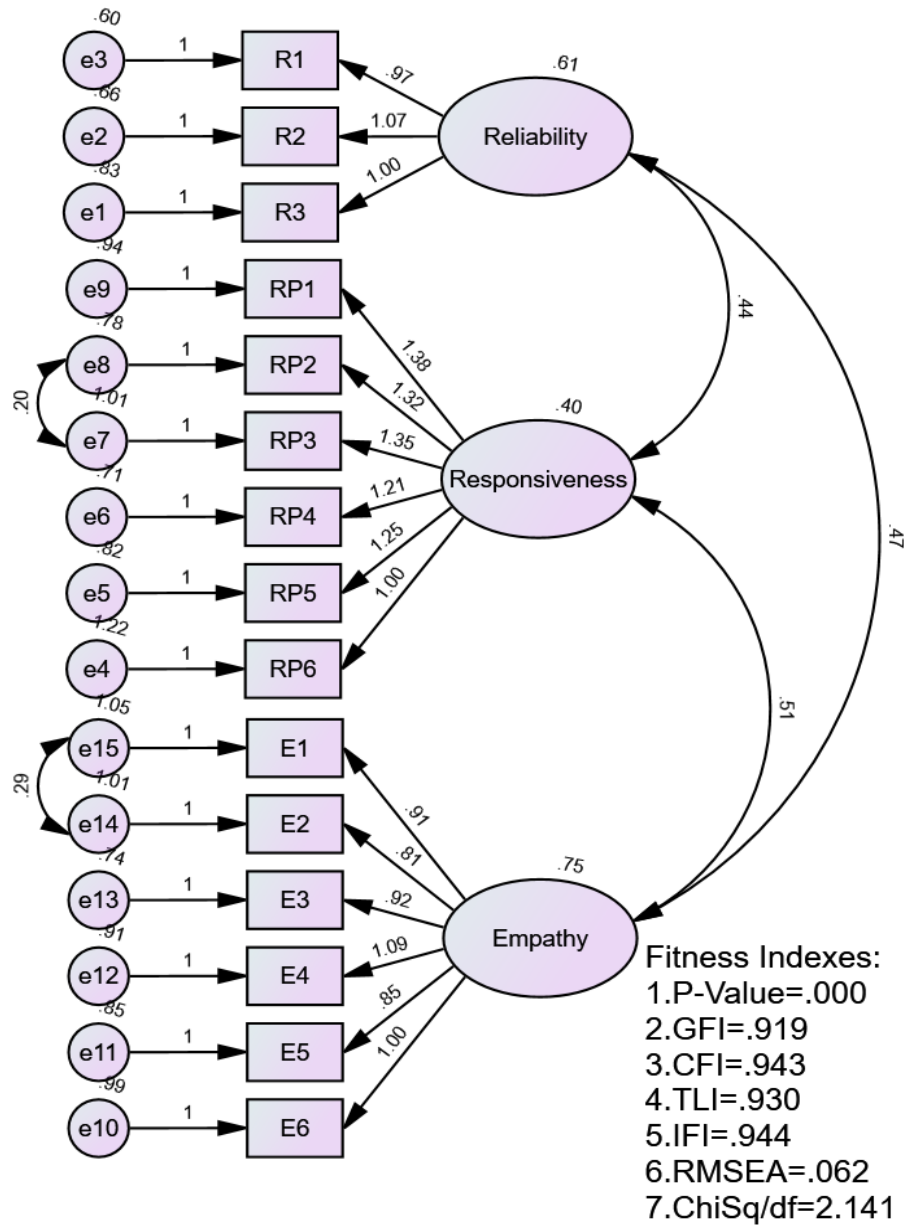
4.5.2 Validating the perceptions of service quality

Using the eigenvalues greater than one, the PCA for the extracted items for respondents' rating of their expectations of service quality reveals a clear dimension for reliability (Table 4.8), responsiveness (Table 4.10), and empathy (Table 4.12). Confirmatory factor analysis (CFA) was computed to validate the EFA analysis. All items loaded significantly on their hypothesised latent constructs. The CFA for the service quality expectations shows a good fit (Chi Square=243.952; df=84; $p < 0.001$; $cmindf=2.141$; $RMSEA=0.062$; $GFI= 0.919$; $CFI=0.943$; $TLI =0.930$; $IFI=0.944$). Figure 4.4 shows clearly that all items loaded significantly on their hypothesised latent constructs, which demonstrates construct validity. Similarly, convergent validity was assessed using the average variance extracted (AVE). As shown in Table 4.17, the average variance extracted (AVE) for all three dimensions had factor loadings below the recommended value, thus failing to support convergent validity. Similarly, the AVE values for the three dimensions were lower than the measured MSV values, thus failing to support discriminant validity.

Table 4.17: Convergent and discriminant validity of service quality expectations

	CR	AVE	MSV	MaxR(H)	Responsive- ness	Reliability	Empathy
Responsive-ness	0.808	0.414	0.837	0.815	0.644		
Reliability	0.730	0.475	0.806	0.732	0.898	0.689	
Empathy	0.808	0.414	0.837	0.812	0.915	0.692	0.643

Figure 4.4: CFA model for service quality perceptions



In summary, this section highlights the expectations and perceptions of service quality dimensions during students' registration processes at the Durban University of Technology. Both descriptive and inferential statistics were used to analyse and present the data. The findings reveal that the majority of the respondents were young adults within the age group 16-to-25 years; spoke IsiZulu; were registered full time for their Diploma; mainly in the Faculty of Engineering and the Built Environment; had been registered for between 7 and 13 months; and had completed their registration process online.

In terms of the student's expectations of the registration process, it emerged that items related to empathy had the highest ($M=3.99$) mean expectation scores (The facilities at the registration computer labs are adequate to facilitate timeous completion of online registration.). The item with the lowest expectations score ($M=3.71$) was related to responsiveness (Student Administration Department assists with the printing of proof of registration.). Regarding the students' perceptions of the registration process, it was found that items relating to responsiveness had the highest ($M=3.57$) perception scores (The Student Administration Department assists with the printing of proof of registration.). The item with the lowest perception score ($M=3.15$) was related to reliability (The DUT Student Administration provides adequate registration information that assisted you to register.).

In terms of the socio-demographic variables and the students' expectations and perceptions, the ANOVA reveals that there were no significant differences between the three dimensions of expectations based on the respondents' age group, home language, and registration for qualifications. However, there were differences based on the faculty of the students and the duration of their registration.

Similarly, there were no significant differences between the perceptions of the students based on their age group, home language, registration for qualifications, and faculty. The only exception was the duration of the student's registration, which influenced two of the dimensions, namely reliability and responsiveness; while no difference was measured for empathy and length of registration.

Furthermore, there were no significant differences between overall service quality and the student's expectations and perceptions of the registration process, based on age group, and home language, of course. There were, however, differences between the expectations, based on the students' faculties. Also, differences were measured for the expectations and perceptions of the overall service quality, based on the duration of the student's registration. Overall, the dimension with the highest mean expectation was empathy, while responsiveness had the lowest mean score for students' perception of the registration process.

4.6 QUALITATIVE ANALYSIS

This section presents the outcomes of the interview conducted with the administrative staff at the selected university (DUT). Four administrative staff were purposively selected for the interviews. The data that emerged from the interview was coded deductively with the aid of software (NVIVO version 12).

4.6.1 Biographic information of the administrative staff

Table 4.6.1 summarises the biographic information of the administrative staff. Three of the four participants are employed in a full-time capacity, while only one is employed part-time. Two of the participants hold a Bachelor of Technology degree while the other two have a National Diploma. Each of the participants came from a different field, which included accounting, computer studies, business administration, and office management. In terms of the participants' job positions, three identified as administrative assistants while one was an administrative clerk. It was also found that the minimum time the participants had worked in student administration was one, while the maximum was over ten years.

Participants revealed that they dealt with students' complaints every day. When asked how often students complained about the challenges related to their registration, three of the participants said every day, while another participant stated that it was usually once a month.

Table 4.18: Biographic information of the participants

Participant	Employment status	Frequency of dealing with students	Frequency of student complaints	Highest qualification	Field	Job position	Work history duration
ADM1	Part-time	Everyday	Everyday	National diploma	Accounting	Administrative assistant	5 years
ADM2	Full-time	Everyday	Everyday	National diploma	Computer studies	Administrative clerk	10 years and more
ADM3	Full-time	Everyday	Once a month	B.Tech	Business administration	Administrative assistant	1 year
ADM4	Full-time	Everyday	Everyday	B.Tech	Office management	Administrative assistant	7 years

4.6.2 Emerging themes and subthemes from the interviews with the selected administrative staff

The analysis of the data gathered from the semi-structured interviews resulted in the identification of the themes and subthemes (Figure 4.6.1).

