Analysing service quality as a catalyst for customer satisfaction at TVET colleges

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ABSTRACT

This research delves into the pivotal role of service quality in driving customer satisfaction within TVET colleges. Drawing upon the constructs of service quality and customer satisfaction, along with associated theories, this study scrutinizes the relationship between service quality dimensions and student satisfaction in a Free State Province TVET college.

Employing SERVQUAL dimension-tangibility, assurance, reliability, responsiveness, and empathy as predictors and student satisfaction as the outcome variable.

The research aims to elucidate the existence and impact of service quality on business practices within TVET colleges. By pinpointing challenges in college practices, it highlights how service quality stands as a linchpin in the operational strategies of such institutions. This study operates within an educational milieu while driven by factual business insights, assumptions, and opinions. Here, students transcend the conventional 'learner' role, embodying the critical status of clients, where their satisfaction becomes a focal point in the research's accomplishments.

Methodologically, the research employs a quantitative approach. A total of 180 questionnaires were dispersed among students for comprehensive data collection. Utilizing both descriptive and inferential statistics, the study endeavors to address its research inquiries. Subsequently, an exploratory factor analysis was conducted to fulfill the study's objectives.

The study's outcomes are poised to provide actionable insights, aiding TVET managers in comprehending, forecasting, and meeting the needs of their clientele by enhancing service quality. Ultimately, the findings serve as a guide for the improvement of customer-centric practices within TVET colleges.
Keywords: Customer satisfaction, Expectations, Service quality, TVET colleges

DEDICATION

In loving memory and profound admiration, I dedicate this research to my late father, Teboho Prince Bosiu, my ultimate hero. Your unwavering dedication and commitment to my well-being laid the foundation for my academic pursuits. Despite facing adversities, you persevered, ensuring that education would be my gateway to a brighter future. Your fatherly care and encouragement shaped my path, and for that, I am eternally grateful.

Your absence has posed challenges, and the void left by your passing has been profound. Yet, in this grief and solitude, I take comfort in the immeasurable debt I owe you. Your selfless sacrifices and tireless efforts have left an indelible mark on my life. This research stands as a testament to your legacy and the enduring impact you've had on my journey.

Though you may no longer be with us, your love and guidance continue to resonate within me. I cherish the bond we shared, and your memory remains a source of strength and inspiration. Rest peacefully, knowing that your influence lives on in every achievement and aspiration I pursue. Your love sustains me, and I honor you with this dedication Mokwena oa Monyane oa Monaheng, motho oa Nkopane ea Mathunya.

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LIST OF ABBREVIATIONS

TVET	Technical Vocational Training and Education
COVID 19	Coronavirus Disease 2019
RSA	Republic of South Africa
SAFETSA	South African Further Education and Training
NSFAS	National Student Financial Aid Scheme
CST	Customer Satisfaction Theory
FTE	Full-Time Equivalents
NATED	National Accredited Technical Education Diploma
SASSA	South African Social Security Agency
NYDA	National Youth Development Agency
DHET	Department of Higher Education and Training

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CHAPTER 1 - NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

Student satisfaction continues to be a growing concern in institutions of higher learning. TVET colleges are continually flooded by nationwide student protests regarding the provision of service quality. Today, the demand for better service is fundamental and is expected to continue in varied service industries. According to Pillay *et al.* (2017:97), the TVET students' expectations consistently exceeded their perceptions of the level of service quality they received, thus leading to dissatisfaction with their TVET College.

In other words, the quality of service has not been able to add value or meaning when viewed from the customer's perspective. In the era of stiff competition, the COVID-19 pandemic, and hashtag movements such as the #FeesMustFall and the free education protests, this has prompted growing attention to research on service quality in TVET.

This research study aims to demonstrate how a thorough understanding of service quality, the existence of service quality, and customer satisfaction is key as a business practice for improved performance, growth, and development in TVET college. In the quest to know much about the various service quality challenges students experience, a self-administered survey was developed. The study utilized Quantitative research for data collection.

1.2 BACKGROUND TO THE PROBLEM

Section 29(1)(b) of the Constitution, states that everyone has the right to further education, which the state, through reasonable measures, must make progressively available and accessible (RSA, 1996:13). This is reflected by the announcement of free higher education for students with a financial threshold of R350000 combined family income per annum by the then president, Jacob Zuma (Zuma, 2017).

Despite the announcement, Technical Vocational Education and Training (TVET) colleges are yet to sufficiently and effectively respond to well-known and documented challenges affecting student satisfaction (Badenhorst & Radile, 2018:2; Buthelezi, 2018:3; Amedorme & Fiagbe, 2013:253) which include poor administration and management of financial systems, personal conflicts between councils and college management and the ineffective performance of the marketing and communication department to strengthen college relations with stakeholders.

According to Nzimande (2017), since the announcement of free higher education, administrating bursaries has always been a bone of contention. Students demand early payment for food, transport, and accommodation, resulting in so much unrest (SAFETSA, 2017:1). These unrests happen mainly because there is no common system in place among the NSFAS system, college registration, and student financial management to ensure effective and efficient distribution of funds at higher learning institutions (Mbatha, 2021:87).

Despite researchers exploring the concept of service quality from an affluent perspective in higher education (Mashenene, 2019:1; Suyanto *et al*., 2019:17; Hassan *et al*., 2019:77; Permana *et al*., 2020:230; Indrayani & Pardiyono, 2020:453), there remains a gap in education in meeting the demands and expectations of the end user. Parasuraman *et al*. (1985:41) have developed the SERVQUAL or Gaps Model to help companies better understand their customers' expectations and perceptions.

Coelho (2004:42) propounded that this model seeks to help managers understand the origin of the problems in quality and how they can improve them. Moosavei *et al*. (2017:448), assert that the SERVQUAL model is the most effective model for evaluating and measuring service quality in the educational sector. According to Parasuraman and Zeithaml (1990:29), the SERVQUAL model is applicable and suitable across a broad range of service industries.

Given the general background problems highlighted above, this illustrates the need to understand service quality and apply customer satisfaction theory. Based on Agbenu (2018:9) “customer satisfaction cannot be achieved by any organization until the issue of quality of service has been settled”. Service quality that does not meet customer

expectations can result in loss of sales from current customers and failure to attract new customers (Li & Li, 2019:9). Undertaking this research will help educational managers strive to achieve and maintain service quality at or above the level of consumer expectations.

1.3 PROBLEM STATEMENT

Drawing on the researcher's perspective, service quality in TVET colleges is constrained by the capabilities, facilities, and resources available at their disposal. Terblanche (2017:18) highlights that over 60% of TVET colleges grapple with management and leadership inadequacies, hampering their ability to effectively navigate the industry's challenges.

Due to ineffective administration and weak management within TVET colleges, the range of services provided could likely not meet the diverse needs of both the customer and the organization.

Daniel *et al.* (2017:111) reveal that in any business, shape or form service quality is at the forefront of customer satisfaction. Based on the afore condensed literature discussion, this research is informed by an interest in understanding the role of service quality and client satisfaction, operating in a terrain where failure is more common than success.

Thus, **the problem cumulates to the current disjuncture in the NSFAS system, college registration, and student financial management within TVET colleges**. This, results in student complaints, student dropout, and increased student protests, displaying a level of student dissatisfaction (DHET, 2019). This compounds the problem even more as money, learning time, and other resources are affected.

Furthermore, broader economic transformations, such as shifts in funding priorities and austerity measures, have also added strain to TVET colleges. According to the World Bank (2020), decreased funding allocations and heightened competition for resources have compelled colleges to operate within limited budgets, affecting investments in infrastructure, faculty development, and student support services.

These economic pressures exacerbate the aforementioned challenges, widening the gap between service delivery and stakeholder expectations within TVET colleges. Therefore, this needs to be addressed, as it can harm the growth of the college and its ability to render services to the satisfaction of customers.

1.4 LITERATURE STUDY

This section seeks to review what is known about customer satisfaction theories and present the day-to-day challenges faced by students. A thorough discussion on the constructs under investigation, service quality, and customer satisfaction is provided based on secondary data extrapolated from textbooks, journal articles, conference papers, the internet, and books.

1.4.1 Service quality

Rosha and Kaur (2018:30) explain service quality, as the total attitude that customers have toward a business, which is formed from several positive or negative service experiences, where the criteria are tangibles (physical evidence), reliability, responsiveness (quick response), assurance, and empathy. From the definition, service quality is difficult to control and judge, since a service cannot be examined by consumers' senses, the service becomes very difficult for consumers to evaluate before they purchase it.

Ali *et al.* (2018:18) purports, that service quality is a driver of satisfaction that is multidimensional. Hassan *et al.* (2019:78) state that service quality is a key factor in defining corporate image, customer satisfaction, and loyalty. This indicates that service quality constitutes many roles.

1.4.2 Customer satisfaction

According to Al-Sheeb *et al.* (2018:5), student satisfaction refers to a student's happiness or contentment with their college experience as an offering. This is because attaining customer satisfaction is the involvement of the whole company's departments. Alternatively, Pizam *et al.* (2016:26) claims that customer, or in this

instance, student satisfaction, is the state of an individual's happiness after receiving a service experience.

In other words, customer satisfaction communicates experiences that ensure an individual's happiness. Bryant and Bodfish (2014:112) argue that higher education institutions use student satisfaction as a key performance metric, and many universities have strict quality assurance procedures in place.

Khadka and Maharjan (2017:18) further argue that customer satisfaction ensures the customer has a desire to repurchase the product/service. This implies that the business stands to win clients over by its ability to attain satisfaction.

1.4.3 Theoretical framework

A theoretical framework serves as the guide on which to build and support your study an also provides the structure to define how you will philosophically, epistemologically, methodologically, and analytically approach the dissertation as a whole (Braidotti, 2019:13). The study was guided by the customer satisfaction theory (CST). The concepts in the study emerge from the theory of customer satisfaction. The researcher drew on concepts that satisfy both service quality and customer satisfaction.

The researcher discussed key concepts the study focused on. It is vital to demarcate the concepts the study focused on, as there are many concepts within the principle of customer satisfaction and service quality.

1.4.4 Customer satisfaction theories

To clarify the relationship between disconfirmation and fulfilment, a variety of theoretical methods have been used. Many hypotheses have been used to explain the mechanism by which satisfaction decisions are created by clients. There are still several theories surrounding the paradigm of satisfaction and service. The expectation disconfirmation theory implies that by analyzing actual products/services, customers form satisfaction decisions. However, three theories will be discussed, namely: Disconfirmation Paradigm, Cognitive Dissonance, and Contrast theory.

1.5 EXPECTANCY-DISCONFIRMATION PARADIGM

Developed by Richard Oliver in 1980, the theory of disconfirmation claims that “satisfaction is linked to the size and course of the experience of disconfirmation that arises as a result of measuring performance of service against expectations” (Oliver, 1980:460).

In the meta-analysis, Szymanski and Henard (2001:213) find that the disconfirmation model is the strongest predictor of customer satisfaction. According to Ekinci *et al.* (as cited by Oliver, 2008:5; Fang *et al.,* 2014:2085) Oliver's revised description of the theory of disconfirmation, says that "Satisfaction is the reaction of the guest to satisfaction".

Furthermore, it is a decision that a function of the product or service, or the product or service itself, has (or provides) a delightful level of consumption-related fulfilment, including levels of under- or over-fulfilment. Satisfaction is the outcome of direct product or service interactions, and it arises by contrasting impressions to a norm (e.g., expectations) (Baker & Crompton, 2000:789; Karjaluoto *et al.,* 2012:261).

Research also shows that the delivery of the service is more important than the outcome of the service process, and dissatisfaction with the service often happens simply when the perceptions of guests do not meet their expectations (Mattila & O’Neill, 2003:330).

Figure 1.1 is a schematic representation of the theory, involving expectations, perceived constructs, such as performance, expectation, disconfirmation, and the ultimate impact which is student satisfaction. The theory proposes that with every service/product purchase, there are performance standards.

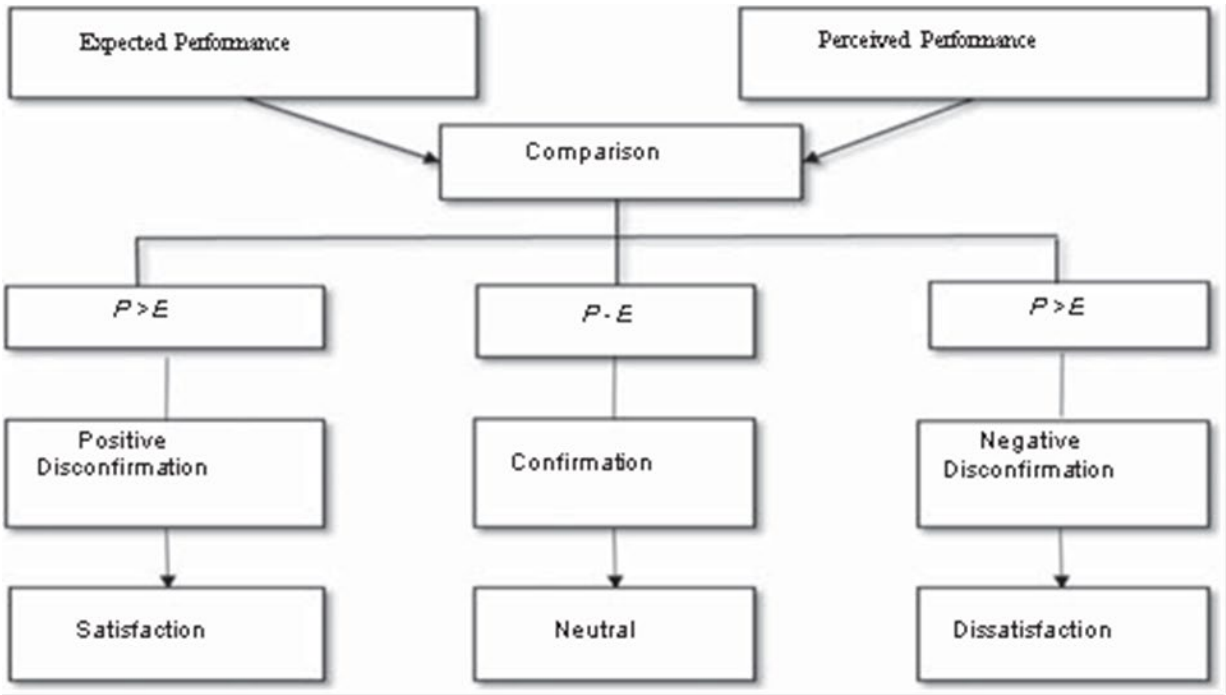


Figure 1: EXPECTANCY DISCONFIRMATION PARADIGM
SOURCE: Oliver (1993)

In summary, the disconfirmation model is relevant to understand levels of satisfaction, resulting from the actual service performance and pre-set service standards/expectations. A brief discussion of cognitive dissonance follows.

1.6 COGNITIVE DISSONANCE

Cognitive dissonance is an awkward sensation induced by simultaneously holding two opposing ideas. The theory of cognitive dissonance implies that by modifying their behaviours and values, or by justifying or rationalizing them, people have a motivational incentive to minimize dissonance (Festinger, 1957:480). Consumer behaviour research has rapidly embraced the phenomenon of cognitive dissonance, originally reported by Festinger in 1957.

Cognitive dissonance is defined as the distress that an individual experiences when confronted with extra information that is in conflict with his current ideas/values (Kim, 2011:48). Thomas and Monica (2010:40), revealed the high exploratory power in clarifying the condition of discomfort that buyers frequently encounter after making a purchase. Bolia *et al.* (2016:65) state that researchers have used the theory of cognitive dissonance in the marketing area extensively; mainly to address the post-purchase behaviour of the consumers at various stages and how it could be controlled or reduced.

For instance, some businesses, through salespersons provide guarantees and money-back guarantees to reduce cognitive dissonance with the prospect. Test driving a car is an example of how a dealership will help reduce a prospect's fear of buying a car.

Yuksel and Yuksel (2008:3) encapsulate that, the dissonance theory fails as a complete explanation of consumer satisfaction, however, it contributes to the understanding of the fact that expectations are not static in that they may change during a consumption experience. Figure 2 is a visual representation of the cognitive stage process involved.

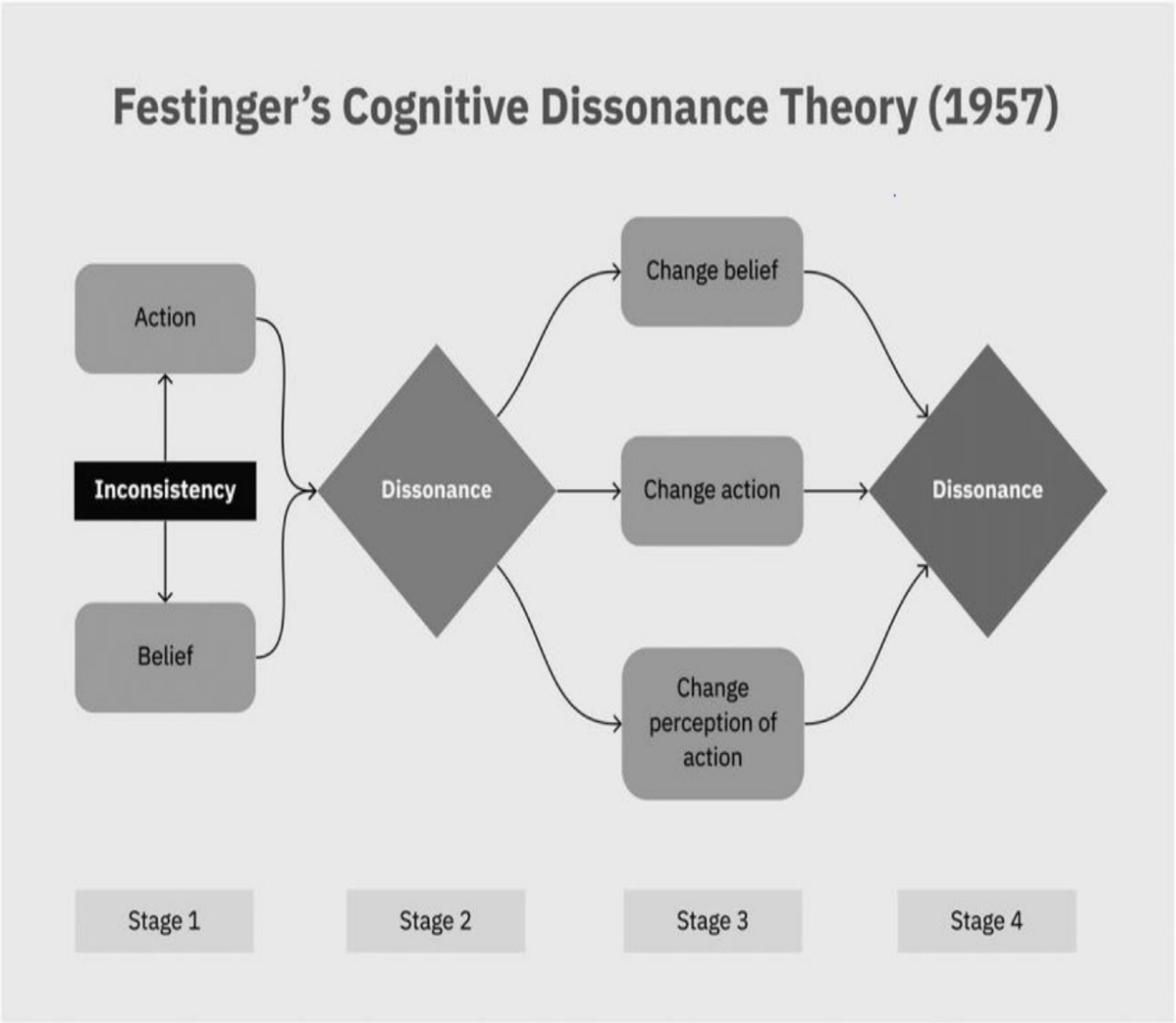


Figure 2: Cognitive Dissonance theory
SOURCE: (Festinger, 1957:491)

After making a purchase, consumers often feel uncertain about whether or not their purchase was the best choice. The feeling creates a state of Cognitive dissonance. Cognitive (mental) dissonance (analysis) is a process of internal, mental analysis. A brief discussion of the contrast theory will follow.

1.7 CONTRAST THEORY

Hovland *et al.* (1987:857) first introduced the principle of contrast theory. Contrast theory is defined by Yi (1990:69) that a customer who receives a product less valuable

than expected will magnify the difference between the product received and the product expected. The contrast theory provides an alternative view of the post-usage evaluation mechanism of the user than was provided in the assimilation theory in which post-usage assessments lead to opposite estimates of the impact on the fulfilment of expectations.

While assimilation theory suggests that customers would strive to minimize the difference between results and expectations, contrast theory maintains that a surprise effect exists that magnifies or exaggerates the difference (Cardozo, 1965:12). Any disparity in perception from expectations would be exacerbated in the direction of variance, according to the contrast principle.

The product/service will be rendered unsatisfactory if the company increases standards in its ads, only for the customer experience to be inferior to what has been promised (Oliver, 1977:18). In comparison, under-promising in ads and over-delivering would also exaggerate positive disconfirmation (Prathima, 2003:11).

1.7.1 Contrast theory-criticism

Several research in the marketing literature have provided some evidence for this hypothesis. Instead of minimizing dissonance, the contrast hypothesis of customer satisfaction predicts customer reaction; the consumer would magnify the discrepancy between expectation and product/service results (Oliver, 1977:57).

1.8 CONCEPTUAL FRAMEWORK

In this study, attributes were categorized into three factors, the Monetary Value of the Purchase (MV) that is Price and Financial aid; College Service and Convenience (CSC) includes a variety of programs, learning environment, Extra learning activities, and Student/Staff relation and Service Quality Image (SQ) represent Quality of teaching, College accessibility, and Preferred program availability.

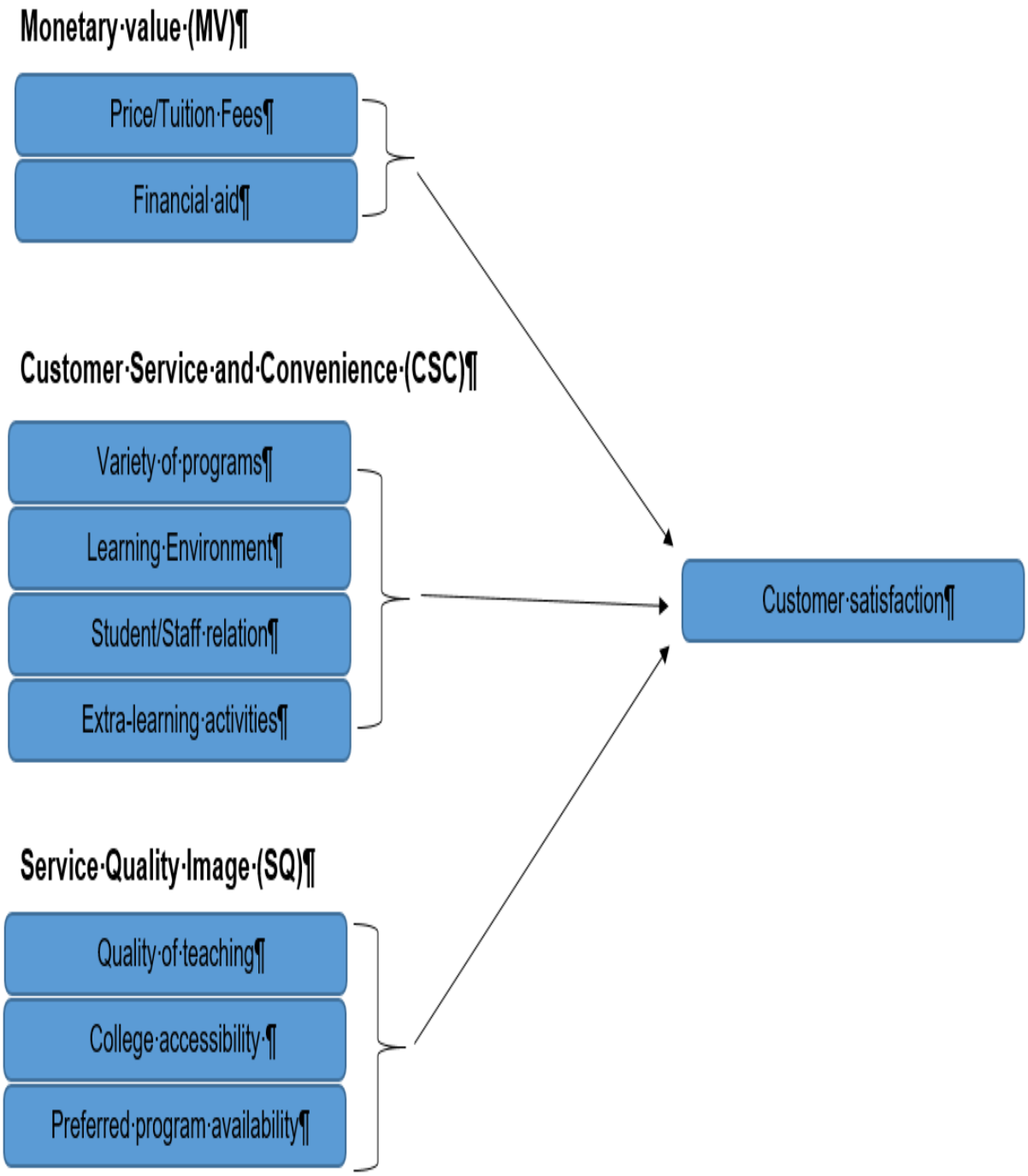


Figure 3: CONCEPTUAL FRAMEWORK

An elucidation of the key determinants of customer satisfaction

The literature study was concluded, and the following section identified research questions and objectives investigated.