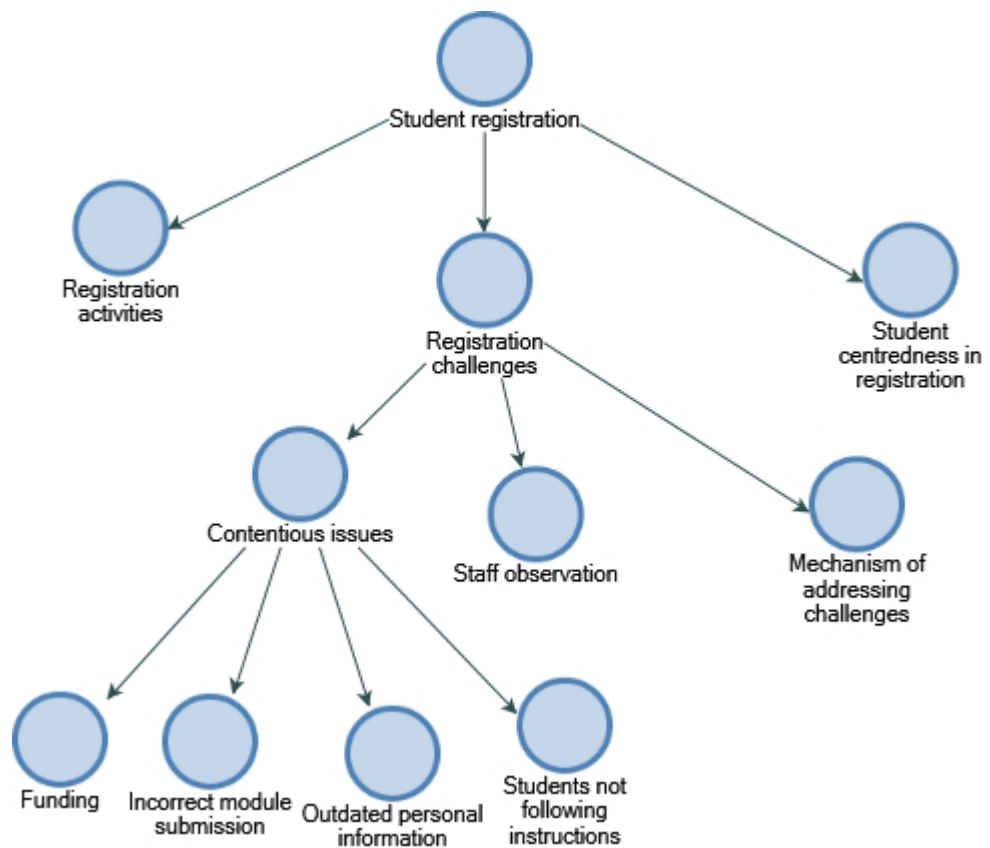


Figure 4.6.1: Illustration of themes and subthemes for student registration

4.7 THEME: STUDENT REGISTRATION

Student registration is a vital component of the student admission process. At the selected university (DUT), registration services are provided by the Student Administration Department. This theme, therefore, explores the challenges of registration and how best to address these challenges faced by the students. This theme is discussed under three subthemes, namely: registration activities, registration challenges, and student-centeredness in registration.

Table: 4.19: Overview of theme and sub-themes

No.	THEME	SUB-THEMES
REGISTRATION THEME AND SUB-THEMES		
4.7.	Student Registration	4.7.1 Registration Activities
		4.7.2 Student-centeredness in registration.
		4.7.3 Registration challenges
		4.7.3.1 Funding
		4.7.3.2 Incorrect module submission
		4.7.3.3 Outdated personal information
		4.7.3.4 Students not following instructions
		4.7.4 Mechanisms for addressing challenges

4.7.1 SUB-THEME 1: Registration activities

Student registrations at the Durban University of Technology consist of both online-web and in-person (traditional) registration. According

to Ngwane (2016), online-web registration allows students to register themselves wherever they are, by using their personal computers and handheld devices, such as cell phones and tablets. However, there is still a need for in-person registrations, where students have to complete required documents and be assisted by faculty staff members to capture registration forms into the system. ADM1, confirmed this by saying *“the Department of Student Administration assists students with in-person and online-web registrations.”*

The registration service at the DUT Midlands Campuses of Indumiso and Riverside is provided by the Student Administration Department. In terms of the registration activities that take place during registration, several activities were noted. These included both in-person and online registration; printing proof of registration; and addressing registration inquiries. The officials in the Student Administration Department explained the various activities involved in registering a student.

ADM1 stated: *“Student registration (in-person and online-web); the printing of proof of registration; completion of registration forms and capturing them into the system...”*. ADM2 mentioned *“Enquiries; registration; printout requests by students, for example, academic records, proof of registrations; examination administration”*, and ADM4 added: *“Assisting the student to register, printing proof of registration, capturing hand-written registration forms”*. However, ADM2 explained that this department also performs duties other than registration: *“The department also assists with the administration of the examination, issuing of academic records and credit certificates.”*

The department also used the campus computer laboratories to assist

students from disadvantaged backgrounds, and those who were struggling to register themselves at home. *“Students had to register at the provided, designated venue. Students were assisted by department staff members to complete online registration and students with online registration issues were advised to register in-person by completing necessary forms.”* (ADM3).

4.7.2 SUB- THEME 2: Student-centeredness in registration

One of the approaches to service delivery in the university is student-centeredness. It, therefore, becomes essential, from the perspective of the administrative staff interviewed, to know how feasible this approach is, as far as student registration is concerned. According to Maluka, Diale and Moeti (2014: 23), they stated that members of the community should be consulted and informed about the services they will receive. It was found that students were informed on time about the incoming registrations and they were encouraged to sort any impediments to the registration process. In support of this statement, ADM1 said, *“Students are informed about the incoming registration dates, giving them sufficient time to sort their finances and encouraged to sort any impediments to the registration process”*.

However, ADM2 noted that Student Administration could not control the functioning of other units responsible for registration, such as Finance and Financial Aid (NSFAS). The relevance of NSFAS funding to students' registration, and the challenges involved, are discussed in the next section. Participant ADM2 said: *“The department tries its best to deliver as per student-centeredness is a concern, but cannot control*

the operation of other sections involved in student registration, such as NSFAS.” Therefore Pietersen (2014:256), suggests that the heads of divisions within the university should create an atmosphere that allows creativity and should ensure that proper planning is done, and goals are set.

ADM4 noted that the student-centredness policy was effective but, there was a need for more communication with students. *“The system is working”*. However, *registration information should be thoroughly communicated to the student, and it also should be clear regarding what is expected from them*” (ADM4). This agrees with Schuppan (2008) that students should be given full and accurate information about the service they are about to receive.

4.7.3 SUB-THEME 3: Registration challenges

From the staff interviewed, it was learned that administrative staff deal with complaints about the challenges faced by students during and after registration. It became prudent to know what issues the department staff usually deal with during registration. Among the issues are funding; incorrect module submission; outdated personal information; and students not adhering to the stipulated registration period.

4.7.3.1 Unresolved registration issues

When an issue is not resolved in the first place, it results in another issue or challenge (Mohapi, 2017: 22). Since certain registration issues are not resolved on time, the students tend to register late. Late registration had been noted as another challenge to Student Administration staff as it must be done in person and it involves a lot of paperwork, which must be completed. ADM1 said, “*Students do not register on time and they tend to register late; and late registration has more paperwork, which is time-consuming*”.

4.7.3.1.1 Funding

According to Ludeman and Schreiber (2020), in South African tertiary institutions the majority of students are funded by National Students’ Financial Aid Service (NSFAS). Therefore, the study revealed that financial clearance was a persistent challenge, as the majority of students are funded by NSFAS. This government scheme usually pays/settles student accounts late and, therefore, students usually complete their registration late. Participant ADM1 said, “*Students could not register on time because NSFAS does not pay outstanding balances on time*”. ADM2 corroborated this claim, saying, “*NSFAS students do not get financially cleared on time and that delays student registration and picking of incorrect modules*”. This delay arising from late payment of fees by the student was a major challenge because NSFAS-funded students have to face the hurdle of waiting a long time to secure their financial clearance, a major prerequisite for registration. Thus, funding challenges, among others, “*normally delay the student’s registration*” (ADM3). The study by Maphumulo (2021) revealed that after NSFAS was centralized in the middle of 2016; and ever since

that staff and students are grappling with challenges such as late feedback from the scheme, which resulted in a delay in students' registration process.

4.7.3.1.2 Incorrect module submission

According to Ngwane (2016), the online web registration system should be user-friendly and should limit students from making registration errors. Muchado and Diggins (2012), add by saying that the online system is the only solution to a paperless environment. However, incorrect module submission was another challenge identified by the participants. The consequence of this was that the students had to complete the amendments to their modules by manually completing the change of curriculum forms (subject addition and deletion), a process that the participants said was time-consuming. The change of curriculum form had to be completed by the student and signed by both the student and the Head of the Department. ADM1 said, "*Students sometimes tend to register incorrect modules online and we, as staff, need to delete them manually from the system*". This process often delays registration, especially when there is load-shedding.