1.8.1 RESEARCH OBJECTIVES

The proposed study's research questions and objectives were as follows:

1.8.2 Primary research question

How efficient and effective is service quality in the achievement of customer satisfaction at TVET colleges?

1.8.3 Secondary research questions

- What are the challenges that current students experience at TVET colleges? **(Tuition Fee, Financial aid, Variety of programs, Learning environment, Student/Staff Relations).**
- What are the problems or difficulties in service quality of TVET colleges? **(Quality of teaching, college accessibility, and preferred program availability).**
- How has service quality been significant to student satisfaction?
- Is there an association or relationship between service quality, student satisfaction, loyalty, and image in TVET colleges?

1.8.4 Primary objective

This study aims to investigate and analyze service quality as a catalyst for customer satisfaction at TVET colleges.

1.8.5 Secondary objectives

The research study achieved the primary objective by focusing particularly on the following secondary objectives**:**

- To identify challenges that current students experience at TVET colleges **(Tuition Fee, Financial aid, Variety of programs, Learning environment, Student/staff relations).**

- To determine problems and difficulties in service quality at TVET colleges.

- To determine the effect of service quality on student satisfaction in TVET colleges.

- To determine the association or relationship between service quality, student satisfaction, loyalty, and image in TVET colleges.

1.9 RESEARCH METHODOLOGY

According to Igwenagu (2016:31), a research methodology is a set of systematic methods used in research, as it guides research and the way it can be conducted; it outlines and analyses methods and shows their limitations and resources. The methodology chosen for the study will help explore the service quality challenges experienced by students at the college under study. Data was analyzed, conclusions were drawn, and decisions were made based on the conclusions.

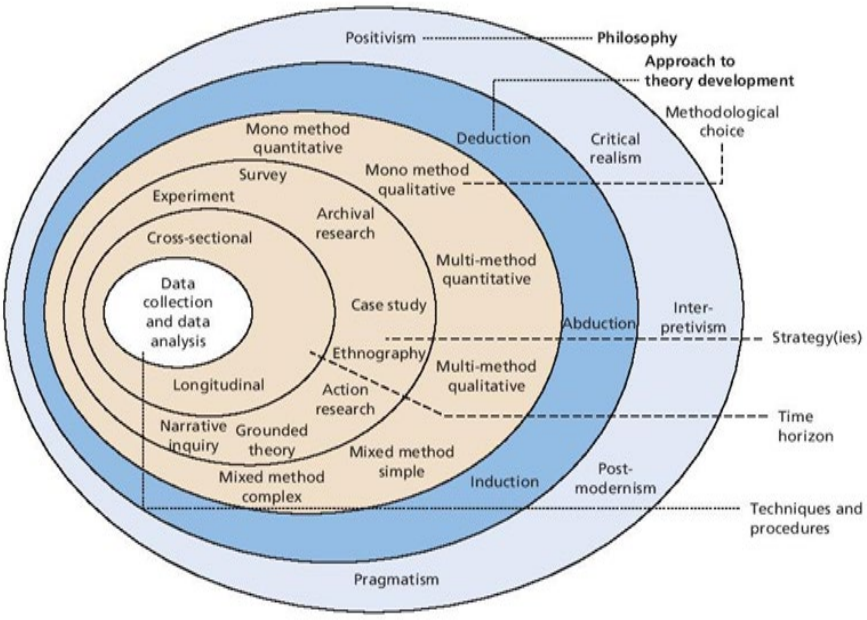


Figure 4: RESEARCH ONION

Source: (Saunders *et al.,* 2016:124)

1.10 RESEARCH PHILOSOPHY

According to Bryman *et al*. (2014:19), a paradigm is “a cluster of beliefs and dictates that, for scientists in a particular discipline, influence what should be studied, how research should be done, and how results should be interpreted." This study falls within the positivist research paradigm. Positivism is a philosophy that holds on "factual" knowledge obtained through observation (the senses), including measurement, as trustworthy.

The researcher's role in positivist studies is objectively limited to data collection and interpretation. Most problems can be solved using a combination of observation and measurement, as well as asking people about their experiences, views, and values. The goal of this research is to specify a plan to broaden our knowledge of an issue and enrich it to answer the research questions by gathering data from a sample of participants based on the investigation “Service quality as a catalyst for customer satisfaction.”

1.11 RESEARCH DESIGN

This study was based on a quantitative research approach. According to Ahmad *et al.* (2019:2), the quantitative method is a research approach that relies on the methods of natural sciences, which produces numerical data and hard facts. Furthermore, quantitative research is suitable for this study as, according to Creswell (2014:156), it enhances the generalization of the results. In other words, the most important strength of quantitative research is its ability to take into consideration a small population that represents the rest and generalize back to the population from which it was drawn.

Through, quantitative research, a study seeks to find the true answer by testing hypotheses using objective and impartial scientific methods (Davies & Fisher, 2018:21). Moreover, in quantitative research, we can measure most of the things and tell the story of research participants’ daily lives, within their culture. The study was carried out through a cross-sectional nature design.

The purpose of a cross-sectional study is a research tool to capture information based on data gathered for a specific point in time (Kesmodel, 2018:388). The data gathered, was gathered from a pool of respondents with varied characteristics and demographics known as variables. According to Hemed and Tanzania (2015), cross-sectional design has the following advantages and disadvantages.

1.11.1 Advantages of cross-sectional design

- The cross-sectional design is not expensive and does not take a long time to complete.
- The cross-sectional design contains multiple variables at the time of the data snapshot.
- The data can be used in a variety of studies.
- It can also be used to confirm or refute assumptions.

1.11.2 Disadvantages of cross-sectional design

- The cross-sectional design is ineffective for analysing behaviour over time.
- The cross-sectional design makes it difficult to discern cause and effect.
- Putting together the sampling pool based on the variables of the population being studied could be difficult.
- The snapshot's timing is not guaranteed to be representative.

1.11.3 Population of the study

According to Alvi (2016), population is defined as the aggregate elements that share common characteristics that are ideally required. The target population should be defined in terms of its elements, time, and sampling units. In this study, the researcher seeks to analyze service quality as a catalyst for customer satisfaction at TVET colleges. In this case, the population was the Goldfields TVET College student population.

Students from other colleges were not included because they would not be able to give an opinion about the quality of college services since they are not customers of the college. Pascoe (2017:133) notes that the accessible population consists of all the

individuals that can be included in the research study. The accessible population for the study includes both registered male and female students at Goldfields TVET College in the Free State Province.

The reason for choosing Goldfields Public College is that it has been faced with both student protests and lecturer strikes. These challenges are indicative of the concept of satisfaction; therefore, we do not have to go any further and view student challenges at the end of the course because we can already see their dissatisfaction during the course. Below is the map of the free-state province, showing the district location of the targeted population for the study.

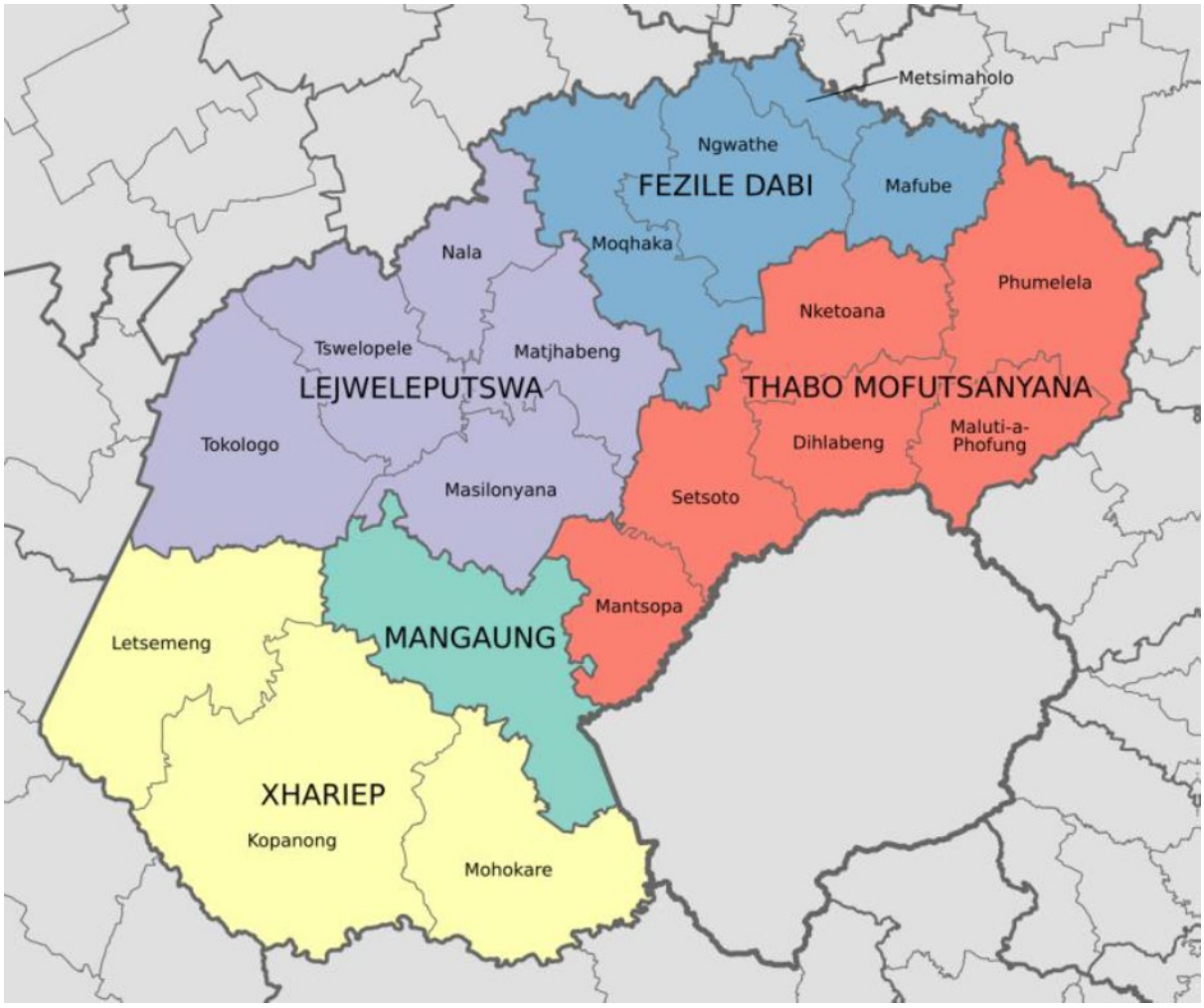


Figure 5: DESCRIPTION OF THE POPULATION

Source: www.google.co.za

Goldfields TVET College is located in the Free State Province, Lejweleputswa District, and is situated in the Matjhabeng Local Municipality, Welkom. *The college serves five local municipalities: Matjhabeng, Tokologo, Masilonyana, Nala, and Tswelopele*. The

Continuing and Further Education and Training (CET) Act, No. 16 of 2016 and as amended, provides for Goldfields TVET College to operate as a public TVET college under the auspices of the Department of Higher Education and Training. In the table below, the headcount is the actual number of warm bodies.

The headcount explains in great detail whether the students are suitable or not to be called full-time equivalents. Furthermore, full-time equivalents are a calculation used by NSFAS, and herein is the table referred to as FTE's. To be an FTE requires a minimum number of subjects for a student to be fundable by the NSFAS. FTE is derived by dividing student credit hours by the full-time, full-year equivalent for the given level. For example, FTE for undergraduate students can be calculated by dividing undergraduate student credit hours by 45. The following table provides the breakdown from the college database (Goldfields TVET College, 2022):

Table 1: HEADCOUNT AND FULL-TIME EQUIVALENTS OF GOLDFIELDS TVET COLLEGE

N4	**Target**		**Enrol to Date**			**Need to Target**	
	Headcount	**FTE's**	**Headcount**	**Subjects**	**FTE''s**	**Headcount**	**FTE's**
Business Management	105	52.50	149	546	68.25	44	15.75
Edu-care	90	45.00	85	343	42.88	5	-2.13
Financial Management	105	52.50	88	340	42.50	17	-10.00
Human Resources Management	105	52.50	127	481	60.13	22	7.63

Management Assistant	105	52.50	170	649	81.13	65	28.63
Marketing Management	105	52.50	170	657	82.13	65	29.63
Total N4	**615**	**307.50**	**789**	**3016**	**377**	**174**	**69.50**

N5	**Target**		**Enrol to Date**			**Need to Target**	
	Headcount	**FTE's**	**Headcount**	**Subjects**	**FTE''s**	**Headcount**	**FTE's**
Business Management	90	45.00	91	309	38.63	1	-6.38
Edu-care	75	37.50	127	468	58.50	52	21.00
Financial Management	75	37.00	48	171	21.38	-27	-15.63
Human Resources Management	105	52.50	101	327	40.88	-4	-11.63
Management Assistant	90	45.00	97	314	39.25	7	-5.75

Marketing Management	90	45.00	95	299	37.38	5	-7.63
Total N5	**525**	**262**	**559**	**1888**	**236**	**34**	**-26**

N6	**Target**		**Enrol to Date**			**Need to Target**	
	Headcount	**FTE's**	**Headcount**	**Subjects**	**FTE''s**	**Headcount**	**FTE's**
Business Management	75	30.00	40	105	13.13	-35	-16.88
Edu-care	45	30.00	45	137	17.13	0	-12.88
Financial Management	60	22.50	35	95	11.88	-25	-10.63
Human Resources Management	90	22.50	32	84	10.50	-58	-12.00
Management Assistant	75	22.50	75	169	21.13	0	-1.38
Marketing Management	45	22.50	18	58	7.25	-27	-15.25
Total N6	**390**	**150**	**245**	**648**	**81**	**-145**	**-69**

TOTAL	**1530**	**719.50**	**1593**	**5552**	**694.00**	**63**	**-25.50**

The population of the students in total is 1593, involving three categories, i.e., N4, N5, and N6. This means that all the students registered at this institution total 1593. The researcher did not study all the registered Nated students. The pre-determining factor in selecting the study population is that students must be N6. The number of registered N6 populations the study focused on amounted to 245. The study will take students from the following programmes: financial management, hospitality, education, management assistant, marketing management, and business management. Below is the sample frame for the study.

1.11.4 Defining the sample of research

Okeke and Van Wyk (2016:63) state that a sample is a set of participants or respondents selected from a larger population to conduct a survey. The sample should be representative of the population to ensure that the findings can be generalized from the research sample to the community as a whole. These students are trained to develop the skills, knowledge, and attitudes that are needed in the labour market.

The study used a non-probability approach with convenient sampling. Non-probability sampling is a sampling procedure that will not provide a basis for any opinion of probability that elements in the universe will have a chance to be included in the study sample (Etikan & Bala, 2017:149). With convenient sampling, respondents are selected because they happen to be in the right place at the right time. The convenience group was provided by the WhatsApp group.

Students have their contact details in the group created by their classroom lecturers, which is mainly created for information-sharing purposes. Convenience sampling provides a starting point to gain more respondents and offers a good focus for learning what the service quality gaps are. The researcher approached the sampling frame in such a way that it minimized errors. In addition, the convenient sampling method is available to the researcher by accessibility, making it the most common form of non-probability sampling (Bryman *et al*., 2014:178).

With a total population of 245 in the study, convenient sampling applications resulted in 150 respondents. This sample is based on a confidence level of 95% and a 0.05% margin of error. This means that 150 questionnaires were completed by the respondents. Convenience sampling is a type of non-probability where there is an attempt to obtain a sample at the convenience of potential respondents. In other words, the researcher approaches potential respondents, selected from the indicated population. Participating respondents were selected based on convenient sampling.

Thus, if it is convenient for the respondent, participation will occur; it is the least expensive and less time-consuming. In essence, this research study is a pure business study that moved within business lines, driven by business facts, business assumptions, and business opinion, although executed in an educational environment. The purpose of the study is to think of students not as learners but as customers of the institution, and their satisfaction becomes key to the achievements and outcomes of the research.

1.11.4.1 Sample size

Sample size refers to a selected number of elements from a group or population to which propositions can be made (Flick, 2015:100). The sample size for this study is based on the fact that the N6 students compared to N4 and N5 will be able to respond to the questionnaire properly, secondly is that they are the most experienced based on the variables under the study and thirdly they have stayed longer on college campus than N4 and N5 students.

Therefore, the proposed sample from a total population of 245 students, selected on confidence level of 95% with a 0.05% degree of accuracy is 150 students from N6, who are avid contributors towards the business of the college and have in-depth knowledge of student challenges. Students enrolled in ‘NATED Report 191 Business and Utility’ studies programmes were part of the study.

Programmes	**Number of questionnaire respondents**
Human Resources	25

Business Management	25
Marketing Management	18
Management Assistant	32
Financial Management	25
Edu-care	25

TOTAL SIZE= 150

1.11.5 Data collection methods

The researcher used a self-administered survey to collect data. According to Malhotra (2010:211), a questionnaire is simple to administer, and the data obtained is reliable because participants are limited to the alternatives stated. The study of student satisfaction from vast evidence of literature in studies on both developing and developed economies commonly revealed the use of a questionnaire as a measuring instrument (Hampton, 1993:150; Appleton-Knapp *et al*., 2006; Brochado, 2009:85; Wang, 2016:117; Ghori, 2016:28).

The study utilized a closed-ended questionnaire as the instrument of choice, anchored on a five-point Likert scale measured from 1 to 5, where 1 is strongly disagree, 2 is disagree, 3 is neither agree nor disagree, 4 is agree, and 5 is strongly agree. The questionnaire used is developed from various items previously used to measure the constructs under investigation. The scale measured customer satisfaction. During the development of the questionnaire, a pilot study was conducted to identify and eliminate potential problems. In this study, Cronbach alpha values will be used to assess the reliability of the instrument. The questionnaire consisted of the following sections, dimensions, and items in the following order:

- Section A covered the biographical questionnaire to gather information regarding the age, gender, and race of the students in the demarcated area. In this study, gathering demographical data is suitable to establish the profile of respondents. The demographic factors to be requested from the respondents include. **Sexual identity**, (How satisfied are the males from the females). **Age**, (How satisfied are the different age groups). **Language** and, **Qualifications** (Does the standard of education influence satisfaction).

- This information provided a clear idea of the target population's characteristics. More importantly, it assists with designing appropriate questions for college students to answer. No comparisons or further statistical analysis was carried out on the particular respondents.
- Section B focused on service quality dimensions.
- Section C focused on customer satisfaction.
- Section D focused on service quality challenges.

1.11.6 Validity

According to Heale and Twycross (2015:19), in a quantitative sample validity refers to the degree to which a term is correctly measured. This implies that the differences in observed scale scores should reflect true differences among objects on the characteristic being measured (Wadud, 2013:26). Similarly, validity can be inferred as the degree of confidence that a researcher can have in inferences drawn from scores, and the confidence that a researcher can have in the interpretation of the score (Malhotra, 2010:318).

For the study, the face validity method was applied to give accurate measures of the constructs under investigation. The use of the quantitative method minimizes biases, and contamination while also removing any doubt about the report findings.

1.11.7 Reliability

According to Heale and Twycross (2015:19), “Reliability is the degree to which a research instrument reliably generates the same results when used in the same situation on several occasions”. In other words, reliability is the degree to which a scale produces accurate results when repeated measurements are taken (Malhotra, 2010:318). Measures used in research need to be reliable and valid, if they are not the researcher cannot gain confidence from conclusions drawn from the study. To obtain reliability, the researcher narrowed the population to final-year students only. Choosing quantitative methods provides the greatest reliability benefit as the researcher’s involvement is limited and information cannot be influenced or questionable.

1.11.8 Data analysis

According to Kavishe (2015:17), data analysis is the process of bringing order, structure and meaning to the mass of unstructured data to obtain answers to the research questions. Data was captured on an Excel spreadsheet. The researcher used the most recent Statistical Packages for Social Science (SPSS) to analyze the collected questionnaires. The NWU’s statistical consultation services carried out the statistical analysis, and the results were used to analyze and interpret the completed questionnaire.

Descriptive statistics was used to examine the composition of the sample and analyze the questionnaire response into meaningful data (Awang *et al.,* 2012:42). This is because it is suitable to determine the degree to which marketing variables are associated. **Exploratory analysis** was used to respond to the following research objectives: To identify challenges that current students experience at TVET colleges. To determine problems and difficulties in service quality at TVET colleges. **The literature study** was used to answer the remaining research objectives.

1.12 ETHICS

The researcher sought consent for the study, through the NWU business school scientific committee evaluation and then the NWU FEMS ethics approval. According to Kumar (2014:282), ethics refers to moral principles that are considered correct and acceptable in a particular profession. A research study is conducted while adhering to certain ethical standards. The researcher carried out the following principles when conducting the research study:

- The researcher sought permission from the respondent and the relevant authorities thus ensuring that the participation of respondents is completely voluntary.
- The respondent was informed of the purpose of the study.
- Respondents' personal information was treated reasonably and lawfully and solely used for the study.
- Respondent's right to remain anonymous was respected at all times.
- The respondent was given access to the study's main findings on request.
- The researcher expressed gratitude to the respondent by thanking them.

1.13 CHAPTER SUMMARY

The first chapter introduced the study title. A brief state of the background to the problem. The chapter presented the problem statement and explained important research concepts, along with the theoretical framework. Chapter 1 continues with research questions and objectives the study seeks to achieve. Finally, the selected methodology for the research was given, followed by measuring instruments and data analysis. Furthermore, justifications are provided for the chosen approaches under research methodology, and the relevance of the research paradigm, research approach, and ethics guiding the researcher. The next chapter will discuss the literature review.

CHAPTER 2 - LITERATURE REVIEW

2.1 INTRODUCTION

The preceding chapter focused on the provision of the introduction and background to the study. The chapter further provided the theoretical framework and a preliminary literature review. In addition, a problem statement and research objectives were formulated, as well as the methodology that will be employed in the study. This chapter provides a comprehensive review of the service quality factors as catalysts for customer satisfaction as well as the theories that suggest the drivers and consequences of customer satisfaction.

It is divided into several broad sections. The first section necessitates an overview of the technical vocational and education training (TVET) colleges in the South African context. The second section discusses the National Student Financial Aid Schemes (NSFAS). The third section discusses the theories underlying the study, including expectancy disconfirmation theory, cognitive dissonance theory, and contrast theory, to understand student satisfaction behaviours.

The fourth section pays attention to the concept of service quality and its dimensions, as well as the selected service quality factors affecting customer satisfaction in this study, such as monetary value, customer service, convenience, and service quality image drivers. The fourth section further examines the concept of the customer, focusing on conceptualization, significance, and measurement. Lastly, this chapter concludes by discussing service quality at TVET colleges, challenges faced by students at TVET colleges, and the effect of the TVET college image on students.

The competition among institutions of higher learning, including colleges, is very stiff. With the recent COVID-19 pandemic, the challenge of attracting new students and retaining current ones requires more efforts from relevant institutions. Thus, colleges must maintain and improve the service quality for their primary customers.

2.2 TECHNICAL VOCATIONAL EDUCATION AND TRAINING (TVET) COLLEGE

Technical Vocational Education and Training (TVET) colleges are widely recognized as a vital driving force for the socioeconomic growth and technological development of nations. There is no definite definition of the concept of TVET; this is because the method of delivery varies and it applies to several target groups (Ayonmike *et al.,*

2015:25). TVET can be defined as “a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and knowledge relating to occupations in various sectors of economic and social life (UNESCO, 2016:1).

On the other hand, Nwanneka and Iwuanyawu (2019:15) say TVET refers to the training and retraining given under public control and supervision in classes or schools. Some assumptions of TVET colleges include that, TVET can offer solutions to unemployment as well as ensure economic development in any country; help to alleviate poverty by providing economic opportunities, especially to the poor; offer alternative training to the less academically performing students; and fill lapses for those who need the services of artisans (UNESCO, 2019:3)

TVET’s focus is on vocational and occupational education and training to prepare students to become functional workers in a skilled trade (Ayonmike *et al.,* 2015:25). A TVET college education provides students with all the necessary skills and knowledge needed for a career.

TVET Colleges fall under the national Department of Higher Education and Training and are fully equipped to educate and train at a tertiary level and provide students with pathways to career success. As part of the higher education system, TVET colleges accept students who have completed Grades 9, 10, 11, or 12 at the high school level (Scheepers & Gebhardt, 2021:252).

University post-graduates can also enroll in courses at TVET colleges for more practical exposure. A big benefit of attending a TVET college is the high focus on the employability of students, where part of the curriculum requires the students to complete experiential training (internships and apprenticeships), which helps build up experience (Zungu & Lekhanya, 2018:182).

According to Zungu and Lekhanya (2018:182), TVET colleges were recognized and functioned under the South African Education Act 16 of 2006 and further amended under Act No. 3 of 2012, where these colleges were called Further Education and Training (FET) Colleges and then placed under the Department of Education and Training, supported, and mandated to provide vocational skills.

These colleges provide broader knowledge in various areas, such as artisans and many other vocational skills needed by South African society, as well as current

modern businesses and industries (UNESCO, 2021:1). This premise is supported by Shirley *et al.* (2015:123) claim that TVET empowers society with the much-needed technical and vocational skills for modern business in today's extremely complex and turbulent environment. Zungu and Lekhanya (2018:182) believe that, in recent times, entities must have well-prepared human capital for them to deliver quality services that meet customers' expectations. Not all colleges offer the same courses.

However, courses are usually in the fields of hospitality, food service, and tourism industries; haircare; early childhood development; management (financial, human resource, marketing, and administration); and engineering, to mention a few (Needham, 2019:82). In 2001, 152 technical colleges, with 200 delivery sites across South Africa, merged to form 50 TVET colleges.

According to the Department of Education, this merger is intended to improve and uplift the standard of education to meet the challenges of the labour market and to enhance cooperative governance, management, leadership, and education (Mason *et al*., 2018:16). Unfortunately, little research on service quality at TVET colleges has since been done.

In South Africa, there are a total of 260 campuses for TVET colleges, which consist of 50 multi-campuses operating according to the Continuing Education Act 16 of 2006, which is categorized under the South African Department of Higher Education and Training. The main purpose of these institutions (TVET) is to prepare the South African youth with the relevant practical and occupational skills that are needed by the industry (Ncobel, 2019:4). Shirley *et al.* (2015) believe that the TVET provides much-needed knowledge on the changing technological environment and workers' skills needed by the current economy.

According to Scheepers and Gebhardt (2021:252), vocational skills can bring effectiveness and relevance to South African citizens and enhance quality and employability. Gauteng remains the economic hub of the country, with over 30 TVET colleges. This means that almost every major region in Gauteng has a TVET college campus.

The courses on offer are accredited and independently monitored to ensure that they meet quality standards, as well as accredited by the International Organisation for Standardisation (ISO). This means that the quality of education and training is

internationally benchmarked. A brief overview of NSFAS and the issues dealt with will follow. These NSFAS principles are important for TVET managers to be aware of to ensure customer satisfaction.

2.3 NATIONAL STUDENT FINANCIAL AID SCHEME

The National Student Financial Aid Scheme (NSFAS) is a South African government student entity established under the Department of Higher Education and Training. According to the NSFAS Act (Act 56 of 1999), the act intends to provide financial support to disadvantaged students who wish to further their studies at public universities or TVET colleges (Department of Higher Education and Training, 2022:1). The National Student Financial Aid Scheme was established in 1996, replacing the Tertiary Education Fund of South Africa (TEFSA) in 1999.

NSFAS provides financial aid to undergraduate students to help pay for the cost of their tertiary education after finishing high school (Zungu & Lekhanya**,** 2018:182). It is funded by the Department of Higher Education and Training. It has an annual budget of ZAR 46 billion as of 2022. Currently, Mr. Buti Manamela (Deputy Minister of Higher Education, Science, and Technology) is the man responsible for this entity.

- **Qualifications – who qualifies?**

South African citizens registering for the first time at a public South African higher education institution and who meet the means test may qualify for a bursary. The means test requires that the applicant's combined household income (gross) does not exceed R350, 000 per annum. The bursary also covers a few post-graduate student qualifications (such as a postgraduate certificate in education). Furthermore, the South African Social Security Agency (SASSA) grants to recipients who qualify for funding as well as persons with disabilities with a combined household income of not more than R600,000 per annum.

- **Loan repayment (pre-2018)**

Prior to the announcement by former President Jacob Zuma of free higher education for poor students in 2017, NSFAS bursaries were "loans", which needed to be paid back. The loan repayment began once the student had found employment and was

earning R80,000 or more annually. If the student was unemployed, they did not have to make repayments until they were employed. If the student left university or college in a case where they did not complete their qualification, the loan would still have to be repaid. As of 2019, all accrued "loans" from NSFAS before 2018 must still be paid back. However, since 2019, NSFAS funding has become a bursary, and students will not need to pay back the money.

- **Application process**

Applications for a NSFAS bursary can be made both online and in person. Applications are typically open between September and November in the year preceding the first year of higher education. Online applications can be made on the NSFAS website. Applications can also be made at the Financial Aid Office (FAO) or Student Service Centre at the higher education institution the student applied at, as well as at the National Youth Development Agency (NYDA) offices.

- **What does the bursary cover?**

Amounts indicated for accommodation, living allowance, transport, and learning materials need to be aligned with the approved latest DHET guidelines. Both TVET colleges and universities are catered for differently, based on the students' needs. It is logical to think universities are more expensive than TVET colleges. For universities, NSFAS covers the following:

- Accommodation - As per the actual costs charged by the university (costs for private accommodation must not exceed costs for university residence)
- Transport (up to 40 km from the institution) R7 500 per annum.
- Living allowance R15 000 per annum
- Book allowances R5200 per annum
- Incidental/personal care allowance of R2900 per annum for students in catered residences

For TVET colleges, it covers the following:

- Accommodation in an urban area R24 000 per annum
- Accommodation in a peri-urban area R18 900 per annum
- Accommodation in a rural area R15 750 per annum
- Transport (up to 40 km from the institution) R7 350 per annum.
- Transport R7000 per annum.
- Incidental/personal care allowance R2900 per annum

The next section discusses the various theoretical frameworks used as a basis to ground the present study.

2.4 THEORETICAL FRAMEWORK

The expectancy disconfirmation theory, cognitive dissonance theory, and contrast theory are used in the study as a cornerstone to understand service quality as a catalyst of customer satisfaction at TVET colleges. These theories are discussed in the subsequent sections.

2.4.1 The expectancy disconfirmation theory

The disconfirmation of expectations paradigm is conceptualized by Oliver (1980, 1997) and came from a subject of study for antecedents of satisfaction (Huang & Liu, 2014:17). The standard approach to study satisfaction involves a comparison of prior expectations with observed performance. The expectancy-disconfirmation model has become the predominant approach in explaining citizen satisfaction with public services (Huang, 2017:18). It posits that citizens compare the performance of a service against their expectations of that service. Satisfaction occurs if the perceived performance meets or exceeds the expectations (Cai & Chi, 2021:30).

EDT is to predict that customers make expectations in advance of consumption, and act as a standard against which customers measure the firm's performance (Huang & Liu, 2014:17). It plays an important role in the customer satisfaction process and can also be extended to discuss the relationship satisfaction between business to business. The higher the expectation about actual performance, the greater the degree of disconfirmation and the lower the satisfaction (Cai & Chi, 2021:30**)**. This

model considers satisfaction as a function that includes the difference between observed outcome (product/service) performance and prior expectations about the outcome's (product/service) performance (Wang *et al.,* 2021:119).

Thus, in this theory the customer's perception of overall satisfaction results from a comparison between expectation and outcome performance. Therefore, expectation and outcome performance are two important variables that can influence the judgment of satisfaction measures (Uzir *et al.,* 2021:102). Because student satisfaction is one of the crucial factors in predicting the enrolment tendency, investigating satisfaction toward the TVET colleges' services is also a main topic in customer behaviour research.

According to EDT, satisfaction arises when perceived performance reaches or surpasses predetermined standards (expectations). Student expectations may be low, in the context of TVET, where there might be disparities in the NSFAS system and college management. Consequently, if the actual service performance falls short of meeting even these low expectations, students may become extremely dissatisfied. TVET colleges should aim to raise perceived service performance or manage student expectations properly to improve satisfaction. This is also supported by Lee *et al.* (2021:33), that based on EDT, TVET can increase satisfaction by increasing perceived service performance or decreasing expectations. Hence, this theory was adopted in this study as a cornerstone to understanding service quality's impact on satisfaction.

2.4.2 Cognitive dissonance theory

The theory of cognitive dissonance (CDT) was first introduced by Leon Festinger in 1957 and developed rapidly as an approach to understanding common areas of human psychology, communication, and social influence (Yahya & Sukmayadi, 2020:481). Festinger (1957:2) described that cognitive dissonance occurs whenever people are confronted with facts that contradict their beliefs, values, and ideas; they will thrive on finding a way to resolve the contradiction to reduce their discomfort. The theory applies to all social situations involving the formation and changes in human attitude, and it is particularly pertinent to the process of decision-making and problem-solving (Festinger, 1957:2; Nilsson, 2019:6). CDT is different in two important ways.

First, the theory's objective moves beyond a theory of social behaviour to a deeper understanding of the relationship between human behaviour and cognition in general (Mustaquim & Nystrom, 2014:9). Secondly, this theory has been very influential in social psychology research compared to other consistency theories. In fact, in the past decade, numerous scholars acknowledged the theory of cognitive dissonance as a widely recognized social theory and particularly for its significant and influential concepts in social psychology and human motivation areas (Cooper & Carlsmith 2015:76; Morvan & O'Connor, 2017:397).

Accordingly, Harmon-Jones *et al.* (2017:4), CDT explains and predicts the motivational nature of dissonance in producing attitude and behaviour change in decision-making and the broader social community context. Today, as we confront the information saturation era, humanity faces desperately difficult decisions due to the information overload on the Internet (Hinijosa *et al.,* 2016:100; Bai *et al.,* 2019:143; Fadholi *et al.,* 2020:1). When students are exposed to opposing thoughts or arguments on the Internet, and they are not able to choose which one is right, they experience cognitive dissonance. Hence, service quality is perceived by students based on the plethora of information available as well as the perception of individuals.

Extending the theory, to the context of the study, students may suffer from cognitive dissonance if they are presented with conflicting facts and are unsure of the right choice to take. This theory can help predict and explain how student satisfaction is impacted by service quality. To reduce cognitive dissonance and increase satisfaction, it can be helpful to provide reliable and consistent information about the services. In an era of information overload, students might face conflicting information about the services offered by TVET colleges. It is against this background that this study adopted the CDT to predict and explain the influence of service quality on satisfaction at TVET colleges.

2.4.3 Contrast theory

A contrast theory is described as the displacement of a series of stimuli away from the judgment anchor (Palmer & Gore, 2014:323). In other words, the preceding or existing

context in which a judgment is rendered causes the judgment to be quantitatively shifted away from the judgment anchor relative to judgments of the same stimuli performed in the absence of the context. Contrast effects should be distinguished from: 1) context effects, a much broader term referring to the situation where a judgment is influenced (Kelemen, 2013:1), regardless of the fashion, by the preceding or existing context, and from 2) the assimilation effect, which refers to the situation whereby the context causes judgments to be shifted toward the judgment anchor (McClure *et al.,* 2004:379).

Contrast effects have been found to occur in numerous types of judgments for numerous types of stimuli, from performance appraisal judgments to stereotyping to social comparison judgments (Mendez *et al.,* 2011:1229). The contrast theory presumes that when service expectations are not matched by actual performance, the contrast between expectation and outcome or the surprise effect will cause the consumer to exaggerate the disparity (Palmer & Gore, 2014:323). A contrast effect is therefore identified when the change in service evaluation is, in the opposite direction compared to the expected value of information.

Contrast theory is relevant in service-related studies where expectations and performance are measured to form satisfaction or dissatisfaction. In the case of TVET institutions, if the perceived service quality differs noticeably from what students anticipate, there may be a contrast effect, where students amplify the disparity. Comprehending this effect is imperative in evaluating students' satisfaction with the services provided at TVET colleges. Hence, this theory is used in this study to understand students' satisfaction with provided services at the TVET colleges. In the following section, service quality will be defined, and its dimensions discussed along with determinants.

2.5 SERVICE QUALITY

This section provides a literature review on the definition of service quality, its dimensions, and the selected determinants.

2.5.1 Defining service quality

Service quality has been acknowledged as a major factor in gaining a competitive advantage and maintaining customer satisfaction in both offline and online settings (Alnaser *et al.,* 2014:1; Zehir & Narcikara, 2016:427; Mujinga, 2020:229). Saleem *et al.* (2017:1136) define service quality as the customer's perception of the degree to which the service delivered meets the customer's expectations. Rita *et al.* (2019:3) define service quality as how well the level of service meets the expectations of the customer. Mujinga (2020:229) contends that service quality is essentially perceived quality as it comes from a comparison between actual service and expected service performance. Hence, service quality plays a critical role in maintaining an organization's competitive edge.

Wang *et al.* (2015:106) further indicate that the level of the quality of service provided had a positive effect on an organization's financial performance. An improved competitive advantage leads to increased market share through customer satisfaction and loyalty (Rasheed & Abadi, 2014:299; Loureiro *et al.,* 2018:131). Several service quality measurement models have been developed and empirically tested in the literature.

These include SERVQUAL and SERVPERF scales for offline service quality measurement (Blut *et al.,* 2015:679; Rita *et al.,* 2019:2). SERVQUAL is a gap-based scale that compares customers' perceptions and expectations and is the most common approach to measure service quality (Parasuraman *et al.,* 1985:41), while SERVPERF performance-based scale (Cronin Jr. & Taylor, 1992:55), an improvement of the SERVQUAL.

In the context of South Africa, TVET needs to improve service quality based on the SERVQUAL dimensions (Mujinga, 2019:3). However, a few variables (called determinants in this study) need to be consolidated to enhance service quality and satisfaction since quality in higher education varies, for example with retail banking (Taherdoost, 2018:173).

Several researchers in the literature on service quality support the notion that service quality is inclusive of all assessment abstract ideas like attitude (Parasuraman *et al*., 1988:15; Chang *et al.,* 2008:764; Wilson *et al.,* 2012:25; Taherdoost, 2018:173). The service quality instrument (SERVQUAL) is tested commonly to measure customer perceptions of service quality (Ahmad *et al*., 2016:125). In the service quality theories, it is referred to as the SERVQUAL model, and comprises five dimensions (Lee *et al.,* 2000:218; Mummalaneni *et al.,* 2016:311; Zarei *et al*., 2019:198) which are outlined as follows:

Table 2: FIVE DIMENSIONS OF SERVICE QUALITY (SERVQUAL MODEL)

Dimensions	**Explanation**
Reliability	ability to perform the promised service dependably and accurately
Responsiveness	willingness to help customers and provide prompt service
Assurance	knowledge and courtesy and their ability to inspire trust and confidence
Empathy	caring individualized attention given to customers
Tangibles	appearance of physical facility, equipment, personnel, and written materials

Source: Parasuraman *et al.* (1985)

The concepts of quality and satisfaction are often used interchangeably, both in the industry and academia world as they are significantly one evaluative construct (Vatolkina *et al.,* 2020:6). According to a study by Shatnawi (2019:396), the relationship between perceived quality and the satisfaction construct using the model integrates the two constructs and suggests that perceived service quality is a determinant of satisfaction. This statement is supported by Hossain and Kim (2018:32) who are of the view that perceived service quality influences satisfaction. For this study, the following section discusses the selected service quality determinants, which influence customer satisfaction at TVET colleges.

2.5.2 Determinants of Service Quality

As posited in the conceptual framework in Chapter 1, service quality key factors influencing customer satisfaction are grouped into three categories (monetary value, customer service and convenience, and service quality image). Monetary value includes pricing/tuition fees and financial aid. A variety of programs, learning environments, student/staff relations, and extra-learning activities are all covered by customer service and convenience. Lastly, service quality image includes quality teaching, accessibility, and preferred program availability. These are discussed in the subsequent sections.

2.5.2.1 Price/tuition fees

Saleem *et al.* (2017:250) confirm that price or fee increases have a negative impact on satisfaction. Khan and Brown (2021:2) revealed that, unless all areas of the student experience are improved, higher fees may result in higher expectations, which may limit satisfaction. According to Richards (2019), students anticipate practical course design, excellent support services, a vibrant social scene, and a university that upholds a positive reputation. On the other hand, high-quality services lessen the agony of paying fees and increase satisfaction. The NSS survey found that higher tuition costs in England had no discernible negative impact on student satisfaction ratings (Burgess *et al.,* 2018:9).

In support of this, Bates and Kaye (2014:32) compared first-year psychology students' expectations and experiences before and after the change in tuition fees and found little evidence to support the notion that students had heightened expectations, except employability; those students paying higher fees held greater expectations for their employment prospects after graduation. Brucal *et al.* (2022:3) posit that customers' perceptions of service quality and degree of satisfaction are influenced by price, which also tells them whether they are getting value for their money based on their expectations.

Cakici *et al.* (2019:679) postulate that price is one of the most important elements in customer decision-making; this is because the price offered by the business whether expensive or cheap, reasonable, or unreasonable acts as a benchmark for the customer whether to proceed with the purchasing or not (Mohammed *et al*., 2017:46). Therefore, the price makes or breaks a sale. It influences consumers' attitudes and ability to buy. Given this evidence from global literature, there is a universal appreciation that price or tuition fee is an indispensable driving force and contributes significantly to student satisfaction.

2.5.2.2 Financial aid

Student financial aid refers to funding intended to help students cover their educational costs, such as tuition fees, books, course materials, etc., at the graduate and post-graduate levels of higher education (Fatima & Nasr, 2010:4). Broton (2019:84) indicates that it takes a while for financial aid packages to be set up, and then the packages may change without prior notice or a clear justification. In Herbaut and Geven's view (2020:2), financial aid applications are frequently difficult to complete, especially in the US environment. This illustrates weak communication and hassles within the financial aid process, resulting in students experiencing problems accessing financial aid.

According to Manuel (2019:78), NSFAS consistently disburses payments to the majority of beneficiaries in March or April, over two months after the start of the first term (Mabuza, 2018; Kahn, 2018; Government Gazette, 2017:1–10 and 508–522). This delayed release of funding further impedes students' ability to actively engage in their studies. On the other hand, Langelett *et al.* (2015:111) mention that enrolment in higher education is directly impacted by tuition costs and financial assistance packages. Dynarski (2013:26) adds that "academic incentives may improve not only performance after college entry but college preparation and initial enrolment as well. This suggests that financial aid is essential for advancing and increasing enrolment figures."

2.5.2.3 Variety of programs

According to Field *et al.* (2014:38), the sector's current mix of programmes and qualifications is difficult to manage, disliked by businesses, confusing for students and parents, and frequently of low quality. McGrath (2006:66) claims that technical college programmes fall short of sufficiently preparing students for success in post-secondary education and employment. Tessema *et al*. (2012) proclaim that to secure financial support, universities must demonstrate the value of their programmes through reviews.

On the other hand, Sojkin *et al.* (2012:573) assert that male students were happier if the university they chose delivered good quality and a variety of courses or when a professor's educational and research achievements were high. Gaffoor and Bijl (2019:37) report in their study that 83% of respondents agreed that the support provided by TVET colleges in securing employment opportunities following graduation had influenced their decision to complete their program. Studies in South Africa by Papier (2009:26) and Govindasamy (2021:90) found that students in NC(V) Civil Engineering discovered theoretical overload was one of the causes for the early departure from the programme.

According to Penceliah and Vezi (2017:28), HEIs provide courses and programmes as their actual products. Over and above that, 28% of respondents said they were dissatisfied with the courses offered at TVET colleges. A closer look at the data reveals

that only 2% of students reported being extremely satisfied. Zulu and Mutereko (2020:10) argue that the likelihood of students leaving TVET college increases if they are not satisfied with the resources available to them.

2.5.2.4 Learning environment

According to Poon (2019:181), student satisfaction is influenced by the learning environment and student services. Permana *et al*. (2020:232) suggest that academic services are crucial because they are closely connected to the dimensions of service quality, where satisfied students will eventually have loyalty to their institutions and act as their institution's marketing forces. Research by Saukkoriipi *et al*. (2020:19), showed that more involved tutors foster a supportive clinical learning environment that assists students in achieving their learning objectives, raising their expectations and satisfaction levels.

This means that in classes where the teacher is well-prepared, establishes clear learning goals, and sets up the class and learning activities in a logical order, students will be more satisfied than in a classroom where this is not the case (Radovan & Makovec, 2015:102). Turanli (2009:140) asserts that students who felt more content with the learning environment were discovered to experience teachers' overall social-emotional behaviours comparatively more often. According to the literature, there is a link between students' academic achievement and student satisfaction in the classroom atmosphere (Turanli, 2009:141). Omar and Rashid (2020:97) believe that, in the educational setting, the energy of the teacher flows during teaching and learning and cultivates a productive learning environment.

2.5.2.5 Extra learning activities

Barton *et al.* (2019:463) postulate that increasing the amount of experiential learning in the curriculum could be another strategy to promote employability skills and strengthen student satisfaction associated with volunteering activities. Bakoban *et al.* (2015:2737) accentuate that, participating in extracurricular activities enables kids to comprehend the value of academic and intellectual proficiency, time management skills, and critical thinking abilities. Hashim (2016:2) points out that, ICFAI University

outlined some of the characteristics of generic skills in 2003 that will assist students when engaged in extra-curricular activities.

In most cases, some of the features include developing positive attitudes, developing skills, and leadership qualities, learning to work in a stressful environment that is filled with stress, effectively managing stress, united in groups, developing teamwork skills, enhancing creativity, improving discipline, increasing confidence, setting goals, work hard and work based on the orientation. Extracurricular activities need to be treated seriously by the TVET college, by allocating time, funding, and planning because it helps students to relax and to be ready for academic pressure (Zulu & Mutereko, 2020:14).