4.7.3.1.3 Outdated personal information

According to Musamy and Chelliah (2010), outdated personal information from the system can cost the company hundreds of millions. It is in the interest of the company to make sure staff do update their personal information regularly e.g. Cellphone, postal address, next of kin details, change of surname, etc (Orel & Kar, 2014:118). When staff

discovers that students have incorrectly registered for some of the modules, they check for contact details on the system to contact the affected students. However, it was revealed that it can be difficult to get hold of some of the students, as their personal information on the system is outdated. ADM1 said, *“Most of the students do not update their personal information whenever they have changed. Therefore, it becomes difficult to trace them in case of emergency”*. This also often contributes to delays in addressing the challenges and subsequent delays in registration.

4.7.3.1.4 Students not following instructions

The Durban University of Technology students were using i-enabler self-service to complete their registration, which is available on the student portal. However, it was revealed by ADM2 that students do not follow on-screen instructions during their registration and this leads to incomplete registration by students. *“Students do not follow instructions when registering online from the student portal”* (ADM2).

4.7.3.2 Mechanisms for addressing challenges

A mechanism is a system of parts working together and if one part gets broken along the way, the entire system will stop functioning (Ngobese 2017:44). One of the objectives of this study is to offer recommendations and suggest appropriate mechanisms to deal with the challenges relating to student registration.

- **Funding challenges**

The NSFAS sector plays an important role in student registration by settling students' previous balances. However, it was revealed that this funding scheme does not settle student account balances on time and, as a result, students have to register late. Therefore, ADM1 suggested, "*NSFAS must pay student accounts balances on time*". The settling of student accounts on time by NSFAS would allow the Finance Department to perform its accounts clearance responsibility on time for registrations. "*Student accounts should be cleared on time to prevent online registration delays*" (DM3).

- **Incorrect module submission, outdated personal information, and challenges following instructions**

In addressing the challenges associated with incorrect module submission and outdated personal information, the participants suggested that the university should employ more temporary staff to assist in the designated registration venues. The staff complained that there were not enough personnel to assist students to check their documents to ensure that they had entered the correct information. In addition, the staff could ensure that students update their personal information correctly. The temporary staff could also ensure that students do follow on-screen registration instructions. "*Students must follow all instructions when registering*" (ADM2).

4.8 CONCLUSION

The chapter concludes by assessing the validity and reliability of the service quality dimensions. The factor loading reveals a strong

loading above the recommended value of 0.5, while the CFA analysis reveals a good fit in the model.

The responses from the students at the Midlands Campuses of Indumiso and Riverside indicate that the Student Administration staff were not rendering the desired, or expected, registration services completely. The three SERVQUAL dimensions of reliability, responsiveness, and empathy each indicated a quality gap, suggesting that the Student Administration Department urgently needs to attend to these gaps.

This section also brings to the fore the challenges faced by administrators during student registration. While participants agreed that the Student Administrative Department operates with student-centeredness as an objective, it was discovered that the students were faced with challenges during registration. Many of these challenges were related to funding, incorrect module submission, outdated personal information and a lack of instruction to follow the steps in the registration process. Even though the department is not responsible for the challenges they, nevertheless, were hampered in the effective fulfilment of their responsibilities – hence the quality gap discovered by SERVIQUAL.

The qualitative data obtained for this study was limited. The Departments of Student Administration at the Midlands Campuses of Indumiso and Riverside had only four staff members and they all participated. Due to COVID-19 pandemic restrictions, there were also no temporary staff members employed to assist in registrations as usual. It would have benefitted the study to have been able to interview more participants. This, therefore, affected the qualitative

analysis/results of this study, as some important points could be expanded upon more, due to the limited responses reviewed. The following chapter five presents the summary of findings, conclusions, and recommendations.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.0 INTRODUCTION

The main purpose of the study was to provide a conceptual and operational framework to evaluate and identify challenges faced by students in registration processes at the Durban University of Technology, using a case study of the Midlands Campuses of Indumiso and Riverside. Chapter Four presented the results and discussed the findings obtained from the respondents. This chapter will propose what can be done, as a result of the findings described in the previous chapter. This chapter begins by noting that the objectives of the study were met. Thereafter, recommendations are made, the limitations of the research are offered, and the chapter concludes by suggesting potential future directions for research.

5.1 SUMMARY OF FINDINGS

The data collected from the respondents were analysed with SPSS (version 27) to meet the objectives of the study. The findings suggested that the majority (84.7%) of the respondents were young adults in the age group 16 to 25 years, and the majority (76.4%) were isiZulu speaking. Of the respondents, 81.1% were registered in undergraduate programmes at the Midlands Campuses of Indumiso and Riverside.

The Student Administration Department is the only department responsible for student registration each year. The majority of the respondents (76.8%) indicated that they only visit this department when seeking information and having registration-related issues or challenges. Most of the participants (84.1%) prefer to register online, as it takes less than 15 minutes. This, therefore, supports the statement by Ngwane (2016), that during online registration, students can register using offsite computers, handheld devices such as tablets, and their cell phones, which saves time.

The service quality dimensions (reliability, responsiveness, and empathy) were used for measurement in this study. It was discovered that the reliability expectation score was high, with a 3.78 average; and reliability perceptions were 3.23, on average. This, therefore, shows a gap of 0.56. The highest contributor (-0.64) to this difference between expectations and perceptions in the dimension was the statement: 'DUT student administration provides adequate registration information to assist students' registration'. This suggests that student administration staff provide adequate registration information for registering students.

The responsiveness quality dimension indicated that the expected average was 3.79. The perception was 3.32, and the gap was 0.47 on average. The highest contributor (-0.70) to this difference between expectations and perceptions in this dimension was the statement: 'DUT student administration provides accurate information regarding student registration' and this suggests that student administration provides accurate information.

The empathy dimension showed a total average of 3.87 for expectations; 3.29 for perceptions; and a gap of 0.58. The gap was

calculated by subtracting perceptions from expectations. The highest contributor (-0.66) to this difference between expectations and perceptions in this dimension was the statement: 'Students find it easy to find help when registering at DUT', and this suggests that student administration staff are willing to help students with their registration.

The interviews were conducted with Student Administration Department staff to obtain qualitative data. Four administrative staff were selected for interviews and the data collected was analysed using (NVIVO version 12). The student administration staff indicated that they deal with student complaints and registration challenges every day. Several activities during student registration were described, including assisting in student registration, printing proof of registration, and attending to other registration-related inquiries.

Several registration challenges were discovered, and these included late NSFAS payments, which affect late account clearance for registration; incorrect module selection for registration; and capturing incorrect biographical information. The departmental staff indicated that they try their best to deliver as per student-centeredness, but they are not able to control the operation of other sections involved in student registration. All these challenges result in late student registration, which then has to be completed manually and involves a lot of paperwork. It was also been noted that late registrations result in late class resumption.

5.2 CONCLUSION

The findings of this study indicated some challenges faced by students during the registration period at the DUT Midlands Campuses of Indumiso and Riverside. Many of these challenges are related to funding (NSFAS); incorrect module submission/registration; and inaccurate biographical information, which all result in late registrations.

The Department of Student Administration tries its best to deliver its services according to the policy of student-centeredness, and the quantitative analysis supports this. However, they still find it difficult to fully assist all students, as other departments are responsible for aspects associated with registration. The Finance Department has to process and clear student accounts, and this is delayed by late NSFAS payments. It has been revealed that the Student Administration Department is not solely responsible for registration, but other departments do not take full responsibility to assist. This indicates poor teamwork among involved departments. An improvement in teamwork should result in building a proper registration mechanism.

5.3 RECOMMENDATIONS

The Student Administration Department, as part of the Faculty Office, therefore, needs to communicate its needs and services by holding orientations, sessions, and online platforms, such as notices, emails, online orientations, and communicate.

The Student Administration Department must also define what its obligations and purposes are, and outline its responsibilities as a service provider. Clearing and payment of fees, particularly from the

NSFAS, will help address delays and challenges during student registration. The departments and units involved in student registrations should work together and seek ways to bridge this gap.

Academic departments, faculty offices and administration departments need to work together in a well-defined academic structure. The creation of clear guidelines will minimise the challenges of incorrect module registration. Proper pre-requisite and co-requisite subject system settings will prevent students from registering for incorrect subjects. A system needs to be developed so that it is clear when one subject cannot be taken if another subject is not passed or completed.

It is also essential that student biographical information be always up to date to improve communication with students.

The limitations of this study are presented below.

5.4 LIMITATIONS

There was very limited literature that focused specifically on the challenges of university student registration, so there was little for the researcher to rely on. Recruiting students as participants for this study was not easy due to the COVID-19 pandemic, as most of the students were not on campus. Postgraduate students were not easy to reach, as all communication was via email. Therefore, limited responses were obtained from them.