2.5.2.6 Student-staff relationship

The way lecturers or school staff interact with students positively correlates with student satisfaction levels (Mulyono *et al.,* 2020:935). In their study, Raed and Falah (2012:5) discovered, that students expressed satisfaction with the level of safety provided, and the accessibility of teaching instructors (Kara *et al.,* 2016:38) and nursing faculty members who care about protecting students from hospital risks. Suarman (2015:627) propound that, students' satisfaction is also influenced by the relationship between lecturers and students. Gee (2018:81), states that for lecturers to effectively fulfill their responsibilities as motivators, guiders, and facilitators they must be competent, amiable, and helpful.

According to the study, lecturers who can establish positive relationships with their students, provide assignments that are relevant to their courses, provide quality lecture notes, emphasize the course objective, plan various types of class activities, ensure fairness in exam marking, provide helpful feedback, are punctual, and deliver lectures clearly and knowledgeably are more likely to have satisfied students. Shea *et al.* (2003:61-80) suggested that the following factors are significantly associated with students' levels of satisfaction; lecture notes, lecturer's one-on-one interactions with students, and lecturer's discourse facilitation.

2.5.2.7 Quality of teaching

High-quality teaching would increase the willingness and commitment of students. University-led courses should be worthwhile, significant, and able to advance students' prospects for employment in the future (Seng, 2013:127). Dahri *et al*. (2017:2) reported that the quality of the lecturer is related to the quality of teaching and learning. Farahmandian *et al.* (2013:67) note that the quality of teaching staff is more important since it is a key element that has a significant impact on student satisfaction in universities. However, in line with Carter and Yeo (2016:648); Martirosyan (2015:181), they concluded that the quality and teaching model of lecturers had no significant effect on student satisfaction.

Viljoen and Cilliers (2022:11) report that 84.9% of the students asked to rate their TVET college, from a total of 8461 expressed satisfaction with the quality of teaching received from the TVET college lecturing staff.

Poon and Brownlow (2015:100-132), argue that higher levels of dedication from teaching personnel to students' learning experience proved to have a big impact on student satisfaction. Purgailis and Zaksa (2012:148) further add that "the most important elements in the provision of the study process are the academic employees that pass over their knowledge, study content, and teaching methods, acquired skills and readiness for labour market".

2.5.2.8 College accessibility

Mulyono *et al.* (2020:936) revealed that improved access, such as a campus environment that supports students' activities, will boost students' satisfaction. It is critical to guarantee that every student has quick access to staff members or their teachers; this will considerably increase the accessibility element (Ali *et al.,* 2016). According to Lagrosen *et al.* (2004:62); De Jager and Gbadamosi (2010:253), the provision of support infrastructure and resources, branding, and marketing, as well as accessibility and location, were regarded as variables that play a critical role in

satisfying the needs of learners attending institutions of higher education in South Africa.

The facilities of higher education can have an impact on the institution's ability to draw in top researchers, develop appropriate learning environments, and shape students' perceptions of their learning experience (Trivellas & Dargenidou, 2009:75). Trivellas and Dargenidou (2009:75) translate that an organization's productivity relates to the physical environment in which it functions, and that productivity may be increased by improving the efficiency of the organization, which might lead to a higher level of satisfaction. Jain *et al.* (2011:30) emphasized that the physical environment or infrastructure has an impact on nature and the quality of the relationships that are formed during the service encounter.

Geographical surroundings and a university's location are frequently considered as aspects that will affect the decision to attend a particular institution. Viljoen and Cilliers (2022:15), reveals that more than 76% of students from the 50 TVET colleges in South Africa, are happy with the level of lecturer expertise and college accessibility. Therefore, considering the Covid epidemic and the large number of employees who worked remotely, these are extremely high satisfaction levels.

In South Africa, this can be viewed as a deciding factor in the decision-making process. Parents will be more likely to send their kids to schools in more accessible locations due to high unemployment rates and a lack of funding. Souter and Turner (2002:40) point out that a desirable higher-learning institution will have a welcoming campus environment, easy access to public transportation, and plenty of parking. Russell (2005) reveals that the effective arrangement of physical evidence is crucial, as prospective students frequently consider the physical evidence that surrounds the service in forming their opinion of the service.

2.5.2.9 Preferred program availability

Another concern was that most students who enrolled at TVET colleges were not admitted to universities, which meant the NC (V) programme was not their first choice, and this may have a negative influence on how they experience their college and NC (V) study programme. In a study, Yatrakis and Simon (2002:6) assert that students who choose to enrol in courses in an online format achieve higher rates of satisfaction and perceived retention of information than students who enrol in online courses when

no such choice is provided. According to Souter and Turner (2002:40), there are a few factors that students might consider when determining their preference for a particular university, including:

- The type of course that they want to do (e.g., business, law, engineering).
- The academic reputation of the institution.
- The campus atmosphere.
- The quality of the teaching staff.
- The type of university.

These service quality factors are determinants of student satisfaction in higher learning institutions such as TVET colleges. Therefore, the institutions need to devote their resources to improving these determinants to enhance students' satisfaction. The next section discusses the concept of customer satisfaction.

2.6 CUSTOMER SATISFACTION

The definition, conceptualization, measurement, and factors affecting customer satisfaction are discussed in this section.

2.6.1 The concept of satisfaction (defined)

An important source of reference for retaining customers is customer satisfaction. Harris (2013) notes that customer satisfaction is the difference between customer expectations and customer perceptions. Customer satisfaction studies remain the single largest category of marketing research and probably the most unassailable concept of the modern management field, illustrating the practical importance of the construct (Chauke & Dhurup, 2017:146). Customer repatronage behaviour or outcomes such as customer loyalty, repurchase intention, willingness to pay the premium, positive word of mouth, and retention are strongly dependent on customer satisfaction, especially in the services industry (Rita *et al.,* 2019:2).

As such, customer satisfaction is critical to ensuring business goals are achieved. The achievement of goals the customer sets out to achieve without limitations results in customer satisfaction, which is key to customer retention (Fortes *et al.,* 2017:139).

Satisfaction can be viewed as an outcome of a consumption activity or experience, which is referred to as a process (Chauke, 2014:39). As an outcome, satisfaction is the end state resulting from the consumption experience. As a process, it is the perceptual, evaluative, and psychological processes that contribute to satisfaction. This classification is, however, complementary, considering that one often depends on the other (Chauke, 2018:115).

Kyauk and Chaipoopirutana (2014:178) view customer satisfaction as the "extent to which a service or product's perceived performance matches a buyer's expectation." If the service performance is lower than expectations, the buyer is dissatisfied. If the service performance is higher than expectations, the buyer is satisfied. A satisfied customer is viewed as an indispensable means of creating a sustainable advantage in competitive higher education environments (Chauke & Dhurup, 2017:146), including TVET colleges. Students' satisfaction is fundamental to the growth and expansion of TVET colleges, as it leads to an increase in market share and the acquisition of repeat and referral business, which ultimately results in greater profitability (Pereira *et al*., 2017:376).

Not only does the idea of satisfying customers have a good, common-sense appeal, but it is also proven that customer satisfaction leads to loyalty, resulting in higher profits (Wu *et al*., 2018:33). Within the context of the TVET college environment, satisfaction specifically pertains to satisfaction emanating from service provision ranging from fees, financial aid, available courses, college accessibility, variety of programmes, learning environment, student/staff relations, extra learning activities, quality teaching, and subsequent experiences.

2.6.2 Customer satisfaction as a business performance indicator

Consumer satisfaction is important for businesses as it is one of the indicators of the extent to which business objectives, vision, and mission have been achieved (Chauke, 2018:116). Pereira *et al.* (2016:280) concur by stating that satisfaction is arguably the "key towards sustainable business development." This is proved by business articles from different fields, which show that satisfaction is arousal to special acknowledgments (Pereira *et al*., 2017:377). Viewing satisfaction as a key performance indicator within a business elevates the role of customers to that of stakeholders (Pham & Ahammad, 2017:333). This is particularly so because

prioritizing consumer satisfaction is essential to improving businesses' profitability (Chauke, 2018:116). Customer satisfaction is a major objective of relationship marketing (Yulisetiarini *et al.*, 2017:216).

Satisfaction has become one of the more important key marketing priorities, which is the threshold for customer loyalty and retention that ensures their repeat purchasing habits and good word-of-mouth (Loureiro *et al.,* 2018:131). Loyalty means that businesses are capable of making more profits and building a good brand image. Numerous studies have reported the impact of satisfaction on positive outcomes such as customer loyalty, positive word-of-mouth communication, and repurchase intentions (Kitapci *et al.,* 2014:164; Rahmatulloh & Melinda, 2021:55).

Customer satisfaction is also important for customer relationships because it reduces customer defection (Chauke & Duh, 2019:9). It has also been found that satisfaction has a direct economic benefit. Although there is little empirical research on customer satisfaction in the food retailing industry, it addresses the impact of satisfaction on business performance. Satisfaction is a critical factor in relationship marketing. Maintaining customer satisfaction has been recognized as one of the fundamental factors to the expansion, survival, and growth of the business as it leads to an increase in market share and to acquiring repeat and referral business, which, ultimately, results in greater profitability (Dubihlela & Chauke, 2016:373).

The satisfaction construct is often used as a marketing benchmark to examine company performance (Chauke & Dhurup, 2017:146). However, when customers are dissatisfied, the results are unfavourable. It is therefore important to understand customer dissatisfaction to maintain a sustainable business, given that the negative effects of customer dissatisfaction in businesses may be even greater than their positive effects (Kim & Heo 2017:19). There are negative consequences when customers or consumers are not satisfied. Unsatisfied consumers are quick to switch from brands that fail to fulfil basic requirements (Chinomona & Dubihlela, 2014).

Furthermore, Chauke (2018:116) notes that an unhappy customer may relate a bad experience to five (5) to 15 other people, as opposed to the smaller number of customers who will inform when satisfied. In addition, customers may express their unhappiness by spreading negative word-of-mouth, switching their business provider, or complaining to the company (Kim *et al.,* 2017:20). Other studies have found that 75% of dissatisfied customers make negative comments to their acquaintances,

whereas only 38% of satisfied customers share their positive experience about the service (Chauke & Duh, 2019:9). Furthermore, giving customers an unpleasant experience also increases the number of complaints about a firm's products.

Customer complaints can therefore be considered a form of critical feedback, which may enable an organic food store or retailer to rectify its problems and shortcomings (Kim *et al.,* 2017:20). As a result, complaining behaviour is regarded as a powerful reaction that requires a response from a provider, thus necessitating additional cost and effort (Chauke & Dhurup, 2017:146). The significance of minimizing customer dissatisfaction is also a priority for businesses because bringing in a new customer requires more effort than retaining an existing one (Chauke, 2018:117). With the negative outcomes of dissatisfied customers, it is important to measure the level of customer satisfaction.

2.6.3 Measurement and conceptualization of customer satisfaction

In marketing literature as well as in information studies, satisfaction has been conceptualized and measured with the guidance of the disconfirmation theory (Mwatsika, 2016:26). According to this theory, satisfaction is determined by the discrepancies between perceived performance and cognitive standards such as expectations and desires (Lee & Yun, 2015:260). Consumer expectation is viewed as a customer's pre-trial beliefs, especially for Internet banking (Paul *et al.,* 2016:608). Perceived performance is defined as a customer's perception of how Internet banking services fulfil needs, wants, and desires (Mohaydin *et al.,* 2017:34).

Disconfirmation is defined as a consumer's subjective judgement resulting from comparing their perceptions of performance received (Myers & Mintu-Wimsatt, 2012:6). Consider that, as far back as 1980, Oliver (1980:8) describes the process by which satisfaction judgement is reached in the expectancy-disconfirmation framework. The expectancy-disconfirmation indicates that perceived service quality may increase or decrease directly with expectations. In terms of internet banking reuse intention, perceived e-service quality may either confirm or disconfirm pre-usage expectations of these services. Satisfaction is positively affected when expectations are perceived and perceived quality is met or exceeded (Pereira *et al.,* 2017:376).

Several studies have emphasized the multi-facet nature of satisfaction and have used multiple-item scales to measure customer satisfaction (Chauke, 2014:111; Dubihlela

& Chauke, 2016:378; Chauke & Dhurup, 2017:151; Chauke, 2018:119; Chauke & Duh, 2019). Customer satisfaction could be measured by measuring it after a certain performance and by measuring the satisfaction experienced by customers after enrolling at the TVET college. Chauke (2018:117) proposes five ways of measuring satisfaction:

- quality and experience of enrolling at the college;
- the reliability and accuracy of the service advertised and rendered;
- the comparative enjoyment of spending time at your college and another;
- the price/tuition satisfaction when compared to the service; and
- the prevalent overall feeling of satisfaction.

Donnelly (2009:70) developed five models of satisfaction; three of those are claimed to be evaluative models based on disconfirmation of expectation, and the other two are evaluative models resulting in non-rational processes. The literature documents different methods of measuring satisfaction. Objective measures investigate the real performance procedures (Chauke, 2018:116). Fishbein and Ajzen (1975:32) and Mwatsika (2016:135) outlined three dominant paradigms for the measurement of satisfaction, which can also be applied in the context of Internet banking. They are the following:

- **Importance-performance approach** (Fishbein & Ajzen, 1975:267) – This proposes that satisfaction is a composite of (1) the perceived importance of a range of attributes or benefits, and (2) the customers' beliefs about the degree to which these services/products have each attributed. The importance-performance approach enables the business to analyze whether the product/service has performed in attributes considered important by the consumer (user). If the product/service performs in attributes considered important by users, then the product/service has more chance of satisfying customers (users) and subsequently retaining them for repeat purchases and business growth. Chauke and Duh (2019:6) consider this as a very interesting conception of customer satisfaction that has received considerable empirical support in the literature.

- **Expectations-performance disconfirmation** – proposed by Parasuraman, Zeithaml and Berry (1985), this approach is based on the proposition that customers evaluate or measure their satisfaction with a product/service by comparing pre-consumption expectations with post-consumption perceptions (performance) as previously discussed.

- **Performance only approach** - proposed by Cronin and Taylor (1992:58) for the measurement of customer satisfaction, this approach challenges the previous two approaches by proposing that customer satisfaction is affected by the customers' perceptions of the performance of the product/service only. This approach ignores the importance (Fishbein & Ajzen, 1975:36) and customers' expectations (Parasuraman *et al*., 1985:42) in the measurement of customer satisfaction.

With these approaches, researchers have multi-dimensionally assessed customer satisfaction and come up with global measures (capturing satisfaction at multiple levels). They have viewed overall satisfaction as a function of satisfaction with multiple experiences or with consumption experiences (Chauke & Dhurup, 2017:146). This study, however, measures customer satisfaction as a one-dimensional construct embodying an overall evaluation of TVET college service quality after enrolment, in line with Makinde and Bamiro's (2022:116) cumulative measurement of satisfaction with TVET emanating from service quality, which ultimately leads to a willingness to spread word of mouth, revisit behaviour, and increase image and reputation. The study further discusses the major determinants of satisfaction.

2.6.4 Determinants of customer satisfaction

Satisfaction in a higher education setting such as TVET colleges can depend on several factors, including service quality (Zungu & Lekhanya, 2018:184). From the marketing perspective, satisfaction largely depends on performance; however, brand experience alone does not determine overall satisfaction. Recent studies have shown that the level of performance expected and knowledge of the outcomes that were not experienced are equally important (Chauke & Duh, 2019:11). Many researchers are paying attention to service quality and satisfaction for reasons such as increased

competition (Lee & Yun, 2015:260; Mohaydin, 2017:35; Chand *et al*., 2017:34), and academics have also been studying quality and satisfaction to better understand the antecedents of customer evaluation.

However, Yaya and Marimon (2017:1309) identified factors that impact customer satisfaction; in addition to contextual and personal aspects, price, product quality, and service quality also play a role. Confirmation, service quality, information quality, product and delivery quality, and perceived value have been identified as the determinants of satisfaction (Chauke, 2014:30). According to Makinde and Rafiu (2020:14), the sustainability of TVET depends on customer loyalty derived from customer satisfaction. Service quality and customer satisfaction in TVET colleges are linked together (Mujinga, 2020:230). Customer satisfaction requires higher education institutions to not only match customer expectations but exceed them in order to promote customer retention, revisit intentions, and spread word-of-mouth communication. The next section discusses service quality at TVET colleges.

2.7 SERVICE QUALITY AT TVET COLLEGES

TVET colleges are regarded as second-class educational institutions in South Africa. As a result, their enrolment targets are not being met, which is a problem for the development and growth of this educational sector (Mason *et al.,* 2018:15). Knowledge of service quality assessments made by students could assist in understanding this so-called “poor public perception” and would enable managers to direct resources into important areas that influence perceptions. In a recent study, Pillay *et al.* (2017:87) found that the expectations of TVET students consistently exceeded their perceptions of the service quality they received, thus leading to dissatisfaction with their TVET college.

TVET needs to improve and engage much more in the service quality concept and use it as a positioning and competitive tool to compete with other institutions of higher learning (Makinde & Rafiu, 2020). Before TVET college personnel use service quality as a tool, it is very important to start by understanding the service quality concept. Based on that conceptualization of service quality, the concept of service quality is all about the perception of the customer towards service (Hassan *et al.,* 2021:4641). However, Mason *et al.* (2018:182) mentioned the service quality concept as for how well the service provider meets or exceeds their customer expectations.

Khalid *et al.* (2019:425) supported this statement by indicating that the quality of service is being assessed by the customer's decision about the level of service performance. What is noted about these aforementioned definitions of service quality concept is that researchers, academics, and authors use diverse ways to define service quality concept, but all definitions of service quality concept are grounded in exceeding customer expectations.

Furthermore, inferring from the above definitions, service quality in education could be defined as students' measurement or evaluation of how the service delivered by the TVET college matches their expectations. This indicates that the quality of services delivered is defined by the students and not by technical and vocational education and training colleges (Makinde & Bamiro, 2022:116). Service quality is important in ensuring excellent achievements (Moosa *et al.,* 2017:22) because the educational sector is highly competitive, thereby leaving students with many available options to choose from. Service quality determines the performance of the students, which is basically the key factor for the success and long-term existence of the institution (Zungu & Lekhanya, 2018:184).

Service quality in higher education institutions cannot be undermined; this is because outstanding service quality gives the institution an edge in the competitive market, which leads to maximum growth (Mustaffa *et al.,* 2019:856). According to Khalid *et al.* (2019:425), the main focus of service quality is the requirement to meet the needs of customers and recipients. It is the level of consistency that occurs between the perceptions and the expectations of the customers; therefore, if the educational institution is able to meet the requirements and needs of the customers, then the service quality can be considered high by the customer. Meanwhile, if the institution fails to meet the requirements and needs of the customers, the service quality could be considered low by the customer.

Most authors and researchers define service quality in diverse ways; nevertheless, most of the definitions aim at ensuring that the customers' expectations are being met. In the study of Twun and Peprah (2020), the SERVQUAL model was applied in assessing service quality. The five dimensions of service quality (reliability, tangibility, responsiveness, assurance, and empathy) identified by Parasuraman *et al.* (1985) were used. The findings of the study revealed that the service quality provided by higher institutions was satisfactory to the students. On the other hand, the five

dimensions were used by Akhlaghi and Akhlaghi (2012), and the findings revealed that there were deficiencies in service quality in the assurance and responsiveness of the services offered, thereby leading to students' underperformance.

Mokhtar and Husain (2015), using the SERVQUAL model, found that out of the five dimensions of SERVQUAL, four (tangibility, reliability, assurance, and empathy) were significant to the students' performance, while responsiveness was not. This shows that some students had a negative perception of TVET service quality because the majority of their expectations were not met, thereby indicating dismal performance with the service quality of TVET. Zungu and Lekhanya (2018) also found that students' expectations of service quality were higher than their perceptions of service quality, which showed underperformance of TVET, which led to students losing to other competitors. The study by Mason *et al.* (2018) pointed out that inadequate management systems and staff training are the reasons for poor quality service in TVET, which hinders the objectives of TVET in institutions.

2.8 STUDENT SATISFACTION AND SERVICE QUALITY

The assessment of students' experience is vital in determining the service quality dimensions of TVET globally and South Africa in particular. The recent complaint about the supply and quality of TVET graduates in South Africa, Makinde and Bamiro (2022:116), justifies the need to investigate the level of service quality from the student's experience as the customers of TVET for improved socio-economic development of South Africa. The challenge facing the service providers is that**,** if customers have excellent knowledge of quality that exceeded their expectations by far, they may raise their expectations to new levels. The expectations of customers can be influenced by factors such as word-of-mouth, communication experience and TVET colleges' charges (Min & Khoon, 2014:90).

Meeting customer expectations and satisfying their needs are important elements in the TVET college effort to retain its customers and gain a competitive advantage over their competitors. Many scholars (such as Cant *et al*. 2002; Schiffman & Kanuk, 2010) researched the customer perception concept to understand service quality, and defined perception as a process of selecting, organizing, and interpreting information inputs to produce meaning and a coherent picture of the world. Whereas Zimmerman and Blythe (2014) describe perception as a process of converting sensory input into

an understanding of how the world works. Customers' perception regarding service quality depends upon the gap that exists between what the student expects and what they receive (Koni *et al.*, 2013:33).

It becomes imperative for TVET colleges in South Africa to understand the expectation levels of the customers, and design service delivery according to their expectations (Mmako & Schultz, 2016:143). Delivering a service according to customer expectations and superior quality of service enhances the competitive advantage of TVET colleges and helps retain customers. Perceptions of customers become an influential factor when comparing customers' satisfaction with the service that is provided to them (Phiri & Mcwabe, 2013:96).

Pillay *et al.* (2017:87) define customer expectations as viewpoints around service delivery that function as criteria against which performance is tried by customers. Whereas Shirley *et al.* (2015:75) pointed out that expectations of customers are viewpoints about service superiority, serving as principles compared to which performance of the organizations is judged by their customers. This will also be useful to the public TVET college's customers. It is very imperative for TVET colleges also to note that customers do not have the same desires regarding their model quality level, and they differ in the extent on which they tolerate a certain lack of quality.

The market-oriented service provider (including TVET college) however endeavours to meet the individual expectations of their customers (Boshoff, 2014:20). Satisfaction is a customer's assessment of whether a service meets the customers' desires and expectations (Makinde & Rafiu, 2020:24). An alternative definition is "the difference between customer expectations and customer perceptions" (Mpanza *et al.,* 2019:167). Expectations are what customers ideally want - what they wish for and expect from an excellent service provider, and what they think should happen in the next service encounter, while perceptions are the actual service levels they experience (Mason *et al.,* 2018:15).

Customers perceive service quality in terms of multiple factors rather than in a one-dimensional way (Twun & Peprah, 2020:169). Hassan *et al*. (2020:4641) stated that management of higher education institutions is responsible for ensuring service quality

to the student. Krishnan and Hoo (2021:90) corroborate that the accumulated experience of students on the service provided by the institution and members of staff will build up and create service quality. They stated further that evaluation of these experiences will enhance the setting of high standards for improved TVET training for sustainable development as well as student satisfaction.

2.9 CHALLENGES FACED BY STUDENTS AT TVET COLLEGES

There is a broad consensus amongst strategies for socio-economic development in South Africa, particularly on government policies in education. A report by international organizations on sustainable development and solutions to prevailing socio-economic challenges favours Technical Vocational Educational and Training (TVET). Makinde and Rafiu (2020:22) stated that TVET is a technique of preparing people for dynamic engagement in occupations of functional value and effective sources of skilled workforce.

Oviawe (2018:76) argued that TVET is focused on applied technical skills as opposed to academic, skills as opposed to knowledge, and practical as opposed to theory. According to (Van Rensburg, 2016:2; Zungu & Lekhanya, 2018:186; Makinde and Bamiro, 2022:118) data gained from interviews with relevant role players identified challenges such as lack of infrastructure, poverty, poorly resourced campuses, high turnover of staff, limited course offerings, lack of policies and lack of financial assistance for disadvantaged students as key challenges faced in the rural areas. The most pressing issues are poor leadership, lack of management skills, poor performance, and inequitable resources (Pillay *et al.,* 2017:87; Hassan *et al.,* 2021:4641).

2.10 EFFECT OF THE TVET COLLEGE IMAGE ON STUDENTS

The image of TVET colleges is the sum of collective attitudes, associations and feelings that influence decisions concerning investment in TVET (Clement *et al.,* 2022:3). The image of TVET emerges out of a complex mixture of market value and attractiveness of vocational education and training. Technical and vocational education and training have a key role to play in the international education agenda,

as outlined under Sustainable Development Goal 4 of the 2030 Agenda for Sustainable Development (UNESCO, 2018:3).

Three of the seven targets under the goal are specifically related to TVET, indicating that Member States realize the importance of ensuring inclusive, equitable, and quality TVET for all. Other goals also have TVET-related targets, proving that skills and education are central to realizing all the Sustainable Development Goals (UNESCO, 2021:8). However, while the importance of TVET is increasingly recognized in international discourse and policies, the image of TVET can be quite challenging when compared with other educational pathways such as higher academic education.

Even in countries where there is a high-quality TVET system, initial enrolment in TVET is declining and many students continue to prefer and follow the academic education track as their first choice (Clement *et al.,* 2022:3). The low image of TVET is therefore a universal concern. TVET is perceived in developing, emerging and even in industrialized countries as a 'second-best option' in comparison to general or academic education (Wolhuter, 2017:18).

Consequently, TVET is less seen as an educational option therefore as a step back on the career path. This educational choice has a range of critical implications on the individual, business, and societal levels (Makinde & Bamiro, 2022:118). Since this situation has been recognized for quite a while, it is remarkable that there has hardly been any empirical research done on this topic. It assumes that this kind of educational choice is especially influenced by the image of TVET (Makinde & Rafiu, 2020:19).

The image of TVET should be understood as the sum of attitudes, associations and feelings about non-academic vocational education and training which people in a cultural group implicitly or explicitly communicate among each other and which influence the willingness of individuals involved to invest in TVET **(**Khalid *et al.,* 2019:426**)**. A good image of TVET, for instance, could have the effect that young people dedicate their time and that their parents invest money in TVET (UNESCO, 2021:8). It could also influence future teachers to choose TVET, political stakeholders

to provide resources for TVET and companies to hire TVET graduates (Clement *et al.,* 2022:3).

A good image of TVET leads to more gifted young people choosing vocational training. Such young people graduate with better results and are more easily employed by companies (Makinde & Bamiro, 2022:119). Through this process, certain career paths and options for non-academic professions develop further in companies and in turn add to the attractiveness of certain professions in the TVET sector. Investment in TVET (by the government, by companies and by individuals) becomes less risky and more profitable. Then qualified teachers also choose TVET as an attractive option for themselves (Twun & Peprah, 2020:170).

Thus, in turn, the quality of TVET improves, which leads to more talented young people choosing vocational education and training. Even if these developments cannot be presented as a linear chain of cause and effect as suggested here, the interdependent influences between structural changes and the image of TVET are visible (Mpanza *et al.,* 2019:168). Whatever holds for the advantageous effect of a positive image also holds the other way around as a 'vicious circle for a negative TVET image'. A good or bad image of TVET or certain professions is only partially a result of rational decisions, persuasion attempts, or measures to promote an image. Nevertheless, such measures are certainly effective and helpful under certain conditions. Active, systematic, and intentional approaches to improve the public image of TVET are called 'marketing'. These institutions need to devote resources to marketing to firstly increase the visibility of the brand, then enhance image through service quality improvement.

2.11 CONCLUSION

From the findings emanating from the literature, customers' expectations of service quality in a TVET college are higher than their perceptions of service quality. Customer's higher service quality expectations, relative to service delivery by the TVET colleges result to customer dissatisfaction. This tendency ultimately leads to the loss of customers (students) to similar competitors. Therefore, this proves that the customer expectations of service quality are not in line with the acceptance levels of

service quality in the TVET sector. There is a clear indication from the theoretical findings that much still needs to be done by TVET colleges.

This chapter provided a comprehensive literature review on TVET, NSFAS, service quality and its antecedents as well as satisfaction concepts. The chapter further discussed service quality at TVET colleges, student satisfaction and service quality as well as the challenges faced by students at TVET colleges. In conclusion, the chapter discussed the effect of TVET college image on students. The next chapter provides an outline of the research design and methods adopted for the study.

CHAPTER 3 - RESEARCH METHODOLOGY

3.1 INTRODUCTION

The preceding chapter provided a comprehensive literature review on the Expectancy Disconfirmation theory, Cognitive Dissonance, and Contrast theory as well as the constructs of the study. The main variables discussed are service quality factors which included monetary value (price/tuition fees and financial aid), customer service and convenience (variety of programs, learning environment, student/staff relationships, and extra learning activities), and service quality image (quality of teaching, college accessibility, and preferred course availability) as well as customer satisfaction concept. The chapter concluded with the effect of TVET college image on student satisfaction.

The present chapter is based on the research methodology aspects undertaken to gather the study's data from its respondents. The first section presents the research reasoning, which focuses on deductive and inductive scientific reasoning. The second section discusses the research paradigm or philosophy sustaining this study. This is followed by the research approach and strategy employed in conducting this study.

The fourth section provides details relating to the research design implementation, including the target population, sampling, questionnaire development, and administration. The fifth section focuses on data analysis, including the actions and steps taken to ensure good reliability and validity, while the last section concludes with a summary of ethical issues considered when conducting the study.

3.2 RESEARCH REASONING

Babbie (2017:396) defines scientific reasoning as, both thinking about the content of science and the set of reasoning processes that permeate the field of science, including induction, deduction, experimental design, causal reasoning, concept formation, hypothesis testing, and so on, to achieve research goals. Achieving the research goals permits one to use approaches and research methods that are either deductive or inductive (Leedy & Ormrod, 2015:121). In other words, the study's focus on testing hypotheses and establishing causal relationships on the influence of service quality on client satisfaction at TVET colleges aligns with a deductive methodology within the positivist paradigm.

The hypothetical-deductive method provides a useful, systematic approach for generating knowledge to solve basic and managerial problems (Sekaran & Bougie, 2016). The main difference between deductive and inductive thinking is that deductive reasoning aims to test an existing theory, while inductive reasoning aims to develop a theory (Creswell, 2014:26). Inductive reasoning moves from specific observations to broad generalizations (Polit & Beck, 2014:792). The inductive approach is applicable when there is little to no existing literature on a topic; it is common to perform inductive research because there is no theory to test (Babin & Zikmund, 2016:330).

The inductive approach consists of three stages: observation, pattern, and development theory. Hence, inductive reasoning is commonly associated with qualitative research. Reasoning deductively means testing these theories (Saunder *et al.,* 2016:76). The deductive approach develops specific predictions through theories to explain causal relationships between variables and is typically applicable to quantitative studies (Leedy & Ormrod, 2015:121). Therefore, a deductive method of approach is appropriate for an investigation on service quality and customer satisfaction, as the study on service quality and customer satisfaction is likely to test existing theories or propositions.

Thus, Brown *et al.* (2018:205) acknowledged that this approach is suitable for quantitative research. Furthermore, it consists of four stages: existing theory, formulation of hypotheses based on theory, collecting data to test the hypotheses, and analyzing the results (Polit & Beck, 2014:792). As such, the present conforms to the highlighted characteristics because theoretical propositions were outlined through a literature review as presented in the previous two chapters (Chapters 1 and 2).

3.3 RESEARCH PARADIGMS

Research paradigms term is derived from the history of science, where it was used to describe a cluster of beliefs and dictates to scientists in a particular discipline influence what should be studied, how research should be done, and how results should be interpreted (Burns & Burns, 2014:71). The word "paradigm" is being used in social research to refer to the philosophical assumptions or fundamental set of ideas that guide the researcher's actions and define his or her worldview (Lincoln *et al*., 2011:95). Introduced by Thomas Kuhn (1970), the concept, paradigm, was used to describe a group of specialists' common assumptions, ideas, and ideals about the nature of reality and knowledge (Kaushik & Walsh, 2019:1).

Drawing from the above information, the research paradigm is an arrangement of vital beliefs. Furthermore, convictions follow regarding how the globe is evident, which then fills in as a reasoning structure that helps the behaviour of the researcher (Burns & Burns, 2014:7). Knowing what paradigm, a researcher assigns to is vital because it

determines what questions are considered valuable of investigation and what processes are needed for the responses to be acceptable (du Plooy-Cillers *et al*., 2014:19). Epistemological considerations divide the approaches into number of categories based on nature and structure of knowledge. The paradigm selected should fit the objectives of the study, the institution, the resources at hand, and the preference of the researcher.

There cannot be an approach to all the possible philosophies that could present its distinct paradigm (Malhotra *et al*., 2017:283). These philosophies could be merged on common grounds and finally, Guba (1990) gave four categories of world views. Applying research paradigms in this context involves more than just carrying out research; it also involves using data-driven insights to make wise decisions and implement constructive changes that directly benefit the institution's clients (students, staff, and other stakeholders) as well as the institution itself. To achieve that, a positivist paradigm is quite relevant to the study of service quality and customer satisfaction. The following subsection describes in detail the common research paradigms used in marketing research, contrasting them with their ontological, epistemological, and methodological perspectives.

3.3.1 Positivism

Positivism is described as an epistemological position that promotes the application of the methods of the natural sciences to the study of social reality and beyond (Kumar, 2019:248). The predominant belief of a positivist philosophy is a view that the study of consumers or individuals and marketing phenomena should be ‘scientific’ in the manner of the natural sciences (Malhotra *et al*., 2017:155). The positivist paradigm expresses assumptions from a theoretical framework, which then operationalizes and statistically tests the hypothesis using collected empirical data (Eisend & Kuss, 2019:62).

Babbie (2017:397) suggests that the doctrine of positivism hinges on testing theories and subsequently providing material for the establishment of principles. Consolidating the theoretical knowledge above, positivism can be particularly useful when examining service quality as a driver of customer satisfaction in TVET colleges. Positivism

promotes the gathering of empirical data, while also seeking factual information. The emphasis and common theme of positivism is frequently on cause-and-effect relationships, and this is key to achieve demonstrating correlation between service quality and customer satisfaction among TVET college students. Therefore, often, positivism is a good fit for quantitative analysis.

3.3.2 Phenomenology

Phenomenology (also referred to as interpretivism) is a school of philosophy that focuses on how individuals interpret experiences (Burns *et al.,* 2018:99). In phenomenology, researchers believe that what they observe is an interpreted study rather than reality (Bryman, 2012:630). Furthermore, phenomenological research involves more reliability and validity of the entire process of evaluating a human's understanding of their life experiences (Malhotra, 2015:274). That is, comprehend students' thoughts, feelings, and interpretations of the quality of services. Interpretivism is regarded as a paradigm that focuses on understanding the differences between individuals and elements related to social factors and sciences (Wiid & Diggines, 2015:310).

This philosophy entails a concise and in-depth understanding of subjective interaction and behaviour from individuals in social phenomena and it is associated with qualitative research (Babbie, 2017:153). In general, using a phenomenological approach in this study would entail understanding the subjective experiences of TVET college students to better understand how service quality affects students' satisfaction, perceptions, and lived experiences.

3.3.3 Pragmatism

Pragmatism is a paradigm that claims to bridge the gap between the scientific method and structuralist orientation of older approaches and the naturalistic methods and freewheeling orientation of newer approaches (Creswell, 2015:33). Pragmatic paradigm believes that social phenomena exist not only in them but also in the world and that some reasonably stable relationships can be found among the characteristic messiness of life (Burns *et al.,* 2018:99). It further believes that one should stop asking

questions about the laws of nature and reality (ontology) and theory of knowledge (epistemology) (Creswell, 2014:196).

This paradigm is linked with a mixed-method research approach (Malhotra, 2015:274), as it focuses its attention on a particular situation and utilizes pluralistic approaches to derive knowledge about that situation. Based on the preceding discussion, this study employed a positivist paradigm as its underpinning philosophy because the study's results are expected to be compared with the stated research objectives and questions. This is consistent with the objective of this study, which investigates service quality as a catalyst for customer satisfaction at TVET colleges in Free State Province, South Africa, based on a theoretical framework with several quantifiable variables. Statistical methods are used to ascertain whether the framework fits the data.

3.4 RESEARCH APPROACH

A research approach is a procedure selected by the researcher to collect, analyze, and interpret data. There are three approaches to research: quantitative, qualitative, and mixed methods (Malhotra *et al*., 2017:283). According to Gross (2018:42), the quantitative approach is a research method that highlights the statistical analysis information collected using surveys and questionnaires to test the theories and investigate the relationship among variables. A quantitative approach makes sense, given the focus of the study is on service quality and customer satisfaction.

The quantitative approach is located within the positivism and post-positivism paradigms. In essence, this approach provides statistical validity and a rigorous examination of the correlations between the variables. The approach offers a wide-ranging viewpoint on how many aspects of service quality impact overall satisfaction levels. Where, the procedure of gathering, analyzing, and interpreting non-numerical data, such as language, is known as qualitative research (Denzin & Lincoln, 2018:87).

Qualitative research may be used to discover how an individual subjectively perceives and interprets their social environment (Wiid & Diggines, 2015:65). Qualitative research is associated more with constructivism and includes a transformative paradigm focusing on the approach of words and images. Mixed methods is a research approach whereby researchers collect and analyze both quantitative and qualitative data within the same study (Malhotra *et al*., 2017:188). It is also referred to as multi-methodology where the use of more than one method of data collection or research in a research study or set of related studies (Babin & Zikmund, 2016:179).

Mixed method approaches allow researchers to use a diversity of methods, combining inductive and deductive thinking, and offsetting limitations of exclusively quantitative and qualitative research through a complementary approach that maximizes the strengths of each data type and facilitates a more comprehensive (Bell, 2017:30). Procedurally, these approaches rely on inductive designs aimed at creating meaning and producing rich, descriptive information (Leady, 2017:124).

Table 3: CHARACTERISTICS OF QUALITATIVE AND QUANTITATIVE RESEARCH APPROACHES

Table 3.1: Characteristics of qualitative and quantitative research approaches

Research aspect		Quantitative Research		Qualitative Research
Common purpose		Test hypotheses or specific research questions		Discover ideas, used in exploratory research with general research objects
Approach		Measure test		Observe and interpret
Data collection approach		Structured response categories provided		Unstructured, free-form
Researcher independence		Researcher uninvolved observer, results are objective		Research is intimately involved, and results are Subjective
Samples		Large samples to produce generalizable results that apply to other situations		Small samples often in natural settings
Most often used		Descriptive and causal research designs		Exploratory research designs

Source: Zikmund and Babin (2016:40)

For this study's purpose, the quantitative approach was followed. As exposed in Table 3, the quantitative research approach was chosen because it seeks to explain and quantify the data and typically employs some form of statistical analysis and testing (Creswell, 2015:2). The quantitative approach was adopted to determine the influence of service quality factors on students' satisfaction at TVET colleges. In this study, the quantitative approach offers statistical validity and allows for a rigorous examination of relationships between variables, aligning with the positivist paradigm and the aim to test hypotheses.

The approach was appropriate because it improves the accuracy of results through detailed statistical analysis such as factor, regression, and correlation analysis and avoids the element of subjectivity associated with the qualitative approach (Gross, 2018:42).

The results obtained from these research tools are easily quantifiable and the instruments have a potentially high degree of accuracy. Malhotra *et al.* (2017:189) assert that the quantitative approach is descriptive and requires large samples that help in generalizing the results of the population. This tool is used often for testing specific research hypotheses (Babbie, 2017:160).

3.5 RESEARCH DESIGN

Sunday (2018:18) defines research design as "a master plan that stipulates the methods and procedures for gathering and examining the needed data". However, Brown *et al.* (2018:205) define research design as a drawing that assists in collecting and analyzing data. The purpose of a research design is to guarantee that the evidence acquired in a research project allows the academic to answer the initial question as concisely as possible (Babin & Zikmund, 2016:180).

However, Burns *et al.* (2018:99) indicated that the choice of research design depends on the nature of the research whether it is exploratory, conclusive, or causal. Hence,

researchers are guided by the following research designs, namely, exploratory, descriptive, and causal design.

Exploratory research is typically the first step in conducting any research and typically is shown with the expectation that further research will be undertaken to provide a conclusive indication (Burns *et al.,* 2018:99). Exploratory research design is suitable for a problem that is not clearly defined. The primary objective of an exploratory research design is to provide an understanding of the research problem to produce new thought (Wiid & Diggines, 2015:65). The descriptive design involves the collection of data to test hypotheses or answer questions about the current status of the subject inquiry (Malhotra *et al.,* 2017:73).

The purpose of descriptive research is to discourse the questions of what, who, where, when, and how surrounding a given sample. Moreover, descriptive research is useful for describing the attitudes, beliefs, and opinions of research participants, rather than providing detailed explanations (Malhotra, 2010:106).

Causal-comparative research attempts to determine the cause or reason for existing differences in the behaviour or status of groups of individuals (Zikmund & Babin, 2016:116). Causal research design is designed to collect data that will permit the researcher to define a cause-and-effect relationship between two or more variables (Hair *et al*., 2014:32).

Casual research aims to examine the cause-and-effect relationships between market variables (McDaniel & Gates, 2013:42). Each design is linked to a specific research approach. This study followed a descriptive design since the attempt was to determine the factors affecting students' satisfaction with services at the TVET college (Wiid & Diggines, 2015:65). In employing a descriptive design, this study would be able to provide a thorough assessment of the state of service quality and customer satisfaction at TVET colleges, offering insightful information for potential improvements and future research.

Furthermore, a survey was adopted to achieve the objectives and to enhance the accuracy and validity of the study. A survey strategy facilitates the collection of data

from many respondents using questionnaires. The large sample size of students, at TVET colleges. To achieve the objective of the study, the design of this study involved a review of the literature as well as the empirical study.

3.6 LITERATURE REVIEW

A comprehensive literature review on relevant variables identified for this study was conducted with the sole determination of addressing its theoretical intentions (see Chapters 1 and 2). A literature review is a comprehensive summary of previous research on a topic to understand how it relates to the present research (Babbie, 2017:187). The literature review focused on the theories underlying the study such as expectancy disconfirmation theory, cognitive dissonance, and contrast theory.

Furthermore, this study's key variables, including service quality variables (monetary value, customer service, and convenience, service quality image as well as customer satisfaction) received attention.

Relevant secondary sources consulted included both hard copy and online peer-reviewed journals, books, peer-reviewed books, football magazines and newspapers, relevant acts, and other governmental publications. Several databases (Science Direct, Sabinet, EBSCOhost, and Emerald), amongst others, were used as portals for accessing some of the literature, while some were accessed directly from other credible Internet sources.

3.7 EMPIRICAL RESEARCH

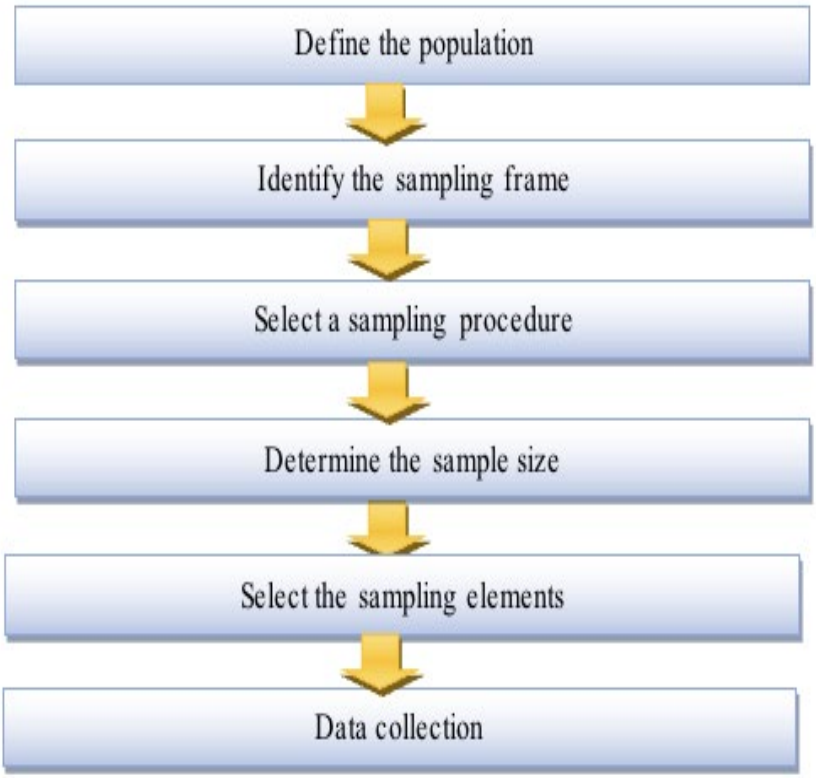
The empirical research necessitates the actual collection of primary data. This study's empirical design comprised a sampling process, a data collection procedure, and a data analysis strategy. Once a specific research design is selected, the data collection needs to be decided. Sampling is a method that guides a researcher in choosing the suitable subjects to observe.

As a result, Brown *et al.* (2018:204) identify six coherent phases in a sampling design process such as defining the target population, identifying the sampling frame, selecting a correct sampling procedure, determining appropriate sample size, selecting sampling elements as well as conducting the final data collection process. The list of these steps is demonstrated in Figure 3.1.

Figure 6: THE SIX-STEP PROCEDURE FOR DRAWING A SAMPLE

Source: Brown *et al.,* (2018:205)

The choices taken during each step of the sampling design process for this study are clarified in the subsequent section



3.7.1 Target population

The initial step in the sampling process is to clearly define the target population. The population is defined as a group of people or the public that share one or more publicly verifiable characteristics (Polit & Beck, 2018:739). In research, the population is defined as the entire group of people to which the sample is designated (Leavy, 2018:264). In addition, the population depends on the scope and focus of the research (Maree, 2015:29; Sunday, 2018:19). Wiid and Sunday (2018:19) suggest that within the population, the elements that are examined as determined by the research problem are mentioned as the target population. Based on the objective of this study, the target population comprised all the registered students at Goldfields TVET College in the Free State province both male and female from all racial groups.

Presently, there are 245 students registered at N6. The college is based in Matjhabeng Local Municipality, under the Lejweleputswa district in Welkom, the Freestate province. The college serves five local municipalities viz: Matjhabeng, Tokologo, Masilonyana, Nala, and Tswelopele. N6 students in Financial Management, Hospitality, Edu-care, Management assistant, Marketing management, and Business management constitute the population in the study.

The reason for choosing Goldfields TVET College is that it has been faced with both student protests and lecturer strikes, coupled with the COVID-19 pandemic, these challenges are indicative of the concept of satisfaction. COVID-19 has exposed many institutions of higher learning for failing to have measures in place to deal with unforeseen circumstances (natural causes).

3.7.2 Sample frame

A sample frame is a representation of the elements of the target population that comprises a list or set of directions for identifying the target population (Wiid & Diggines, 2015:188; Thomas *et al.,* 2019:15). Similarly, McDaniel and Gates (2013:281) define a sample frame as a list of all the population elements with which units are selected. Instances of sampling frames include but are not limited to

telephone directories, registered voters list, email addresses, research company databases, online newsgroup postings, and customer lists (Zikmund & Babin, 2016:338). After defining the target population, the researcher acquired a list of all eligible sampling units (Students) referred to as the sampling frame from the college WhatsApp groups provided by the lecturers.

Lecturers have created WhatsApp groups for all the programs from all levels as part of COVID-19 recovery strategies for ensuring information is passed through using all means available. Therefore, the respondents will be visited using convenience sampling to generate the required data.

3.7.3 Sampling method

The sampling process refers to how the sample units were chosen (Clow & James, 2014:227). According to Hartley *et al.* (2020:91), there are two diverse methods of sampling, namely, probability and non-probability sampling methods. Probability sampling highlights that any member of the target population has a known chance of being selected for the survey (Grove *et al.,* 2013:362). The sample elements are chosen by chance, and the chance for each element is known.

Non-probability sampling, on the other hand, is based on the researcher's discretion, and the degree of sampling error cannot be calculated (Gross, 2018:305). Non-probability-based sampling methods are reasonable solely because they address a specific research purpose. They include but are not limited to convenience, quota, judgemental, and snowball sampling (Babin & Zikmund, 2016:348).