5.5 SUGGESTIONS FOR FUTURE RESEARCH

Due to the COVID-19 pandemic, which continues, and the importance of online platforms as the only solution, the challenges faced by international students when it comes to registration should also be researched.

5.6 CONCLUDING AND REMARKS

In general, the findings of this study provided an in-depth perspective of how students perceive the service provided by the student administration when it comes to registration.

The findings presented in this study will benefit the university and the student administration regarding the improvement of student registration services and overcoming currently identified challenges.

This study acknowledges the input of the DUT Research Office for permitting this study to be conducted under its auspices. This study also acknowledges the input from the students, as well as the student administration staff for their vital participation and support.

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Appendix A: Permission to conduct Research at the DUT



04 February 2020

Director: Research and Postgraduate Support Directorate
Durban University of Technology
Tromso Annex, Steve Biko Campus
P. O. Box 1334
DURBAN
4000

Request for Permission to Conduct Research

Dear Sir/Ma,

My name is Emmanuel Thabani Nzimande a Master of Management Sciences (Business Administration) student at the Durban University of Technology. The research I wish to conduct for my Masters dissertation; involves **Challenges with student's registration processes at the Durban University of Technology: A case study of Midlands campuses of Riverside and Indumiso**

I am hereby seeking your consent to conduct research with the administrative staff and students at the Durban University of Technology to enable me to gather data for the study. The participants will include administrative staff of Student Administration and registered students at the Midlands Campuses of Indumiso and Riverside.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me at 082 302 1062 and thabaninzimande@live.com. Thank you for your time and consideration in this matter.

Yours sincerely,

Emmanuel Thabani Nzimande
Durban University of Technology

Appendix B: Letter of Information



LETTER OF INFORMATION

Title of the Research Study: Challenges with Student's registration processes at the Durban University of Technology: A case study of Midlands Campuses of Riverside and Indumiso.

Principal Investigator/s/researcher: Emmanuel Thabani Nzimande, Degree of Bachelor of Technology in Office Management and Technology

Supervisor: Dr O. M. Fagbadebo, PhD

Co-supervisor: Dr P. P. Mthlane, MTech (Public Management)

Brief Introduction and Purpose of the Study:

Outline of the Procedures: Nowadays, service delivery has become a challenge in local communities. However, this challenge has escalated to local schools as well as universities. In South Africa, a student protest against poor services-related issues almost on daily basis. This study aims to investigate challenges faced by the students in registration processes at the Midlands Campuses of the Durban University of Technology. This study will be using mixed methods, which comprise of qualitative and quantitative approaches. Data will be collected from Students and Staff at the Midlands Campuses of the Durban University of Technology. I would like you to fill the questionnaires. I would also request you to spare me some of your time for an interview for data collection. You have been selected randomly among the other participants in the university.

Risks or Discomforts to the Participant: There is no risk or discomfort associated with your participation in this research.

Benefits: This study will benefit you and the university administration, in identifying registration challenges, to improve registration processes at the university. The benefit of this research to me as a researcher is the award of a Master's Degree in Management Science (Business Administration), and subsequent publications of the outcomes in accredited publishing outlets.

Reason/s why the Participant May Be Withdrawn from the Study: Your participation in this study is voluntary, and you may withdraw from the study at any stage without any adverse consequence.

Remuneration: There will be no remuneration for your participation in this study.

Costs of the Study: You are not expected to cover any cost for this study.

Confidentiality: I hereby assure you that your responses will be treated with the utmost confidentiality. Your identity will be protected and will not be disclosed to anyone. You are not expected to print your name or any personal details on the questionnaires.

Research-related Injury: I also assure you that you will not suffer any injury as a result of your participation in this study.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher on 082 302 1062/ 031 260 2011 or supervisor: Dr O. M. Fagbadebo, on 0611533824 or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the DVC: Research, Innovation and Engagement Dr L. Z. Linganiso on 031 373 2576/77

General:

Potential participants must be assured that participation is voluntary and the approximate number of participants to be included should be disclosed. A copy of the information letter should be issued to participants. The information letter and consent form must be translated and provided in the primary spoken language of the research population e.g. isiZulu.

Appendix C: Covering Letter



Faculty of Management Sciences

Department of Entrepreneurial Studies and Management

Date: 21 February 2020

Dear Participant

I am studying for a Master of Management Sciences in Business Administration, in the faculty of Management Sciences at the Durban University of Technology. The title of my research is **Challenges with student registration processes at the Durban University of Technology: A case study of Midlands Campuses of Riverside and Indumiso.**

Please complete the attached questionnaire to enable me to gather data for my research. This questionnaire is designed to gather staff and student perceptions and expectations regarding challenges in student registration processes at the Durban University of Technology of Midlands campuses. The information you provide will be kept strictly confidential. Only the supervisor and the researcher will have access to the completed questionnaires. Please be assured that you will remain completely anonymous throughout the research process and in any reporting or write-ups related to my research.

Follow-up semi-structured interviews may be conducted where responses on the questionnaire are unclear, incomplete or where further or more detailed information is required.

Please read and complete the attached Consent Form.

Thank you very much



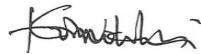
Emmanuel Thabani Nzimande

Email: thabaninzimande@live.com/nzimandee@ukzn.ac.za

Student No.: 20618720

MTech: Business Administration

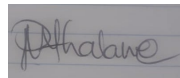
Faculty of Management Sciences



Supervisor / Promoter

Dr: O.M. Fagbadebo

Email: omololuf@dut.ac.za



Co-Supervisor/Co-Promoter

Dr P. P. Mthlane

Email: gumedpp@dut.ac.za

Appendix D: Consent Form

CONSENT



Statement of Agreement to Participate in the Research Study:

I hereby confirm that I have been informed by the researcher, Emmanuel Thabani Nzimande about the nature, conduct, benefits and risks of this Study-Research Ethics Clearance

Number:.....

I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.

I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.

In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.

I may, at any stage, without prejudice, withdraw my consent and participation in the study.

I have had sufficient opportunity to ask questions and (of my own freewill) declare myself prepared to participate in the study.

I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant

Date

Time

Signature/RightThumbprint

I, ET Nzimande, confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher

Date

Signature

Full Name of Witness (If applicable)

Date

Signature

Full Name of Legal Guardian (If applicable)

Date

Signatur

Appendix E: Questionnaire

SECTION A: BIOGRAPHICAL DETAILS

The Durban University of Technology has some students who are registered for different programmes at the Midland Campuses of Indumiso and Riverside and these students are coming from different backgrounds and races. Kindly complete this section to evaluate your registration details.

What is your age?

Mark only one oval

- 16 – 20 years
- 21 – 25 years
- 26 – 31 years
- 32 – 37 years
- 38 – 43 years
- Other _____

What is your home language?

Mark only one oval

- English
- Zulu
- Sesotho
- Xhosa
- Other _____

What type of registration have you enrolled for?

Mark only one oval

- Diploma: Full time registered
- Diploma: Part time registered
- BTech: Full time registered
- BTech: Part time registered
- Advanced Diploma: Full time registered
- Advanced Diploma: Part time registered
- Masters: Full time registered
- Masters: Part time registered
- PhD: Part time registered
- In the process of registering

Which faculty are you registered under?

Mark only one oval

- Accounting and Informatics
- Art and Design
- Engineering and Built Environment
- Health Sciences
- Management Sciences

How long have you been registered for this qualification?

Mark only one oval

- 0 – 6 Months
- 7 – 13 Months
- 14 – 20 Months
- 21 – 27 Months
- 28 – 34 Months
- 35 – 41 Months

Other: _____

How often do you use the service of Student Administration?

Mark only one oval

- When I need Information
- Each week
- Once a month
- Once a term
- Once a semester
- When I have registration related issues
- Everyday
- Other: _____

Do you find it easier to register online or manually?

Mark only one oval

- Online
- Manually

If you prefer to register “manually”, what is the reason?

Please indicate your service time for registration.

Mark only one oval

- 0 - 15 Minutes
- 16 - 30 Minutes
- 31- 45 Minutes
- 46 – 60 Minutes
- Other: _____

SECTION B: EXPECTATIONS AND PERCEPTIONS

Based on your experience as a service receiver, please think about the service that you experience and the kind of service which you would like to experience. Base from your experience, kindly indicate your level of agreement as they apply to your EXPECTATIONS AND PERCEPTIONS of this service quality provided by Student Administration Department at the Midlands Campus of Indumiso and Riverside.

Please place a cross(X) next to relevant number regarding you EXPECTATIONS AND PERCEPTIONS for each statement that truly reflects your feelings where?