This study employed a non-probability sampling method to identify the target population. Although the lists of the intended target population were provided, a non-probability convenience sample was used in this study. All registered N6 students will be contacted in person to complete the questionnaire.

Convenience samples are sometimes regarded as *accidental samples* because elements may be selected in the sample simply because they just happen to be situated or administratively near where the researcher is conducting the data collection

(Sunday, 2018:23). The rationale behind using convenience sampling was that it is affordable and accessible, and the subjects are readily available and identified based on their in-depth knowledge (Malhotra, 2015:259).

3.7.4 Sample size

Sample size is defined as the number of sample elements that account for inclusion in a study (Maree, 2015:38). However, deciding the appropriate sample size for analysis is difficult, and several factors are commonly considered when deciding on sample size. These include the available funds to cover the cost, time constraints, the heterogeneity of the population, and the type of analysis the study seeks to undertake (Hair *et al.,* 2014:88).

These factors were taken into consideration when determining the sample size of this study. With a total population of 245 registered and available for the study, it is impossible to sample all the available units. Therefore, a sample size of 150 was pegged. This sample is based on the confidence level of 95% and 0.05% margin of error. This means that 150 questionnaires will be distributed to the intended participants.

Table 4: SAMPLE SIZE DETERMINATION

Programmes	**Number of questionnaire respondents**
Human Resources	25
Business Management	25
Marketing Management	18
Management Assistant	32
Financial Management	25
Edu-care	25

Source: Author compilation (2022)

Moreover, various multivariate statistical analysis techniques are used to analyze the data in this study. These analyses require a substantial amount of sample units. The algorithm underpinning the SEM for example is sensitive to the sample size. Hair *et al.* (2014:120) suggest that the sample size should be determined by the number of constructs, number of measured items, and multivariate normality.

Hair *et al.* (2014:30) suggest that for a complex model with more than seven constructs, the minimum sample size required is 150 or more. Based on the above-presented recommendations the study's sample size was pegged at N=150. The results of the final adjusted sample are presented in chapter four under the response rate section.

3.7.5 Data collection process

Data will be collected through a survey using a structured questionnaire in this study. A survey will be carried out to provide accessible, quick, inexpensive, efficient, and accurate information about the population (Babin & Zikmund, 2016:179). A self-administered questionnaire will be employed because of its cost-effectiveness and ease of administration.

According to Malhotra (2010:230), a questionnaire is a list of carefully structured questions chosen after considerable testing to elicit reliable responses from a particular group of people. The questionnaire method is used for collecting primary data by asking a sample of respondents to answer a list of carefully structured questions chosen after considerable testing to elicit reliable responses (Malhotra, 2010:459).

The decision to make use of a questionnaire is influenced by the characteristics of the sample the study intends to collect data from; the importance of reaching each targeted respondent; the importance of respondents' answers not being contaminated or distorted; the size of the sample and the nature and the types of the questions (Saunders *et al.,* 2016:116).

In this study, a questionnaire was deemed suitable since an average predetermined sample size of N=150 students were required to satisfy the sample-size requirements for quantitative research. A questionnaire may be either open-ended or closed-ended. Open-ended questionnaires require respondents to respond to a question using their own words, whereas the closed-ended questionnaire limits the respondents to choose from the list provided by the researcher (O'Sullivan *et al*., 2017:86).

In this study, questionnaire items are closed-ended, which denotes that the students are restricted to indicating their answers to the structured questions provided in the survey questionnaire. Gupta (2011:177) emphasizes the importance of designing a questionnaire since questions have to be logically ordered and should not be arranged haphazardly. The initial questions can affect a respondent's willingness to answer a questionnaire.

Suppose the early questions are confusing, time-consuming, or threatening. In that case, the respondent may refuse to participate (O'Sullivan *et al.,* 2017:86). Given this, the questionnaire is designed systematically, taking care to ensure that respondents will be able to understand the questions and provide the information elicited quickly.

The questionnaire will be self-administered, which suggests that respondents are expected to complete it themselves and without additional assistance. This enabled respondents to be free and objective as they answered the questions without duress. The research questionnaire will be partitioned into Five (5) sections comprising closed-ended questions:

Section A: Demographic profile of the sample

This section comprised six questions that elicit information on the demographic profile of the respondents. The questions elicited information on gender, age group, racial extraction, level of study, program or course enrolled for, and mode of payment (bursary or private).

Section B: Monetary Value

Section B elicited information on service quality antecedents comprising two sub-sections (price/tuition and financial aid). The questions will be adapted from validated scales used in previous studies.

Section C: Customer service and convenience

Section C of the questionnaire elicited responses to four service quality factors (Variety of programs, learning environment, students/staff relations, and extra-learning activities).

Section D: Service quality image

Section D of the questionnaire comprised Three service quality image factors to elicit responses to issues about the quality of teaching, college accessibility, and course availability. Questions used in this section will be adapted from a previous scale validated.

Section E: Students' satisfaction

Lastly, Section E of the questionnaire comprised five questions to elicit responses on student satisfaction. Questions used in this section will be adapted from a previously validated scale.

3.7.6. Response options

Section A of the questionnaire made use of dichotomous and multiple-choice questions. Response options used in sections B to E of the questionnaire were presented in the form of a Likert-type scale format. According to Grove *et al*. (2013:362), a Likert-type scale is a psychometric and bipolar scale that measures both negative and responses in questionnaires. A Likert scale will be used in this study due to its compatibility with questionnaires and its ability to objectively measure people's opinions and attitudes (Malhotra, 2017:356).

In addition, it reduces the development of response bias amongst the respondents, facilitates the standardization and comparability of questions amongst the respondents, and its questions easy to code and analyze directly from the questionnaires (Grove *et al.,* 2013:362).

This study will make use of a seven-point Likert-type scale ranging from 1= strongly disagree, 2=disagree, 3= somewhat disagree, 4=neutral, 5=somewhat agree, 6= agree and 7= strongly agree. The median ‘‘4’’ position on the scale will be labelled as ‘‘neutral’’ since it is considered more appropriate to allow respondents to state their actual views regarding any item without being arbitrarily forced to take either the negative or positive position. A seven-point scale is preferred ahead of a five or six-point scale as it facilitates the collection of a broader spectrum of responses (Babin & Zikmund, 2016:76).

3.8 PROCEDURES FOR DATA ANALYSIS

Data analysis is a process of inspecting, cleansing, transforming, and modelling data to discover useful information, informing conclusions, and support decision-making to achieve the research objectives (Neuman, 2014:85). The collected data is subjected to a data preparation process to ensure that they are ready for the actual analysis.

After data preparation procedures have been completed, the data will be analyzed using descriptive statistics (including tests for normality of data), exploratory factor analysis, and regression analysis. Descriptive statistics will be analyzed using the Statistical Packages for the Social Sciences (SPSS version 28.0). Before the analysis, the data preparation process follows, as discussed in the next subsection.

3.8.1 Data preparation

The process of data preparation involves checking the data for accuracy before entering it into the computer to transform it (Clow & James, 2014:227). Data preparation is a vital prerequisite during data analysis because it ensures that only accurate data are entered into the analysis system and that corrective action is taken to address any existing anomalies in the data before the actual analysis is performed (Malhotra, 2010:266).

There are four phases of data preparation, which the researcher employed in this study, namely data capturing, data editing, coding, and cleaning. These phases are employed to ensure that the data collected is complete and ready for analysis (Polit & Beck, 2017:739).

- **Data capturing**

Malhotra (2017:324) defines data capturing as transferring coded information from the questionnaires or coding sheets directly into the computer by keypunching. In this study, the researcher has performed data capturing using the Microsoft Excel program.

- **Data editing**

Data editing is checking the completeness, consistency, comprehensibility, uniformity, and legibility of data and making the data ready for coding and transfer to storage (Gerrish & Lathlean, 2015:587). Typical anomalies in data in questionnaires include omissions, inconsistencies, incompleteness, illegibility, and any other identifiable errors (Burns & Bush, 2014:214). In this study, each collected questionnaire was evaluated to ensure that it had been filled out entirely and befittingly.

- **Data coding**

Coding is assigning and classifying a code to represent a specific response to a question with a numeric score or character symbol (McDaniel & Gates, 2014:108). Assigning numerical symbols permits the transfer of data from the questionnaire to the computer. Codes are generally considered to be numbered symbols; however, they are more broadly defined as rules for interpreting, classifying, and recording data (Babin & Zikmund, 2016:162). In this study, the collected questionnaires will be assigned values and numbers and entered into an excel spreadsheet.

For instance, 150 questionnaires are expected; each questionnaire will be assigned a specific and unique number ranging between 1 and 150. Additionally, all responses to questions will be assigned a specific code. For instance, two responses, namely ‘‘male’’ and "female", will be expected for the categorical variable ‘‘gender’’. Males will be assigned code 1. This ensures that only codes 1 and 2 are entered in the Excel document to facilitate data analysis.

- **Data cleaning**

  Data cleaning is the most crucial part of the data preparation process (McDaniel & Gates, 2014:400). Data cleaning involves error checking and treatment of missing responses, the substitution of neutral value, substituting imputed response, and a case-wise and pair-wise deletion (Malhotra, 2017:361). It is an important step in ensuring that the final data set is used sufficiently consistently and accurately to facilitate its objective statistical analysis.

  A typical example of such irregularities is missing entries that may have resulted from human error while entering data in the excel document. To check for and correct such errors, the columns, and rows of the excel spreadsheet where the collected data has been entered will be analyzed several times. This process will be repeated until no missing and wrong entries can be found on the data set.

3.8.2 Data analysis techniques

Several statistical methods will be analyzed in this study. For instance, descriptive statistics describe the basic characteristics of a variable, including central tendency, distribution, and variability (Zikmund & Babin, 2016:77). This study's descriptive statistics will include tabulations (frequency tables), mean, standard deviation, and cross-tabulations. Frequency tables, including frequencies and percentages, will be used to help describe the socio-demographic characteristics of the sample. Means and standard deviations provided information on the average and how to spread out the continuous variables.

The descriptive statistics results will be presented in Section 4.3 of Chapter 4. Thereafter, an exploratory factor analysis (EFA) was conducted to summarise the data set. From the factor scores, the descriptive statistics will be computed, comprising measures of central tendency (mean, median, and mode), measures of variability (variance and standard deviation), as well as measures of peakedness (skewness and kurtosis). Thereafter, correlation analysis will be performed and defined as a statistical approach for calculating the link between two variables and measuring the strength of the linear relationship between them (Polit & Beck, 2018:167). As Gates (2010:448)

indicated, the notion is that the changes in one variable influence the changes in another. To ascertain to what extent a computed correlation coefficient will be found in the population, it is necessary to analyze its statistical significance (Bryman, 2012:349).

3.9 RELIABILITY AND VALIDITY ASSESSMENTS

Whereas the research instrument developed in this study made use of multi-item scale measures, Malhotra *et al.* (2017:358) stress the importance of evaluating the accuracy and applicability of a scale by assessing its reliability and validity.

3.9.1 Reliability measurement

Reliability is the degree to which the measuring instrument is consistent and dependable over time (Feinberg *et al.*, 2013:128). It is the degree to which the measurement instrument is free from measurement error (Babbie, 2017:185). Hence, reliability, biases, and errors are minimized, and consistent results are achieved. According to Malhotra *et al.* (2017:731), various methods are employed to test for reliability, including the split-half reliability coefficient and the Kuder-Richardson Formula 20 (K-R 20), the composite reliability test, the Cronbach alpha test, and item-to-total correlations.

This study will test reliability using the Cronbach alpha test and inter-item correlations. Cronbach's alpha is a measure of internal consistency reliability test score that is the average of all possible split-half coefficients resulting from a different splitting of the scale items (Sekaran & Bougie, 2013:228). A high Cronbach alpha represents a great extent of applicability across the items in the scale (Malhotra, 2010:734). In applying the Cronbach alpha coefficient, the current study will employ the guidelines presented in Table 3.3 that were put forward by Cronbach (1951).

Table 5: RULES OF THUMB FOR THE CRONBACH ALPHA

Cronbach Alpha Value	Internal Consistency
$\alpha \geq 0.9$	Excellent

$0.8 < \alpha \leq 0.9$	Good
$0.7 < \alpha \leq 0.8$	Acceptable
$0.6 < \alpha \leq 0.7$	Questionable
$0.5 < \alpha \leq 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Source: Cronbach (1951)

The table reveals that the minimum acceptable alpha value is 0.7, and the rule of thumb, as indicated in Table 5 is used in this study. It is, therefore, expected that the alpha values for all measurement scales to be used in the study are above the 0.7 threshold.

3.9.2 Validity assessment

Validity refers to the extent to which the conclusions drawn from the experiment are true. In other words, do the differences in the dependent variable found through experimental manipulations of the independent variables reflect a cause-effect relationship? (Burns & Bush, 2014:214). Moreover, Sunday (2018:30) states that validity is the ability of a research tool to measure what is being measured. The following measures of validity are discussed, as they are considered in the study, namely face, content, and construct validity.

- **Face validity**

Face validity is a type of validity measure in which a measuring scale seems to measure what it is supposed to measure (Bryman, 2012:711). Thus, it assesses what the questionnaire superficially appears to measure. In this study, face validity will be established through a review of the questionnaire by the supervisor. After reviewing the questionnaire, feedback will be provided to improve the questionnaire, in terms of its structure, wording, and technical aspects.

- **Content validity**

A type of validity, sometimes called face validity, consists of a subject but systematic evaluation of the representativeness of the content of a scale for the measuring task at hand (Malhotra, 2010:320). In this study, the content validity of the instrument will be assessed by two academics whose expertise lies within the field of consumer behaviour.

- **Convergent validity**

Convergent validity is the extent to which the scale correlates positively with other measures of the same construct (Malhotra *et al*., 2017:399). Fundamentally, an instrument is believed to have high convergent validity when it generates comparable results to other tested instruments that measure the same constructs in the sale area (Malhotra, 2015:321). In this study, a correlation coefficient will be used to determine if there are any relationships among the constructs under study.

3.10 ETHICAL CONSIDERATIONS

The core integrity of research is ethics. Concerns, challenges, and conflicts that develop while conducting research are referred to as ethical issues (Maree, 2015:89). Ethics refers to personal preferences that impact human behaviour while adhering to a set of principles, norms of conduct, the researcher's obligation, and the standards of conduct of a particular profession (Polit & Beck, 2018:168). The reality is that there are ethical concerns at every step of the research process (Neuman, 2014:189). Every research study should, therefore, be conducted morally and soundly, and sensitive results must be reported in such a way that does not harm the relationship between the parties involved (Chauke, 2014:78). Researchers are led by several key ethical principles in research as suggested by (Malhotra *et al.,* 2017:368).

- **Ensuring permission is obtained**

An ethics committee at an institution of higher learning is responsible for all aspects of ethical review and approval (Saunders *et al*., 2016:242). Ethical clearance will be

obtained from the North-West University during this study. The ethics committee examines and approves the survey questionnaire before it is distributed to the respondents. Permission to collect data was sought from the relevant authorities at the TVET college before the data collection.

- **Informed consent**

Informed consent is the provision of sufficient information and assurance to individuals participating in the research on the implications of the research process and outcomes (Saunders *et al.,* 2016:244). This is done to enable potential participants to make fully informed decisions free of pressure and coercion. In this study, respondents will be made aware of the aims of the study and how it is to be conducted. This will enable the selected respondents to realize the extent of the consent, enabling them to participate voluntarily and in informed decisions (Maree, 2015:892).

In this case, respondents are provided with necessary information on the study and critical service quality issues. Besides, a cover letter explaining the study's aims will be attached to the questionnaire, and a consent form to show voluntary participation in the research. Furthermore, respondents will be made aware of the right to withdraw from the study at any given time with no adverse consequences.

- **Anonymity and respect for the dignity of persons**

This entails maintaining participant confidentiality, an important operational embodiment of this value. During the data collection procedure, the respondents' identities will be protected; in particular, they will never be obligated to provide their names. The information was compiled in a way that did not identify any respondents.

- **Non-maleficence and voluntary**

This philosophical principle demands that the researcher ensure that research respondents are not harmed because of the study. The researcher ensured that individuals would choose to participate in the study. The researcher reminded the

respondents that participation in the study was voluntary and that they could opt-out at any time.

- **Justice**

In research, justice is a complicated philosophical notion that requires the researcher to treat respondents fairly and equally at all stages of the study. Mutual trust is a matter of ethics. The researcher must preserve the confidentiality and anonymity that respondents are promised. For this study, all the respondents will be treated equally and professionally, observing mutual respect in the interviews, and maintaining interview focus.

- **Beneficence**

This principle dictates that the researcher maximizes the benefits the research would provide to the participants (Chauke, 2018:199). During the fieldwork, the researcher made it a point to emphasize that the study was not conducted for the researcher's financial gain. During the fieldwork, respondents will be informed that the information would be used solely for academic reasons and that the aggregated report would be available for them to access at the North-West University upon request. The goal of the conversations is to establish mutual trust.

3.11 CHAPTER SUMMARY

This chapter outlines the various steps undertaken in achieving the practical aspects of this study. It provided detailed discussions of the research design, which were followed throughout the study. The specific layout that was set to obtain empirical

evidence for successfully achieving the research objectives is provided. Moreover, the research design, sampling strategy, sample frame, and sampling procedures are elaborated upon. A detailed discussion of the data collection techniques used for the study is provided. The data collection instrument format, construction, and layout are explained, showing how it was designed, structured, and administered in the field.

The course that was followed in the data analysis process is reviewed, where various statistical procedures were highlighted, as well as the reliability and validity assessment procedures used. The next chapter presents the data analysis, interpretation, and discussion of the empirical findings. The findings of this study are presented in the form of figures and tables with interpretations, while trends and comparisons are made.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION OF THE EMPIRICAL FINDINGS

4.1 INTRODUCTION

The previous chapter presents an overview of the methodology and research methods used in the study. It also provides a detailed description of the sample selection and composition, questionnaire design, layout, and question construction. The procedures followed in collecting, capturing, processing, and analyzing the data are also elaborated upon. In addition, statistical techniques applied to determine the reliability and validity of the research instrument of the study are provided.

The current chapter presents and discusses the empirical results. Firstly, the descriptive analysis results are presented, which consist of the response rate of the respondents, the demographic properties, and the descriptive statistics of the study constructs. Secondly, inferential statistics such as exploratory factor analysis and psychometric property results (reliability and validity assessments) are presented. Lastly, the correlations between the constructs are discussed. As proposed in Chapter One (see Section 1.6.2), five research objectives were formulated and are recapped in Table 4.1.

Table 6: STUDY OBJECTIVES

Objectives
To identify challenges that current students experience at TVET colleges (Tuition Fee, Financial aid, Variety of programs, Learning environment, Student/staff relations)
To determine problems and difficulties in service quality at TVET colleges.
To determine the effect of service quality on student satisfaction in TVET colleges.
To determine the association or relationship between service quality and student satisfaction, in TVET colleges.

Source: Researcher's Own Work (2023)

4.2 RESPONSE RATE

Prior to data analysis, it was important to go through the process of screening the collected questionnaires to identify the missing responses. The researcher distributed a total number of 180 questionnaires, and the questionnaires were then screened after data collection. The response result is presented in Table 7.

Table 7: RATE OF RESPONSE

Content description	**Frequency**
Total number of questionnaires distributed	180
Total number of questionnaires returned	172
Total number of questionnaires not returned	8
Usable responses discarded	4
Valid questionnaires retained	168
Response rate percentage (%)	**93**

Source: Researcher's Own Work (2023)

In Table 7, the overall number of questionnaires distributed, returned, discarded, and retained for use during data collection and capture was presented. This study sample size was pegged at n = 150 and is expected to be distributed across TVET College N6 students within the Free State Province of South Africa, focusing on management, Hospitality, Education, Management Assistants, Marketing Management, and Business Management programmes.

However, the researcher distributed 180 questionnaires. After screening and cleaning the data, the final sample size included 168 usable questionnaires. Hartley *et al.* (2020:91) suggest that there have been many differences among researchers as to what constitutes an acceptable response rate level, including other factors that might hinder the process of receiving good feedback.

Although there is no consensus on the required response rate levels, Burns *et al.* (2018:265) and Malhotra *et al.* (2017:934) have reported 40**–**75 percent across different fields of inquiry. Besides, Leavy (2018:264) asserts that, on average, 40 percent for the online survey is an adequate ratio given the challenges related to online survey distribution in terms of the non-delivery of mail, or if received, respondents can disregard them or view them as spam or junk mail.

While Malhotra *et al.* (2017:934) assert that a 50 percent average for the face-to-face drop-and-collect method is adequate, as such, the study's 93 percent response rate is satisfactory. Section 4.3 discusses the descriptive analysis of the study.

4.3 DESCRIPTIVE STATISTICS

This section presents the results of the descriptive analysis. Emphasis is placed on Section A of the questionnaire to establish the sample characteristics used in the preliminary data analysis.

4.3.1. Demographic information of the sample

The biographic profile of the study's sample, in which aspects related to the respondents 'gender, age, race, level of education and the program the students are registered for were analysed and presented in this sub-section. The demographic profile of the respondents is presented in Table 7.

Table 8: DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Variable	Category	Frequency	Percentage (%)
(A1) Gender	Male	35	20.8
	Female	133	79.2
Total		**n=168**	**100**
(A2) Age group	18 -21 years	109	64.9
	22 to 25 years	48	28.5
	26 to 30 years	9	5.4
	31 to 34 years	1	0.6
	Over 35 years	1	0.6
Total		**n=168**	**100**
(A3) Racial groups	Black-African	167	99.4
	White	0	0
	Asian/indian	0	0
	Coloured	1	0.6
Total		**n=168**	**100**
(A4) Level of education	NCV	0	0
	N4	0	0
	N5	0	0
	N6	168	100
	Advanced Diploma	0	0

Total		**n=168**	**100**
(A5) Course enrolled for	Financial Management	29	17.6
	Hospitality	0	0
	Edu-Care	19	11.5
	Management Assistant	58	35.2
	Marketing Management	22	13.1
	Business Management	40	24.2
Total		**n=168**	**100**

Source: Author's compilation (2023)

Table 8 reports the demographic results of the sample. These characteristics are discussed in the subsequent sections. The gender composition of the respondents is discussed next. Following that, an analysis of the replies received from the participants will be presented, and the data will be analyzed for correlations between responses. Demographic details and descriptive statistics are presented, to help interpret key findings.

4.3.1.1 Gender composition of respondents

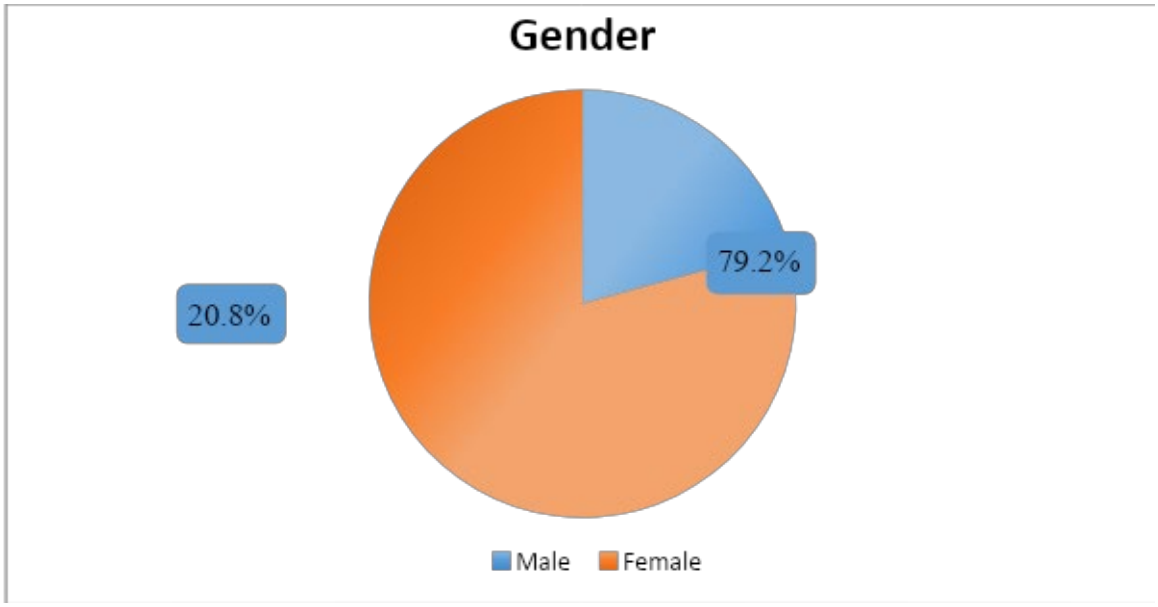


Figure 7: GENDER COMPOSITION OF RESPONDENTS

Regarding the gender composition, the results in Table 8 and Table 6 show a significant difference in the numbers of males (n = 35; 20.8%) and females (n = 133; 79.2%). A gender difference is due to more students being female in most TVET colleges across the country, including the case study (Department of Higher Education and Training 2023:4). Therefore, the sample is predominantly female. This resonates with the findings of Sithole *et al.* (2022:88), who found that 60 percent of the participants in their study were female. The age distribution results of the respondents are presented next.