1= completely agree

2= agree

3 = neutral

4 = disagree

5 = completely disagree

Section B (1): Reliability - Ability to perform the promised service dependably and accurately

DUT Student Administration provide registration information as promised

	1	2	3	4	5
My expectation					

My perception					
---------------	--	--	--	--	--

DUT Student Administration provide registration service right for the first time

	1	2	3	4	5
My expectation					
My perception					

The registration process provided by DUT Student Administration satisfied by needs

	1	2	3	4	5
My expectation					
My perception					

Section B (2): Responsiveness - Willing to help students and provide prompt service

DUT Registration is always reliable and efficient.

	1	2	3	4	5
My expectation					
My perception					

The information provided by Student Administration regarding student registration is always correct.

	1	2	3	4	5
My expectation					
My perception					

When students encounter problems regarding registration, the Student Administration staff intervenes or assists.

	1	2	3	4	5
My expectation					
My perception					

The registration information provided by Student Administration is accurate.

	1	2	3	4	5
My expectation					
My perception					

Our Student Administration Department assists in all registration issues.

	1	2	3	4	5
My expectation					
My perception					

The Student Administration assists the student in the completion of registration forms

	1	2	3	4	5
My expectation					
My perception					

Student Administration assists with the printing of proof of registration

	1	2	3	4	5
My expectation					
My perception					

Section B (3): Empathy - Caring individualized attention the Student Administration office provides to its customers.

Student Administration staff members always welcome students on registration

	1	2	3	4	5
My expectation					
My perception					

The Student Administration provides personal attention to each student on registration

	1	2	3	4	5
My expectation					
My perception					

The Student Administration office has convenient operating hours during the registration period

	1	2	3	4	5
My expectation					
My perception					

It is easy to find help when registering at the DUT

	1	2	3	4	5
My expectation					
My perception					

The registration computer labs are fully assisting the student to complete their online web registration.

	1	2	3	4	5
My expectation					
My perception					

The registration staff has a neat and professional appearance.

	1	2	3	4	5

My expectation					
My perception					

Optional

Please be advised that you are only required to complete this section if you are willing to participate in an interview. You will only be contacted for the interview if more information or clarity is required regarding your response to the questionnaire.

Please rest assured that:

The information you provide will remain completely confidential.

Your details provided here will only be accessed by my supervisor and myself

This page will be removed from the main questionnaire before it is sent for analysis.

Please provide the following information: Name, email address and contact details

Thank you for your participation and your time in completing this questionnaire

Appendix F: Interview Questions

Administrative staff interview questions

The purpose of this interview is to collect data from Administration staff for the Master of Management Science (Business Administration).Tech Public Management research project titled:

Challenges with student’s registration processes at the Durban University of Technology: A case study of Midlands Campuses of Riverside and Indumiso

Section A: Biographical information questions

What position are you holding at DUT?	
What is your highest qualification?	
How many years have you been working at the DUT Student Administration Department?	
In what capacity are you employed at DUT? (Part-time or full-time)	

Section B: Registration Services provided by the Student Administration Department (kindly tick the appropriate box where necessary)

- How often do you deal with students? Once Week - Once a month - Everyday
- Can you tell me the various activities involved in the students’ registration exercise?-----

- -----
- Do you know of any challenges or contentious issues that students usually encounter during registration?-----

 - How often do students complain about the challenges relating to their registration?
Once per week

- Once a month - Everyday
 - As a staff of this department, what are your observations on the challenges relating to registration in the university?-----

 - What challenges do you normally face when it comes to registration at the DUT?-----

- -----
- One of the approaches for service delivery in the university is student centeredness. How feasible is this approach as far as students' registration is concerned?-----

-
- In your own view, what do you think would be the appropriate mechanisms to deal with the challenges relating to students' registration in the university?-----

Thank you for taking time to answer these questions.

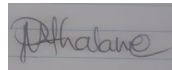


Emmanuel Thabani Nzimande



Supervisor

Dr O.M. Fagbadebo



Co-Supervisor

Mrs P. P. Mthlane

Appendix G: Statistics and results

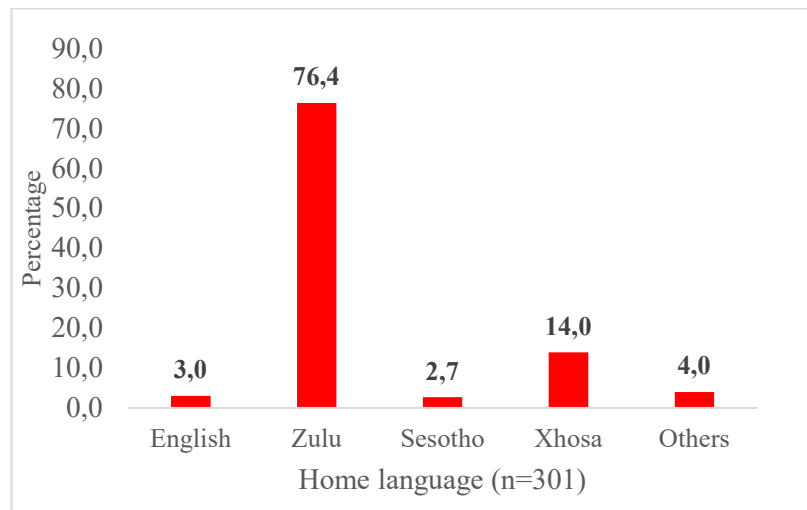
QUANTITATIVE ANALYSIS

Biographical information

Age group distribution

	Frequency	Percent	
Age group			
	6 – 20 years	109	36.2
	21 – 25 years	146	48.5
	26 – 31 years	33	11.0
	32-37 years	13	4.3
	Total	301	100.0

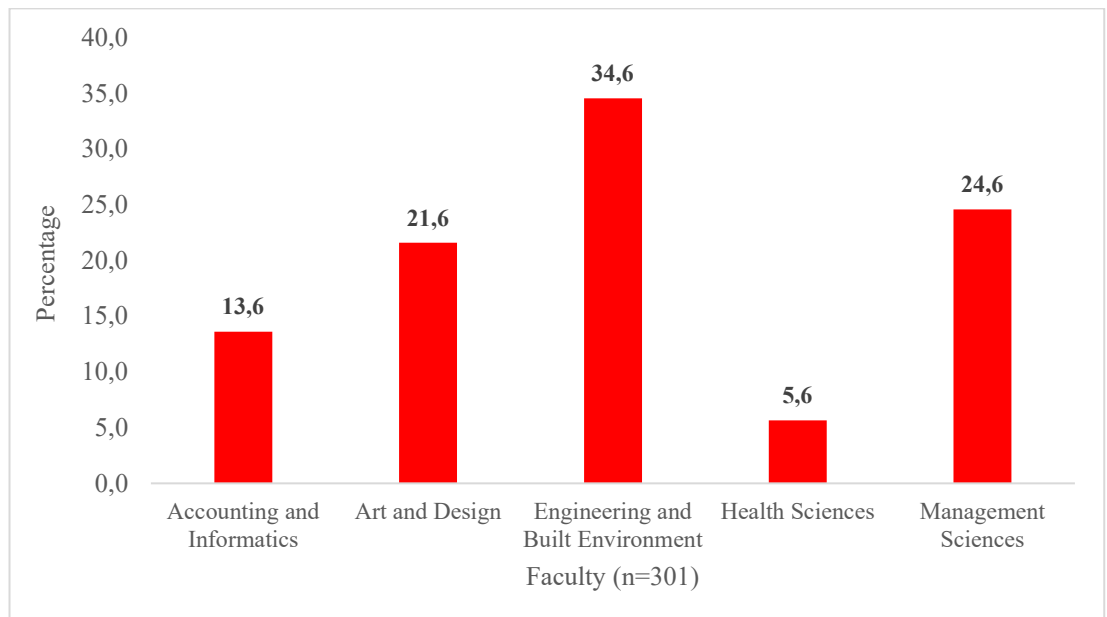
Home Language



Registered qualification

Qualification	Frequency	Percent
Diploma: Full time registered	241	80.1
Diploma: Part time registered	4	1.3
BTech: Full time registered	29	9.6
BTech: Part time registered	4	1.3
Advanced Diploma: Part time registered	20	6.6
Masters: Full time registered	1	.3
Masters: Part time registered	1	.3
PhD: Part time registered	1	.3
Total	301	100.0

Faculty



Qualification duration currently enrolled

		Frequency	Percent
Duration of registerd qualifciation	0 – 6 Months	33	11.0
	7 – 13 Months	126	41.9
	14 – 20 Months	25	8.3
	21 – 27 Months	61	20.3
	28 – 34 Months	25	8.3

	35 – 41 Months	31	10.3
	Total	301	100.0

Students Administration services

		Frequency	Percent
Frequency	When I need Information	161	53.5
	Each week	25	8.3
	Once a month	7	2.3
	Once a term	11	3.7
	Once a semester	15	5.0
	When I have registration related issues	70	23.3
	Everyday	11	3.7
	Others	1	.3
	Total	301	100.0

Registration type

		Frequency	Percent
Platf orm s	Online	253	84.1
	Manually	48	15.9
	Total	301	100.0

Registration service time.

		Frequency	Percent
Time	0 - 15 Minutes	96	31.9
	16 - 30 Minutes	66	21.9
	31- 45 Minutes	47	15.6
	46 – 60 Minutes	62	20.6
	Others	30	10.0
	Total	301	100.0

SERVICE QUALITY DIMENSIONS

Reliability service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std	Factor loading	Mean	Std	Factor loading	
DUT Student Administration provides adequate registration information that assisted you to register	3.79	1.16	0.837	3.15	1.08	0.816	-0.64
DUT Student Administration Department provides registration services right for the first time	3.83	1.17	0.864	3.31	1.16	0.817	-0.52
The registration processes provided by the DUT Student Administration Department are satisfactory	3.73	1.17	0.841	3.22	1.20	0.783	-0.51
Average score	3.78	1.17		3.23	1.15		-0.56

Demographic and reliability of service quality dimension

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.87±1.01	3.21±0.90
	21 – 25 years	3.75±1.00	3.23±0.93
	26 – 31 years	3.84±1.11	3.15±1.04
	32-37 years	3.67±0.89	3.49±0.78
	Sig.	0.748	0.730
Language	English	4.04±0.95	2.63±0.90
	Zulu	3.80±1.01	3.23±0.91
	Sesotho	3.75±1.14	3.75±0.75
	Xhosa	3.86±0.84	3.38±0.86
	Others	3.53±1.06	2.97±1.23
	Sig.	0.813	0.076
Qualifications	Diploma: Full time registered	3.83±1.00	3.25±0.94
	Diploma: Part time registered	2.75±0.32	3.42±0.74
	B Tech: Full time registered	3.97±0.84	3.18±0.84
	B Tech: Part time registered	3.08±0.74	3.33±0.47
	Advanced Diploma: Part time registered	3.60±1.07	2.93±1.07
	Masters: Full time registered	2.67±0.00	2.67±0.00
	Masters: Part time registered	3.33±0.00	3.33±0.00
	PhD: Part time registered	4.67±0.00	3.67±0.00
	Sig.	0.145	0.882
Faculty	Accounting and Informatics	3.81±0.93	3.42±0.83
	Art and Design	4.23±0.82	3.38±0.89
	Engineering and Built Environment	3.43±1.08	3.00±0.98
	Health Sciences	4.29±0.83	3.24±1.05
	Management Sciences	3.84±0.86	3.30±0.85
	Sig.	0.000	0.034
Duration of qualification registration	0 – 6 Months	3.62±1.04	3.16±1.08
	7 – 13 Months	4.00±0.89	3.41±0.84
	14 – 20 Months	3.47±0.88	3.28±0.81
	21 – 27 Months	3.75±1.00	2.96±1.01
	28 – 34 Months	3.04±1.20	2.89±1.03
	35 – 41 Months	4.18±0.79	3.29±0.75
	Sig	0.000	0.015

Responsiveness service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std.	Factor loading	Mean	Std.	Factor loading	
DUT Registration officers are always reliable and efficient, and willing to assist students.	3.85	1.23	0.800	3.20	1.31	0.722	-0.65
DUT Student Administration provides accurate information regarding student registration is always.	3.88	1.14	0.832	3.18	1.22	0.784	-0.70
When students encounter problems regarding registration, staff members of the Student Administration intervene or assist promptly	3.76	1.23	0.830	3.24	1.32	0.754	-0.52
Staff members of the Student Administration Department assist in all registration issues.	3.76	1.16	0.761	3.25	1.14	0.707	-0.51
Staff members of the Student Administration Department assist students regarding completion of registration forms	3.79	1.25	0.874	3.47	1.21	0.745	-0.32

Student Administration Department assists with printing of proof of registration	3.71	1.24	0.808	3.57	1.28	0.594	-0.14
Average score	3.79	1.21		3.32	1.25		-0.47

Demographic and responsiveness of service quality dimension

Socio-demographic	Expectations	Perceptions
-------------------	--------------	-------------

		M±SD	M±SD
Age group	6 – 20 years	3.90±0.95	3.37±0.88
	21 – 25 years	3.78±0.97	3.28±0.90
	26 – 31 years	3.82±1.15	3.16±1.01
	32-37 years	3.95±0.95	3.73±0.64
	Sig.	0.742	0.222
Language	English	4.39±0.69	2.98±0.93
	Zulu	3.84±0.99	3.29±0.94
	Sesotho	3.79±0.94	3.88±0.52
	Xhosa	3.72±1.02	3.34±0.71
	Others	3.71±0.79	3.60±0.77
	Sig.	0.452	0.221
Qualifications	Diploma: Full time registered	3.85±0.99	3.33±0.91
	Diploma: Part time registered	3.13±0.42	3.75±0.57
	BTech: Full time registered	3.88±0.89	3.16±0.73
	BTech: Part time registered	3.96±0.79	3.63±0.55
	Advanced Diploma: Part time registered	3.61±1.15	3.15±1.09

	Masters: Full time registered	3.67±0.00	3.83±0.00
	Masters: Part time registered	3.17±0.00	3.83±0.00
	PhD: Part time registered	5.00±0.00	3.83±0.00
	Sig.	0.630	0.771
Faculty	Accounting and Informatics	4.06±0.83	3.52±0.88
	Art and Design	4.25±0.86	3.40±0.97
	Engineering and Built Environmen t	3.46±1.00	3.12±0.91
	Health Sciences	4.15±0.79	3.46±0.93
	Manageme nt Sciences	3.79±0.98	3.38±0.78
	Sig.	0.000	0.084
Duration of qualification registration	0 – 6 Months	3.92±0.88	3.22±1.00
	7 – 13 Months	3.96±0.93	3.51±0.85
	14 – 20 Months	3.61±0.88	3.42±0.71
	21 – 27 Months	3.71±1.01	3.19±0.90

	28 – 34 Months	3.07±1.21	2.85±1.06
	35 – 41 Months	4.26±0.72	3.18±0.76
	Sig	0.000	0.007

Empathy service quality dimension

Items	Expectations			Perceptions			P-E Mean Gap score
	Mean	Std	Factor loading	Mean	Std	Factor loading	
Staff members at the Student Administration Department always welcome students on registration.	3.84	1.28	0.860	3.34	1.30	0.733	-0.5
The Student Administration Department provides personal attention to each student on registration.	3.83	1.23	0.827	3.22	1.23	0.689	-0.61
The Student Administration Department has convenient operating hours during registration period.	3.82	1.14	0.785	3.17	1.18	0.751	-0.65
Students find it easy to find help when registering at the DUT.	3.84	1.25	0.864	3.18	1.35	0.773	-0.66
The facilities at the registration computer labs are adequate to facilitate the timeous completion of online registration.	3.99	1.15	0.748	3.45	1.18	0.665	-0.54
The registration staff are professional in	3.87	1.22	0.865	3.35	1.32	0.699	-0.52

their treatment of students.							
Average score	3.87	1.21		3.29	1.26		-0.58

Demographic and empathy of service quality dimension

Socio Table 4.13: Association between empathy dimension and respondents socio-demographic variables -demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.91±0.95	3.30±0.88
	21 – 25 years	3.80±0.99	3.29±0.94
	26 – 31 years	3.87±1.13	3.19±0.89
	32-37 years	4.12±1.19	3.32±0.96
	Sig.	0.658	0.945
Language	English	4.31±0.74	2.98±0.69
	Zulu	3.86±1.03	3.22±0.95
	Sesotho	3.69±1.07	3.73±0.84
	Xhosa	3.86±0.89	3.51±0.71
	Others	3.81±0.95	3.60±0.77
	Sig.	0.714	0.087
Qualifications	Diploma: Full time registered	3.88±1.00	3.29±0.91
	Diploma: Part time registered	3.38±0.97	3.25±0.63

	BTech: Full time registered	3.91±0.89	3.24±0.79
	BTech: Part time registered	4.08±1.29	3.63±0.83
	Advanced Diploma: Part time registered	3.66±1.28	3.02±1.11
	Masters: Full time registered	3.17±0.00	4.50±0.00
	Masters: Part time registered	4.33±0.00	4.00±0.00
	PhD: Part time registered	5.00±0.00	4.50±0.00
	Sig.	0.776	0.474
Faculty	Accounting and Informatics	4.06±0.94	3.23±0.95
	Art and Design	4.25±0.83	3.42±0.94
	Engineering and Built Environment	3.57±1.07	3.19±0.88
	Health Sciences	4.10±0.84	3.45±0.95
	Management Sciences	3.78±1.00	3.28±0.88

	Sig.	0.000	0.525
Duration of qualification registration	0 – 6 Months	3.93±0.91	3.20±0.98
	7 – 13 Months	3.99±0.95	3.43±0.86
	14 – 20 Months	3.68±0.89	3.43±0.58
	21 – 27 Months	3.70±1.06	3.16±0.97
	28 – 34 Months	3.23±1.22	2.89±1.07
	35 – 41 Months	4.24±0.81	3.19±0.88
	Sig	0.002	0.057

SERVICE QUALITY DIMENSIONS RESULTS SUMMARY TABLE

Items	Dimensions	Cronbach alpha score	
		Expectation	Perception
3	Reliability	0.804	0.727
6	Responsiveness	0.897	0.811
6	Empathy	0.907	0.813
15	Overall service quality	0.951	0.903

OVERALL SERVICE QUALITY GAP

Overall ServQual Index score

Dimensions	Score
Reliability	-0.56

Responsiveness	-0.47
Empathy	-0.58
Overall ServQual	-0.54

Analysis of the reliability services gap

The overall average gap score for the dimension reliability services was -0.56. The highest contributor (-0.64) to this difference between expectations and perceptions in this dimension was the statement *Dut student administration provides adequate registration information that assisted you to register*. This suggests that student administration provides adequate registration information for the student registration.