4.3.1.2 Age distribution of respondents

Figure 8 demonstrates the age distribution of the sample.

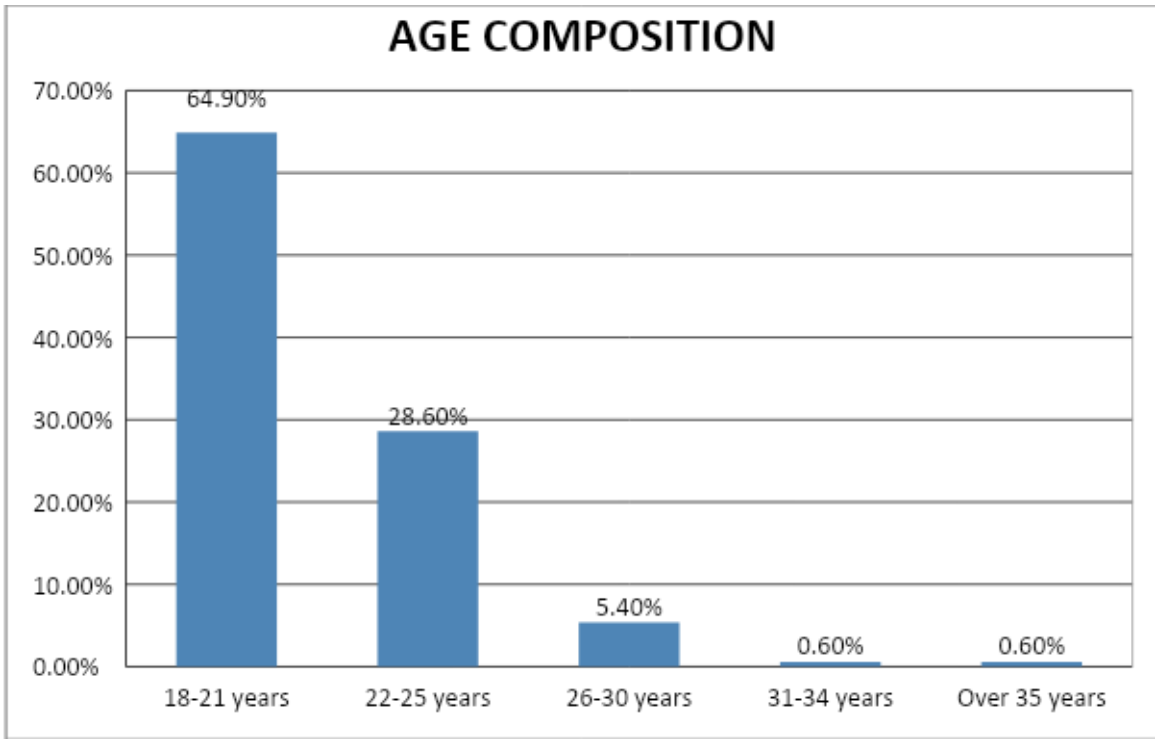


Figure 8: AGE COMPOSITION

Figure 8 shows that the majority of the respondents were between the age group of 18 – 25 years (n=109+48=157), representing a combined 93.5 percent finding. Only n=nine (5.4%) of the respondents were between the age of 26 – 30 years. The age group of 31 - 34 and over 35 years constituted 1 percent, respectively. The results, therefore, mean that TVET colleges' population is approximately between 18 – 25 years, as in like many institutions of higher, including universities. This observation partly corroborates with the study conducted by Hassan *et al.* (2021: 4641), who established that n=250 (75%) in their study was between the age group 18 - 25.

4.3.1.3 Racial composition

Figure 9 presents the ethnic composition of the sampled respondents.

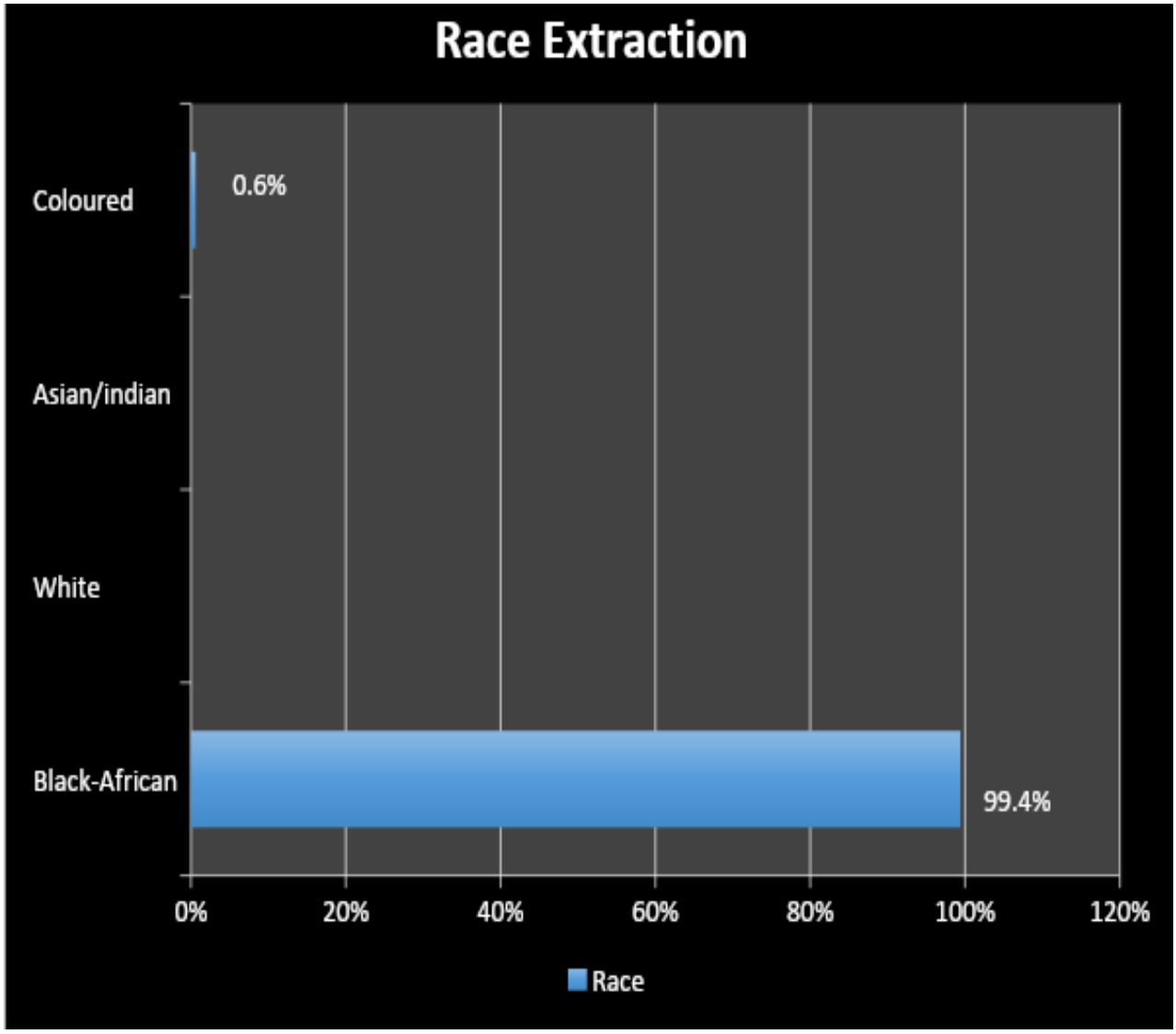


Figure 9: RACE COMPOSITION

Regarding the racial composition of the sample, it can be noted from Figure 9 that the majority of the respondents were Black-African (n = 167; 99.4%), while the Coloured race was represented by n = 1 (0.6%). However, there is minimal representation from other races. It is not surprising that White and Asian races were not represented, considering that most TVET colleges, including the one in this study, are government institutions and predominately black institutions. In addition, this result could only reflect the percentage of students who are enrolled in the TVET college that endorsed this study where the survey was conducted. As mentioned earlier, another reason could be that the TVET colleges where data was collected are predominately within black communities.

4.3.1.4 Level of education

Figure 10 reports on the educational status of the sample.

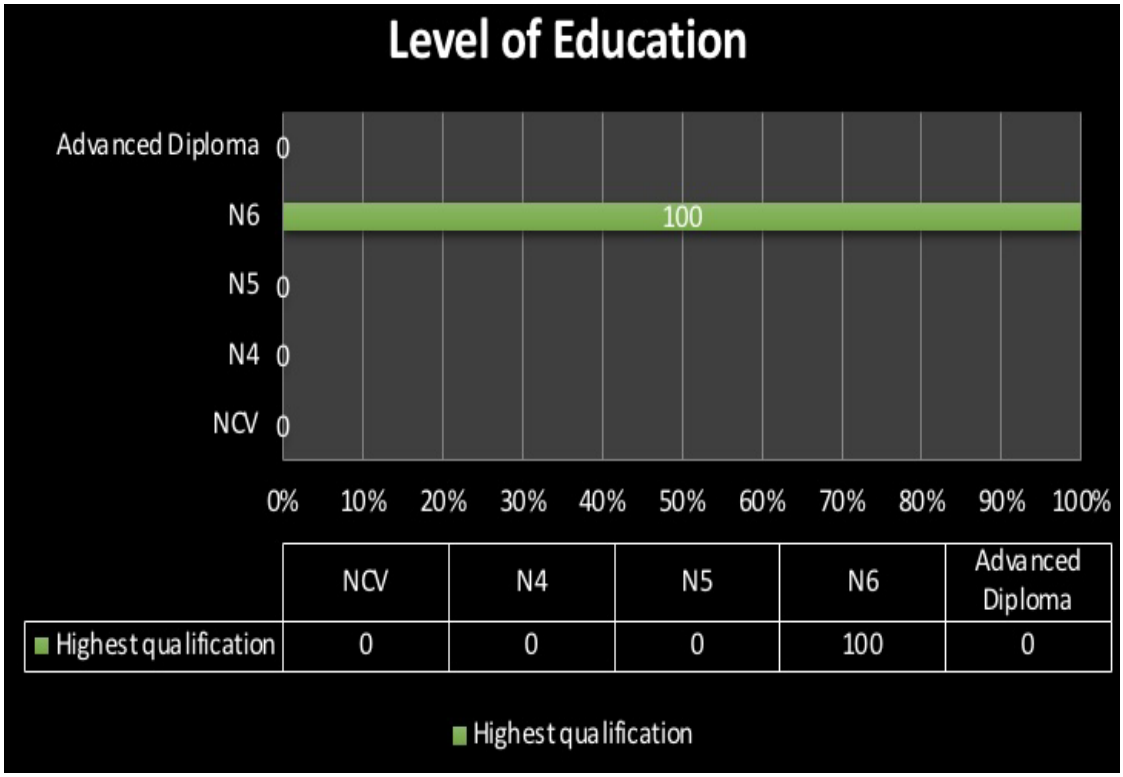


Figure 10: LEVEL OF EDUCATION DISTRIBUTION

Figure 10 reports that constructional TVET college students are currently at their N6 level, as their level of education (n=168; 100%). This observation resonates with the study assumptions because only N6 registered students were considered for this study.

4.3.1.5 Program/course registered enrolled

Figure 11 highlights the results based on the courses the respondents represent.

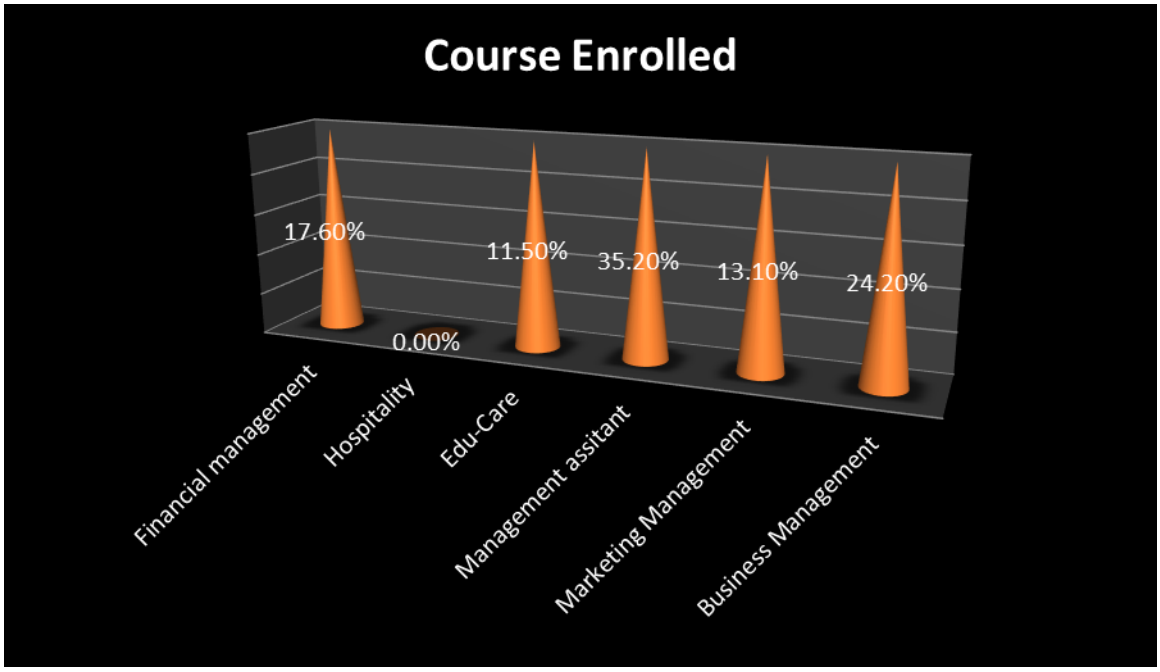


Figure 11: COURSES ENROLLED

Figure 11 shows that most respondents were registered for the Management Assistant course (n = 58; 35.2%), followed by Business Management (n = 40), representing 24.2%. A total of 29 (17.6%) respondents were enrolled in financial management. While n = 19 (11.5%) and n = 22 (13.1%) of the respondents were registered for Edu-Care and Marketing Management, respectively. None of the respondents were registered for hospitality management.

4.4 DEMOGRAPHIC FINDINGS

Gender

The respondents in this study include male and female students, and the study findings show a significant female majority (79.2%).

Age Group

The majority fall within the age group of 18-21 years' bracket (64.9%). Followed by 22-25 years (28.60%). Fewer respondents are distributed across the older age brackets**.**

Racial Group

Predominantly, the sample is composed of Black-African individuals (99.4%), with minimal representation from other racial groups.

Level of Education

The entire sample (100%) belongs to the N6 level of education.

Courses Enrolled

The distribution across courses varies, with Management Assistant (35.2%) and Business Management (24.2%) being the most enrolled courses.

Given the presented results, the parity of student representation was maintained, which is enough to draw conclusions based on the targeted and sampled TVET college and level representation. The descriptive statistics of the variables under investigation are presented in the next section.

4.5 DESCRIPTIVE STATISTICS OF THE CONSTRUCTS

This section discusses the descriptive statistics results related to the constructs of the study.

4.5.1. Students' perceptions of service quality dimensions

This section provides detailed results about the respondents' perception of the service quality dimensions. The results are gathered regarding tangibility, assurance, reliability, responsiveness, and empathy.

Table 9: DESCRIPTIVE STATISTICS RESULTS OF SECTION B- SERVICE QUALITY DIMENSIONS

Scale	n	Min.	Max.	Mean	Std. deviation	Skewness	Kurtosis
B1:	164	1	6	3.29	1.539	.029	-.835
B2:	163	1	6	3.22	1.575	.089	-1.032
B3:	161	1	6	3.43	1.684	-.001	-1.273
B4:	163	1	6	3.96	1.614	-.395	-.872
B5:	161	1	6	3.84	1.585	-.322	-.789
B6:	165	1	11	3.66	1.977	.103	-.455
B7:	163	1	6	3.88	1.642	-.294	-1.042
B8:	165	1	6	3.72	1.709	-.254	-1.178
B9:	162	1	6	3.39	1.654	-.040	-1.105
B10:	163	1	6	3.20	1.637	.088	-1.167
B11:	164	1	6	3.36	1.554	.027	-1.016
B12:	165	1	6	3.59	1.526	-.122	-.919
B13:	163	1	6	3.94	1.541	-.388	-.814

B14:	164	1	6	3.49	1.682	-.026	-1.163
B15:	165	1	6	3.72	1.614	-.234	-1.085
B16:	164	1	6	3.82	1.527	-.305	-.836
B17:	164	1	6	3.45	1.556	-.051	-.976
B18:	165	1	6	3.39	1.666	.038	-1.088
B19:	165	1	6	3.54	1.680	-.128	-1.192
Valid n (list wise)	**143**						

Source: Author's compilation (2023)

This study measured all the constructs using a six-point Likert scale, such that 1, 2, and 3 denote the degree to which respondents strongly disagree, disagree, and slightly disagree with the statements about the variables. While 4, 5, and 6 meant that respondents slightly agree, agree, and strongly agree with the statements, respectively. In a nutshell, scales B1-B19 are related to service quality dimensions, while mean values indicate respondents' perceptions regarding different dimensions. The presented descriptive statistics include the measures of central tendency (mean and the standard deviations) as well as Skewness and Kurtosis used to assess the data normality of the study highlighted in Table 4.4. Skewness and Kurtosis measure data distribution and normality.

- **Tangibility**

The mean and standard deviation values for tangibility (B1 – B4) as depicted in Table 4.4 ranged from ($\bar{x}$ =3.22 – 3.96; SD ± 1.539 – 1.684). The result shows that the respondents fairly agree that tangibility is prevalent in the sampled TVET college in the Free State province. The results mean that tangibility is an important factor in measuring service quality within the sampled college. This view correlates with Zungu and Likhanya (2018:188) who revealed that tangibles in terms of the expectations and perceptions ranged between 0.705 and 0.705. This means this service quality

dimension has a positive impact on customer expectations as well as on customer perceptions.

- **Assurance**

The mean and standard deviation values for assurance (B5 – B8) as depicted in Table 4.4 ranged from ($\bar{x}$ =3.66 – 3.88; SD ± 1.585 – 1.977). The result shows that the respondents fairly agree that assurance is prevalent in the sampled TVET college in the Free State province. The results mean that assurance critical dimension of measuring service quality within the sampled college. Scheepers and Gebhardt (2021:256) corroborate these findings by suggesting that the assurance dimensions have a positive influence on the service quality of Public TVET colleges as perceived by customers with results indicating 0.731 and 0.774 means values.

- **Reliability**

Table 12 further shows the mean values for reliability (B9 – B13) as ($\bar{x}$=3.20 – 3.94) and SD ± 1.526 - 1.654). The outcome of the findings indicates that the participating respondents' belief in the reliability of services is important because it shapes their initial impression of service quality and its value and determines whether they will continue their present and future use of the services (Shatnawi, 2019:396). The results further indicate that students assess their learning experience to determine and evaluate overall service quality within the TVET college (Mohammed & Shahin, 2020:394).

- **Responsiveness**

The descriptive analysis presented in Table 12 indicates the mean and standard deviation results for responsiveness (B14 – B17) as ($\bar{x}$=3.45 – 3.82; SD ± 1.527 - 1.682) and showed that the TVET college service users (students) agreed that the responsiveness as service quality dimension is prevalent. The prevalence implies the need for TVET colleges to continue emphasizing responsiveness to increase the credibility and service quality of the institutions (Rita *et al.,* 2019:5). Kumar and Lata

(2021:13) support this point by suggesting that TVET colleges need to be responsive to student's needs and problems to enhance customer satisfaction. indicators of system quality.

- **Empathy**

The mean and standard deviation values for empathy (B18 – B19) as depicted in Table 4.4 are ($\bar{x}$ =3.39 and 3.54); with SD ± 1.666 and 1.680), which indicates that respondents fairly agreed with the empathy statements. This suggests that if the TVET shows compassion and understanding of students' issues, students will develop satisfaction with service quality. This corroborates with Top and Ali (2021:71) who assert that responsiveness and reliability are important service quality indicators.

4.5.2. Section C – Client/student satisfaction

This section presents the descriptive findings of section C – student satisfaction.

Table 10: DESCRIPTIVE STATISTICS RESULTS

Table 11: Descriptive statistics results for students' satisfaction Scale	n	Min.	Max.	Mean	Std. deviation	Skewness	Kurtosis
C1:	162	1	6	3.57	1.652	-.099	-1.098
C2:	161	1	6	4.83	1.361	-1.152	.668
C3:	164	1	6	4.01	1.628	-.504	-.909
C4:	163	1	6	4.57	1.515	-1.063	.167
C5:	164	1	6	4.37	1.571	-.845	-.250
C6:	162	1	11	3.83	1.581	-.342	-.911

C7:	164	1	6	4.12	1.818	-.521	-1.120
Scale: 1= Strongly disagree, 2=disagree, 3=slightly disagree, 4= slightly agree, 5= agree, 6= Strongly agree							
Valid n (list wise)	157						

Source: Author's compilation (2023)

Table 10 shows the mean and standard deviation values for student satisfaction (C1-C9), which ranged from ($\bar{x}$=3.57–4.83; SD ± 1.361–1.818). Scales from C1-C7 symbolize different aspects of students' satisfaction, while the average degree of satisfaction, is shown by mean values. Analyzing the distribution and shape of the satisfaction data is aided by the values of Skewness and Kurtosis.

Overall key findings reveal, in comparison to other measures, scale C2, C4, and C5 reveal higher satisfaction levels among respondents, while C1, C3, C6, and C7 indicate more moderate satisfaction levels. The skewness and Kurtosis values also provide insights into the distribution shapes, indicating deviations from a perfectly normal distribution in some cases.

The results indicate that the respondents believe customer satisfaction in the services industry, such as TVET colleges, is critical. The results further indicate that the students support the need for maximum service quality to enhance satisfaction across the college. Students perceive service quality in terms of multiple factors rather than in a one-dimensional way. Therefore, these dimensions are critical to improving their satisfaction (Mason *et al*., 2018:18).

4.5.3. Section D: Challenges, Problems, and Difficulties to Service Quality (D1–D17)

This section presents descriptive findings from the primary research to determine students' perceptions of barriers to service quality within their TVET College in the Free State province of South Africa.