Analysis of the responsiveness services gap

The overall average gap score for the dimension responsiveness services was -0.47. The highest contributor (-0.70) to this difference between expectations and perceptions in this dimension was the statement *Dut student administration provides accurate information regarding student registration is always*. This suggests that student administration provides accurate student information.

Analysis of the empathy services gap

The overall average gap score for the dimension empathy services was -0.58. The highest contributor (-0.66) to this difference between expectations and perceptions in this dimension was the statement *Students find it easy to find help when registering at the DUT*. This suggests that the DUT student administrative staff are always willing to help students with their registration.

RELATIONSHIP BETWEEN OVERALL SERVICE QUALITY AND SOCIO-DEMOGRAPHIC VARIABLES

One-way analysis of variance was performed to determine whether there is a difference in the overall service quality expectation and perceptions and the

respondent's demographic characteristics (age, home language, registered qualification, faculty, and the duration of registered qualification).

The ANOVA value reveals that there was no statistically significant difference measured for the respondent's expectations and perceptions with regards to their age group, and home language, and qualifications ($P>0.05$). While there were no differences in their perception and the respondents' faculty ($P>0.05$), there were, however, significant differences in their expectations and the respondents' faculty ($p<0.001$). The expectation for the Art and Design was the highest ($M=4.24\pm0.78$) while that of the Engineering and Built Environment was the lowest ($M=3.49\pm0.96$). This suggests that respondents from the Art and Design had a very good expectation of service quality when compared against those from the Engineering and Built Environment.

In terms of the duration of qualification registration, the ANOVA test reveals a statistically significant difference in the overall service quality for both expectations ($p<0.001$) and perception ($p<0.01$). Respondents registered within 35-41 months for the qualifications had the highest expectations (4.23 ± 0.72) while the lowest expectation was among those registered within 28-34months (3.11 ± 1.18). This suggests that respondents that registered within 31-41 had a very good expectation on the service quality when compared to those registered within 28-34months.

For perception, respondents registered within 7-13 months were the highest (3.45 ± 0.72) while the lowest was measured among the respondents that registered within 28-34months (2.88 ± 0.99). This suggests that the perceptions of the respondents that registered within 7-13 months were good when compared to those registered within 28-34 months.

Socio-demographic		Expectations	Perceptions
		M±SD	M±SD
Age group	6 – 20 years	3.90±0.91	3.29±0.78

	21 – 25 years	3.98±0.89	3.27±0.80
	26 – 31 years	3.85±1.07	3.17±0.87
	32-37 years	3.91±0.94	3.51±0.71
	Sig.	0.763	0.611
Language	English	4.25±0.70	2.86±0.77
	Zulu	3.83±0.94	3.24±0.83
	Sesotho	3.74±1.02	3.78±0.64
	Xhosa	3.81±0.82	3.41±0.60
	Others	3.68±0.88	3.39±0.78
	Sig.	0.689	0.110
Qualifications	Diploma: Full time registered	3.85±0.92	3.29±0.80
	Diploma: Part time registered	3.08±0.44	3.47±0.42
	BTech: Full time registered	3.92±0.80	3.19±0.69
	BTech: Part time registered	3.71±0.92	3.53±0.34
	Advanced Diploma: Part time registered	3.62±1.13	3.03±0.98
	Masters: Full time registered	3.17±0.00	3.67±0.00

	Masters: Part time registered	3.61±0.00	3.70±0.00
	PhD: Part time registered	4.89±0.00	4.00±0.00
	Sig.	0.532	0.750
Faculty	Accounting and Informatics	3.98±0.85	3.39±0.76
	Art and Design	4.24±0.78	3.40±0.86
	Engineering and Built Environment	3.49±0.96	3.10±0.80
	Health Sciences	4.18±0.77	3.38±0.88
	Managem ent Sciences	3.80±0.85	3.32±0.69
	Sig.	0.000	0.101
Duration of qualification registration	0 – 6 Months	3.82±0.87	3.19±0.96
	7 – 13 Months	3.98±0.85	3.45±0.72
	14 – 20 Months	3.59±0.78	3.38±0.57
	21 – 27 Months	3.72±0.93	3.10±0.81
	28 – 34 Months	3.11±1.18	2.88±0.99
	35 – 41 Months	4.23±0.72	3.22±0.69

	Sig	0.000	0.005
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4.5 VALIDATING THE SERVICE QUALITY DIMENSION

Factor analysis was performed to validate the three dimensions for both expectation and perception using both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

VALIDATING THE EXPECTATIONS OF SERVICE QUALITY

Using the eigenvalues-greater than-one, the PCA for the extracted items for respondents rating of their expectations of service quality reveal a clear dimension for reliability (Table 4.8), responsiveness (Table 4.10) and empathy (Table 4.12).

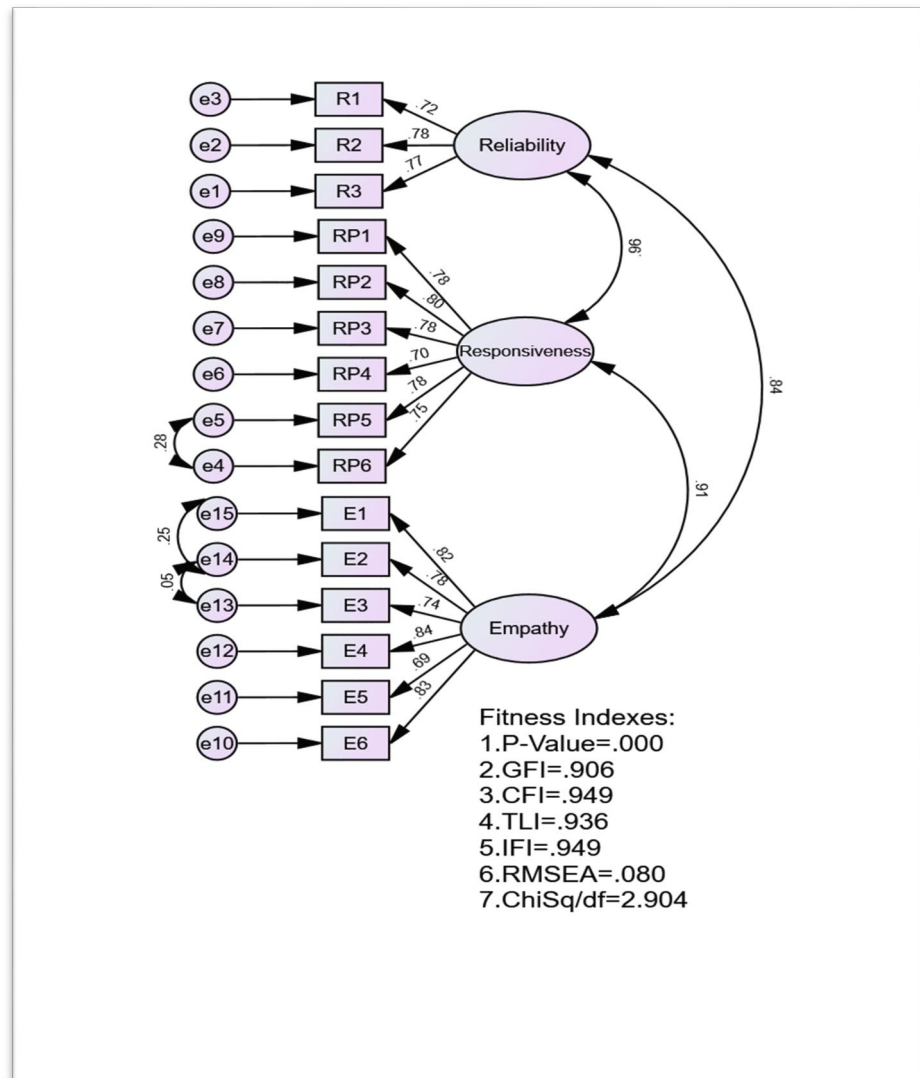
Confirmatory factor analysis (CFA) was computed to validate the EFA analysis. All items loading significantly on their hypothesised latent constructs. The CFA for the service quality expectations shows a good fit (Chi Square= 243.952; df=84; $p < 0.001$; $cmindf = 2.904$; $RMSEA = 0.080$; $GFI = 0.906$; $CFI = 0.949$; $TLI = 0.936$; $IFI = 0.949$). Figure 4.3 visibly confirmed that all items loaded significantly on their hypothesised latent constructs which demonstrate a constructs validity. Equally, the convergent validity was assessed using the average variance extracted (AVE). Hair et al. (2010) reveal that a standardised factor loading with a value of 0.50 or higher, provides strong evidence of convergent validity. As shown in Table 4.16, the average variance extracted (AVE) for three dimensions had factor loadings above the recommended value, which suggest adequate convergent validity.