Table 11: DESCRIPTIVE STATISTICS RESULTS FOR CHALLENGES

Scale	n	Min.	Max.	Mean	Std. deviation	Skewness	Kurtosis

D1:	164	1	6	4.90	1.262	-1.277	1.318
D2:	163	1	6	4.64	1.357	-.958	.375
D3:	161	1	6	4.01	1.512	-.356	-.799
D4:	163	1	6	4.43	1.671	-.771	-.627
D5:	161	1	6	3.12	1.806	.279	-1.279
D6:	165	1	11	4.07	1.639	-.519	-.851
D7:	163	1	6	4.16	1.698	-.585	-.956
D8:	165	1	6	4.31	1.497	-.747	-.253
D9:	162	1	6	2.96	1.723	.290	-1.262
D10:	163	1	11	2.80	1.765	.940	1.382
D11:	164	1	6	2.86	1.652	.316	-1.132
D12:	165	1	6	2.94	1.690	.271	-1.191
D13:	163	1	6	3.30	1.678	.060	-1.114
D14:	164	1	6	3.09	1.615	.220	-1.008
D15:	165	1	6	2.75	1.627	.466	-.949
D16:	164	1	6	2.84	1.686	.385	-1.111
D17:	164	1	6	2.72	1.624	.507	-.915
Scale: 1= Strongly disagree, 2=disagree, 3=slightly disagree, 4= slightly agree, 5= agree, 6= Strongly agree							
Valid n (list wise)	**138**						

Source: Author's compilation (2023)

The descriptive analysis presented in Table 11 indicates the mean and standard deviation results of ($\bar{x}$=3.8570; SD±.78910)) and shows that TVET college students

have agreed that there are service quality challenges facing the institutions within the sampled college in the Free State province. Scales D1-D7 represent different perceived challenges or barriers to service quality. Mean values indicate the average perception of these challenges. Skewness and Kurtosis values offer insights into the distribution and shape of the perceived challenges. The challenges necessitate the need for TVET colleges to find ways in which solutions to the problems may be sought to improve service quality, which in turn, affects student satisfaction (Eriksson *et al.,* 2020:889).

Key observations from the findings include that D1 has a high mean, displaying robust agreement with a significant challenge. D2-D4 also show relatively high mean scores, indicating agreement with the identified challenges in the study. D5, D9, D10, D15, D16, and D17 possess mean scores that are more in line with the middle range, signifying moderate disagreement with the perceived challenges. Across scales, values for skewness and kurtosis vary, indicating distinct distributions and degrees of deviation from a normal distribution.

Maqsoom *et al.* (2020:2451) support this point by suggesting that service quality challenges may hinder business performance. These challenges have been identified and discussed later in this study. According to the descriptive statistical results, there are a variety of perceived challenges to service quality within the TVET College, with some of the student challenges being robustly agreed upon by respondents while others are not perceived as strongly. The different levels of agreement or disagreement might reflect the differing experiences and perspectives of the TVET college students regarding different areas of service quality barriers.

4.5.4 Assessment of normality

In measuring normality, Field (2013:172) points out that for a large sample size, the central limit theorem stipulates that the assumption of normality has little effect on the analysis of data. Although the central theorem provides a studied theoretical background for the issue of normality in this study, the skewness and kurtosis of each construct and item are presented in Table 9 (Section B), Table 10 (Section C), and Table 11 (Section D). The value for skewness and kurtosis between -2 and +2 is considered acceptable to prove a normal univariate distribution (Field, 2013:172).

The tables mentioned above indicate that overall, the items on the scales have satisfactory skewness and kurtosis values. Sections B, C, and D's data are within normality boundaries (K; S <2), hence usable. However, all three data sets show negative kurtosis (-2< K; S < -1), meaning their bell curves are somewhat flatter than the normal distribution curve. Chauke (2019:211) suggests that the data is non-normal if about 80% of the presented skewness and kurtosis are above the recommended threshold of -3 to +3. The data was distributed normally in this study. The next section discusses the inferential statistics results.

4.6 INFERENTIAL STATISTICAL ANALYSIS RESULTS

This section presents the results of the inferential statistical analysis in which exploratory factor analysis, reliability and validity assessments, correlation analysis, and regression analysis are presented.

4.6.1 Exploratory Factor Analysis (EFA)

Sample size requirements and common procedure bias were examined before the EFA was conducted. In general, it is advised to keep at least 300 cases for good factor analysis, as opposed to the recommendation by Hartley *et al.* (2020:94) of at least five observations for each variable under consideration (5:1 cases), implying that a sample size of 168 is reasonable since it represents an item-to-case ratio of 1:5.425.

Initially, a Harman one-factor score test was conducted by running the preliminary EFA on the sample data, whereas the unrelated factor solution was examined to determine the number of factors necessary to account for the cumulative variance. The single factor that emerged yielded one general factor accounting for approximately 24.812 percent of the covariance among the measures, leading to the conclusion that common method variance is not a problem. Table 4.7 presents exploratory factor analysis results.

Table 12: EXPLORATORY FACTOR ANALYSIS RESULTS (SECTION B AND C)

No	Construct and items	KMO & Bartlett's test	% Variance explained	Factor loadings
	Tangibility	**.750 (p<0.001)**	**55.952**	
B1:	TVET equipment excellency			.811
B2:	TVET Facilities excellency			.783
B3:	TVET materials availability			.751
B4:	TVET workforce performance			.637
	Assurance	**.762 (p<0.001)**	**58.168**	
B5:	TVET workforce behavioural conduct			.731
B6:	TVET students 'safety			.689
B7:	TVET workforce customers treatment			.798
B8:	TVET workers approach customers questions			.826
	Reliability	**.879 (p<0.000)**	**70.940**	
B9:	TVET feedback excellency			.783
B10:	TVET workforce's interest on customers' problems			.822
B11:	TVET service quality			.890
B12:	TVET service provision			.886
B13:	TVET excellence records			.825
	Responsiveness	**.783 (p<0.001)**	**83.054**	
B14:	TVET promise of service delivery			.867
B15:	TVET workforce delivers quality service to customers			.905

No	Construct and items	KMO & Bartlett's test	% Variance explained	Factor loadings
B16:	TVET Workforce college helps its customers			.911
B17:	TVET Workforce responds to customer request			.896
	Empathy	**.500 (p<0.001)**	**83.054**	
B18:	TVET college attention to individual customers			.911
B19:	TVET college schedules convenient hours for customers			.911
	Students' satisfaction	**.829 (p<0.001)**	**53.032**	
C1:	I am happy with the quality and availability of extra-curricular activities.			.658
C2:	Lectures are open for communicating with students.			.664
C3:	I have access to facilities and academic resources.			.700
C4:	I am pleased with the coursework.			.710
C5:	I am deeply satisfied with my overall academic experience in this college.			.784
C6:	Students' evaluations are done quite objectively.			.757
C7:	I am proud to tell others that I am a student in this college.			.794
C8:	Employees across the campus are generally helpful and approachable.			.661
C9:	I would recommend this college to my friends and family members			.807

Source: Owner's Compilation (2023)

Exploratory Factor Analysis was then performed using principal axis factoring by applying an orthogonal method of rotation termed Varimax, which assisted in

evaluating the construct validity (Malhotra *et al.,* 2017:489). A maximum iteration value of five for convergence was used to search for the optimal factor solution. The suitability of data for factorability was ascertained after examining the Kaiser-Meyer Olkin test statistic (KMO = .867) as well as the Bartlett spherical test, which showed a significant result with a large chi-square value (χ2=7 304.213; *p 0.001)*.

In this main factor analysis procedure, no restriction was placed on the number of factors to be extracted. In this regard, all the items loaded on its five SERVQUAL unique factors as expected, as well as the student satisfaction variable based on Kaiser's eigenvalue rule (eigenvalues of 1.00) (Babbie, 2017:188; Dlodlo & Mahao, 2020:486). The selected factors remained unchanged, and the labelling remained the same (i.e., tangibility, assurance, reliability, responsiveness, and empathy) and student satisfaction, respectively.

All the factors explained over 50 to 83.054 percent of the variance. In addition, the student satisfaction variable explained 53.032 percent. All factor loadings were above 0.60 for all the items, showing satisfactory measures. Tangibility had a KMO of.750, and all items explained 55.952 percent of the variance. Assurance had a KMO of.762 and explained 58.168 percent of the variance. Reliability had a KMO of.879, explaining 70.940 percent of the variance. Responsiveness had a KMO of.783, with 83.054 percent of the variance explained. Empathy had a KMO of.500, explaining 83.054 percent of the variance. Lastly, student satisfaction had a KMO of.829 with 53.032% of the variance.

4.6.2 Exploratory Factor Analysis (Section D- challenges to service quality)

Factor analysis is a statistical data reduction technique used to identify a small number of groups or clusters representing relationships among interrelated variables (Malhotra, 2010:574). Factor analysis attempts to identify underlying factors that explain and summarise the patterns of correlations among variables and reduces several variables to a smaller set of variables (Malhotra, 2015:467). Section D of the questionnaire necessitated the use of EFA to summarise the 17 items used to measure challenges affecting service quality. Therefore, it was important to perform EFA to reduce these items into a manageable small group. Examining Table 13, the four factors would be retained. In line with previous studies, the four factors were meaningfully interpreted in terms of the challenges to service quality within the TVET colleges.

Table 13: EXPLORATORY FACTOR ANALYSIS RESULTS (SECTION D)

Value	Challenges to service quality			
	Eigenvalue	**% Total Variance**	**Cumulative Eigenvalue**	**Cumulative %**
1	5.253	30.899	25.507	30.899
2	3.608	21.222	15.406	52.121
3	1.221	7.181	14.759	59.303
4	1.066	6.273	9.904	65.575
Extraction Method: Principal Component Analysis				

Source: Owner's Compilation (2023)

4.6.2.1 Factor structure of the challenges

Varimax orthogonal rotation was adopted to minimize the number of variables with high loadings on each factor and simplify the interpretation of the factors (Babbie, 2017:287). After rotating the factors, the ones with the —cleanest factor structures were selected (Malhotra, 2010:589), as illustrated in Table 14. To achieve this, the study employed the suggestion of Malhotra (2010:589), where item reduction was undertaken by examining low item correlations, multiple loadings, and unstable variables. This resulted in a four-factor solution with 17 variables.

Table 14: ROTATED COMPONENT MATRIX (CHALLENGES)

Variables	Factors			
	1	**2**	**3**	**4**

D1	.747			
D2	.720			
D3	.744			
D4	.657			
D5	.606			
D6	.759			
D7	.804			
D8	.793			
D9		.689		
D10		.800		
D11		.743		
D12		.621		
D13			.770	
D14			.642	
D15				.774
D16				.714
D17				.769
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

Source: Owner's Compilation (2023)

Factors were rotated to enhance the interpretability of variables that load onto factors (Dubihlela, 2012:225). The varimax method has proved very successful as an analytic

approach in obtaining an orthogonal rotation of factors and is the most frequently used and reported option (Maree, 2014:145). Factor rotation allows for factor clarification, showing the relationship of items to factors by maximizing the loadings on one factor and minimizing loadings on all the others (Malhotra, 2015:457).

The principal components method of extraction with varimax orthogonal factor rotation procedure was therefore used. Although factor loadings of 0.45 and more were considered significant, the factor loading matrix shows loadings above 0.60. This exceeded the criterion of Hair *et al*. (2014:239) which states that —factor loadings greater than ± 0.300 are considered to meet the minimum levels, loadings of ± 0.400 are considered important, and loadings of ± 0.500 and greater are considered more important.

4.6.2.2 Interpretation and naming of the challenges to service quality

Factor one, *quality teaching, college accessibility, tuition fees, and programme availability*, comprised eight 1–D8) v variables and accounted for 30.89% of the variance, with an eigenvalue of 5.253. The items that are loaded onto the factor relate mainly to the quality of teaching, college accessibility, and programme availability. Tuition fees, financial aid, variety of programmes, and learning environment are consistent with challenges identified by (Scheepers & Gebhardt, 2021:257).

Factor two, labelled *lecturers' commitment to teaching*, comprised 4 variables (D9–D12) that accounted for 21.222% of the variance, with an eigenvalue of 3.608. The factor incorporates a set of challenges, including poor teaching methods employed by lecturers, teachers lack interest, negligence of duties, and a lack of conducive staff offices. To solve these challenges, a TVET college must cultivate a set of shared values and beliefs among the lecturers to enhance their willingness to teach and their ability to develop their teaching skills.

Factor three, *lack of resources,* is comprised of two variables accounting for 7.181% of the variance, with an eigenvalue of 1.221. This factor places emphasis on *the lack of classroom blocks and the lack of students' academic performance evaluations.* It is identified by Porter (2020:103) that most TVET colleges lack resources to enhance service quality. In this regard, Huang (2022:23) suggested that infrastructural

development must be pursued in most TVET colleges because classrooms are not enough, making student academic performance evaluations so difficult to conduct.

Factor four, labelled *student-teacher relationship, was* comprised of three variables accounting for 6.273% of the variance with an eigen value of 1.066. This factor involves poor student-teacher relationships, poor use of teaching aids by teachers, and poor research attitudes among lecturers. According to Mason *et al.* (2018:20), a lack of student-teacher relationships complicates teaching and learning. While Kokthi *et al.* (2017:1003) suggested that a lack of contemporary research by lecturers would affect students' learning process since information is evolving daily.

4.6.3 Overall Exploratory Factor Analysis of the study (Section B – D)

This section highlights the overall factors identified for the study as well its psychometric properties.

Table 15: OVERALL FACTORS OF THE STUDY

Value	Challenges to service quality			
	Eigenvalue	% Total Variance	Cumulative Eigenvalue	Cumulative %
1	16.628	36.951	15.102	15.102
2	4.701	10.447	14.242	29.344
3	2.161	4.802	10.235	39.580
4	1.712	3.805	7.297	46.877
5	1.666	3.702	6.567	53.444
6	1.499	3.332	5.980	59.423
7	1.314	2.919	5.666	65.090
8	1.101	2.446	2.972	68.062

Cronbach Alpha	**.943**
KMO	**.867**
Extraction Method: Principal Component Analysis	

Source: Owner's Compilation (2023)

In summary, eight factors have been confirmed in this study, consisting of five service quality dimensions (tangibility, assurance, reliability, responsiveness, and empathy), student satisfaction and four identified challenges (quality teaching, college accessibility, tuition fees and program availability; Lecturers' commitment to teaching; lack of resources; and student-teacher relationship). The four identified factors relate to challenges facing service quality within TVET colleges, and these challenges provide actionable insights, on addressing issues related to TVET colleges challenges (i.e., teaching quality, resources, and student-staff relationships can positively impact service quality).

4.6.4 Psychometric properties analysis results

This section presents the results of the inferential statistical analysis in which Cronbach's coefficient alpha tests reliability and the factor loadings test convergent validity were used to assess internal consistency and reliability. The results are presented in Table 4.11.

Table 16: PSYCHOMETRIC PROPERTIES ANALYSIS RESULTS

Constructs	Number of items	Cronbach Alpha	Factor loadings
Service quality dimensions (B1 – B19)	19	.939	0.637 to 0.911

Constructs	Number of items	Cronbach Alpha	Factor loadings
Student satisfaction (C1 – C9)	9	.888	0.658 to 0.794
Challenges to service quality (D1 – D17)	17	.817	0.642 to 0.804
Overall reliability (45 items)	45	.943	0.637 to 0.9116
Recommended		**Above 0.70**	**Above 0.4**

Source: Author's compilation (2023)

4.6.4.1 Reliability Assessment

Reliability is used as a measuring tool that specifies that amount which is error-free and ensures consistent measurement across time and various items in the instrument (Hayes & Coutts 2020:1). In this study, reliability was assessed using Cronbach's alpha coefficient (α).

- **Cronbach's alpha test results**

A construct's Cronbach's coefficient alpha is deemed reliable or acceptable when the cut-off value is equal to or greater than 0.70 (Brown *et al.,* 2018:205). The results in Table 16 (Service quality dimensions = 0.939; student satisfaction = .888; challenges to service quality = .817; and overall reliability for all sections was = .943, indicate the reliability of all the constructs and their respective Cronbach Alpha values are above the required cut-off value of 0.7. The study employed Cronbach's alpha to assess reliability. Therefore, the results show strong internal consistency for service quality dimensions, student satisfaction, and challenges to service quality, all surpassing the acceptable threshold of 0.7. High Cronbach's alpha values indicate that the constructs within the survey are internally reliable, ensuring consistent measurements across different items and over time. Validity analysis results are presented next.

4.6.4.2 Validity analysis

Validity analysis is viewed as an instrument that measures the behaviour or quality it intends to quantify and measures how well the measuring instrument performs its function (Sunday, 2018:38). In this study it was assessed using construct and content validities. The results from the validity analysis strengthen the study's reliability and credibility, revealing that the instrument successfully measured the intended study constructs.

4.6.4.2.2 Content validity

Content validity is regarded as the case in which the specific type of behaviour called for in the test is the goal of training or some similar activity (Gross, 2018:39). Malhotra *et al*, (2017:283) assert that there should be preliminary verifications before an assessment instruction development process. The content validity assessment was conducted by a comprehensive review of the study's questionnaire by the study leader and the panels of the Scientific and Ethics committees from the North-West University; these are all experts in business studies (Social Sciences).

4.6.3 Correlation analysis

The use of correlation analysis among the constructs was deemed a requirement to assess the strength and direction of the underlying associations. The Pearson correlation coefficient (*r*) was used to measure the degree of linear association between the variables. Table 4.12 shows the relationship between the demographics with SERVQUAL antecedents.

Table 17: PEARSON CORRELATIONS: DEMOGRAPHICS WITH SERVQUAL ANTECEDENTS

Correlations					
	A1	A2	A3	A4	A5

Tangibility	Pearson Correlation	.009	-.092	-.049	.[a]	.092
	Sig. (2-tailed)	.908	.249	.538	.	.254
	N	159	157	159	159	157
Assurance	Pearson Correlation	.091	-.008	.079	.[a]	.172*
	Sig. (2-tailed)	.249	.924	.318	.	.030
	N	161	159	161	161	159
Reliability	Pearson Correlation	.032	-.074	-.065	.[a]	.006
	Sig. (2-tailed)	.691	.359	.419	.	.939
	N	157	155	157	157	155
Responsiveness	Pearson Correlation	-.054	-.065	-.036	.[a]	.022
	Sig. (2-tailed)	.493	.413	.651	.	.785
	N	162	159	162	162	159
Empathy	Pearson Correlation	.072	-.051	.053	.[a]	.050
	Sig. (2-tailed)	.361	.517	.497	.	.531
	N	165	162	165	165	162
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						
a. Cannot be computed because at least one of the variables is constant.						

The Pearson correlation coefficient results suggested there are no significant correlations between the demographic variables and the SERVQUAL dimensions. In addition, correlation analysis was performed to determine the association between the SERVQUAL dimensions as illustrated in Table 17

Table 18: PEARSON CORRELATION BETWEEN THE SERVQUAL DIMENSIONS

Correlations						
		Tangibility	Assurance	Reliability	Responsiveness	Empathy
Tangibility	Pearson Correlation	1	.593**	.710**	.582**	.525**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	159	157	149	155	157
Assurance	Pearson Correlation	.593**	1	.478**	.429**	.421**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	157	161	150	155	158
Reliability	Pearson Correlation	.710**	.478**	1	.794**	.713**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	149	150	157	154	157

Responsiveness	Pearson Correlation	.582**	.429**	.794**	1	.633**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	155	155	154	162	162
Empathy	Pearson Correlation	.525**	.421**	.713**	.633**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	157	158	157	162	165
**. Correlation is significant at the 0.01 level (2-tailed).						

The correlation analysis results suggest that there are significant correlations between all the SERVQUAL dimensions (as expected). Table 17 shows that the significant relationship between the SERVQUAL antecedents at over r=0.45 between all the correlation coefficients. For r>0.5 indicates strong relationships, while r>0.7 reveals a very strong relationship, this means an improvement in one dimension, will affect the other one to improve. Therefore, Assurance has a significant medium relationship with Reliability (r=.478; p≤.001), Responsiveness (r=.429; p≤.001) and Empathy (r=.421; p≤.001).

Strong correlations between service quality dimensions, such as tangibility, assurance, reliability, responsiveness, and empathy, indicate their interdependence. Strong correlations have the potential to validate theoretical assumptions, whereas weak or non-existent relationships may challenge pre-existing views. Furthermore, the correlation output meets the acceptable threshold, correlations are shown to be significant at the 0.01 level (2-tailed), which is more rigorous and robust than the 0.05 level, providing greater proof of the relationships observed.

The correlation analyses highlight how improvements in one dimension might impact others, suggesting a holistic approach to enhancing service quality within TVET colleges.

The findings from factor analyses, reliability assessments, and correlation analyses support the research goal of determining and understanding variables impacting service quality within TVET colleges. The study's robustness in terms of reliability, validity, and factor structure strengthens its ability to contribute meaningful insights to the existing body of knowledge. Based on the results, it is concluded that there is a direct relationship between the two factors (i.e. service quality and customer satisfaction in the customer experience.

Furthermore, the findings in this research are also in line with earlier studies in higher education by (Subrahmanyam, 2016; Usman & Mokhtar, 2016; Austin & Pervais, 2017; Hassan *et al.,* 2021). This study is also aligned with research by Kuo and Ye (2009) and Fitri and Hassan (2008) in TVET HLIs. Therefore, service quality serves as a precursor or a factor that influences and contributes to the level of customer satisfaction.

In other words, the quality of the services provided by a business or organization has a direct impact on the satisfaction levels of its customers. Given that, correlations address the research objective, provide a robust answer to the research questions and contribute to understanding the relationships between variables it is appropriate to deem the study sufficient.

4.7. ADDRESSING COMMON METHOD BIAS

Common method bias is a widespread problem that can hinder research accuracy (Jordan & Troth, 2020:5). According to Bozionelos and Simmering (2022:194), the effect of method bias is an important potential threat to validity and reliability in behavioural and applied research. Aguirre-Urreta and Hu (2019:49) view common method bias as variance due to the measurement method rather than the construct of interest. Rahman and Nguyen-Viet (2023:2420) suggest that failure to address

common method biases can lead to incorrect scale reliability estimates and convergent validity adequacy.

This can also lead to an underestimation of meta-analytic adjusted correlations, as technical variance can artificially inflate reliability estimates (Rodríguez-Ardura & Meseguer-Artola, 2020:2). Researchers can use a combination of process and statistical methods to address common method bias (Wiernik & Dahlke, 2020:94). This study applied the following procedural to control the method bias:

- **Questionnaire items were sourced from various studies**

The measurement items for the study variables were adopted from different sources. As Jordan and Troth (2020:4) suggested, researchers can confidently conclude that when estimates of predictor and criterion variables are collected from various sources, this serves as a procedural control as a source of common method bias. This study adopted and used measurement items that demonstrated adequate psychometric properties, such as reliability and adequate factor loading, to help verify the conventional method (Wiernik & Dahlke, 2020:94).

- **Research purpose and instructions given to respondents**

Creating an appropriate survey database page and instructions is one of the easiest strategies to maximize the likelihood of correct responses (Jordan & Troth, 2020:4). For this study, respondents understood the data would be analyzed as a whole, as this encouraged potential respondents to participate and give honest answers. Therefore, the survey was kept short, and unnecessary steps and duplication were minimized, which helped respondents to give more accurate answers (Matthews *et al.,* 2022:640).

- **Improve scale item clarity by avoiding double-barrel questions**

Scale items that are unclear are difficult to comprehend and interpret (Jordan & Troth, 2020:3). Using words with different meanings, such as "occasionally" and "somewhat," and combining several ideas into one item are all examples of ambiguity. Bozionelos

and Simmering (2022:194) claim that this makes respondents feel unclear about how to answer, increasing the likelihood that they will be affected by their natural response inclination (e.g., extreme, acquiescent, or mid-point scores). This study avoided double-meaning items, kept questions short and straightforward, and addressed the issue of scale item clarity.

- **Application of Harman's single factor test**

Harman's single-factor test is the most common statistical approach used to test for common method bias (Jordan & Troth, 2020:3). The test designates problematic common method bias if an EFA loads all items from each of the constructs onto a single factor, signifying the factor accounts for a large amount of share variance among the variables due to the technique (Rahman & Nguyen-Viet, 2023:2420).

In this study, EFA was run by loading all the variables and examining the unrelated factor solution to determine the number of factors that account for variance in the variables. All the factors loaded on their unique factors, demonstrating that common method bias was not problematic in this study.