Discriminant validity on the other hand was assessed using maximum shared square variance (MSM). Base on the rule of thumb, the AVE value should be greater than the MSV (Mimouni-Chaabane and Volle, 2010:34). The AVE values for the three dimensions lower than the measured MSV values, thus failing to support discriminant validity.

Convergent and discriminant validity of service quality expectations

	CR	AVE	MSV	MaxR(H)	Reliability	Empathy	Responsiveness
Reliability	0.804	0.578	0.924	0.807	0.760		
Empathy	0.906	0.617	0.828	0.912	0.837	0.785	
Responsive-ness	0.895	0.587	0.924	0.897	0.961	0.910	0.766

VALIDATING THE PERCEPTIONS OF SERVICE QUALITY

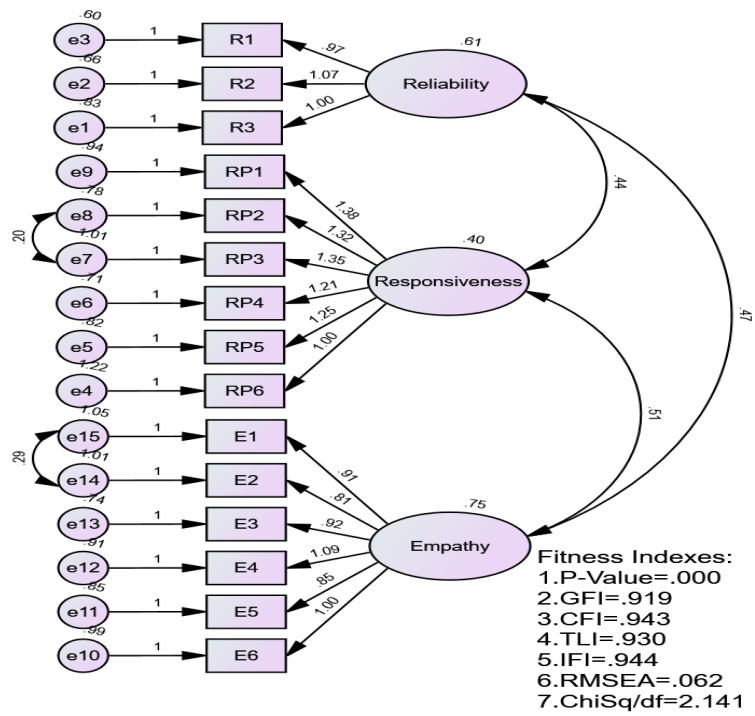


Using the eigenvalues-greater than-one, the PCA for the extracted items for respondents rating of their expectations of service quality reveal a clear dimension for reliability (Table 4.8), responsiveness (Table 4.10)and empathy (Table 4.12).

Confirmatory factor analysis (CFA) was computed to validate the EFA analysis. All items loading significantly on their hypothesised latent constructs. The CFA for the service quality expectations shows a good fit (Chi Square= 243.952; df=84; p< 0.001; cmindf= 2.141; RMSEA=0.062; GFI= 0.919; CFI=0.943; TLI =0.930; IFI=0.944). Figure 4.4 visibly confirmed that all items loaded significantly on their hypothesised latent constructs which demonstrate a constructs validity. Equally, the convergent validity was assessed using the average variance extracted (AVE). As shown in Table 4.17, the average variance extracted (AVE) for three dimensions had factor loadings below the recommended value, thus failing to support convergent validity. Similarly, the AVE values for the three dimensions were lower than the measured MSV values, thus failing to support discriminant validity.

Convergent and discriminant validity of service quality expectations

	CR	AVE	MSV	MaxR(H)	Responsive- ness	Reliability	Empathy
Responsive-ness	0.808	0.414	0.837	0.815	0.644		
Reliability	0.730	0.475	0.806	0.732	0.898	0.689	
Empathy	0.808	0.414	0.837	0.812	0.915	0.692	0.643

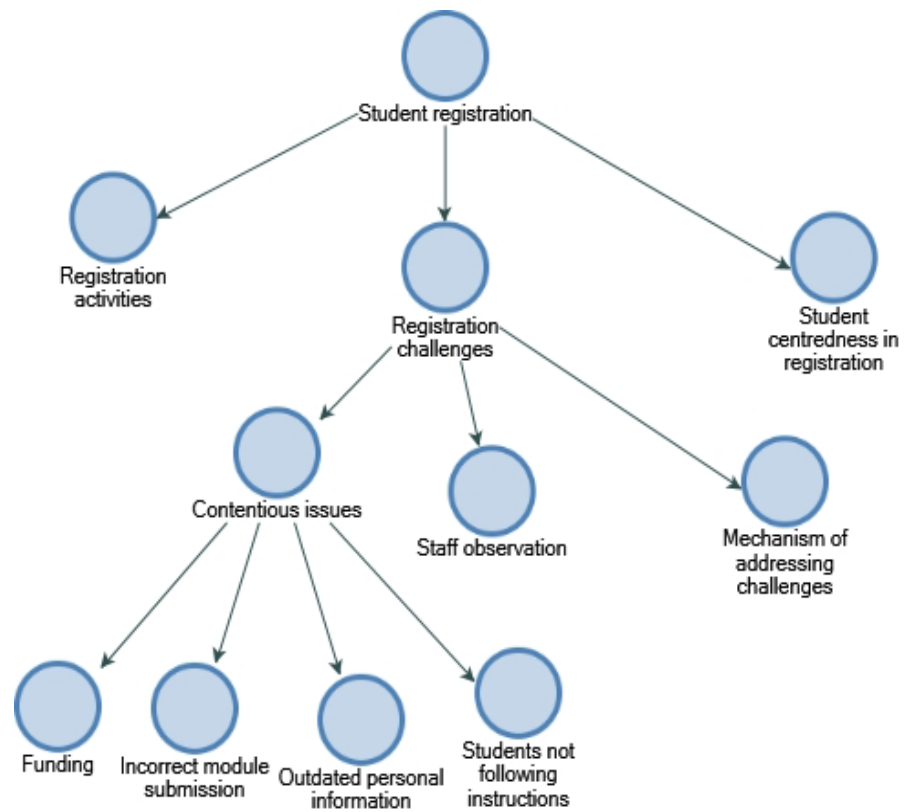


QUALITATIVE ANALYSIS

Biographic information of the participants

Partici pant	Employment status	Frequency of dealing with students	Frequency of student complaints	Highest qualification	Field	Job position	Work history duration
ADM1	Part-time	Everyday	Everyday	National diploma	Accounting	Administrative assistant	5 years
ADM2	Full-time	Everyday	Everyday	National diploma	Computer studies	Administrative clerk	10 years and more
ADM3	Full-time	Everyday	Once a month	B.Tech	Business administration	Administrative assistant	1 year
ADM4	Full-time	Everyday	Everyday	B.Tech	Office management	Administrative assistant	7 years

Emerging themes and subthemes from the interviews with selected administrative staff



Appendix H: Ethical Approval



*Directorate for Research and Postgraduate Support
Durban University of Technology
Tromso Annex, Steve Biko Campus
P.O. Box 1334, Durban 4000
Tel.: 031-3732576/7
Fax: 031-3732946*

18th August 2020
Mr Thabani E. Nzimande
c/o Entrepreneurial Studies and Management
Faculty of Management Sciences
Durban University of Technology

Dear Mr Nzimande

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted **Full Permission** for you to conduct your research "Challenges with student's registration at the Durban University of Technology: A case study of Midlands campuses of Riverside and Indumiso" at the Durban University of Technology.

The DUT may impose any other condition it deems appropriate in the circumstances having regard to nature and extent of access to and use of information requested.

We would be grateful if a summary of your key research findings are submitted to the IRIC on completion of your studies.

Kindest regards.
Yours sincerely

A handwritten signature in black ink, appearing to read 'L. Langaniso', is written over a horizontal line.

DR LINDA ZIKHONA LINGANISO
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE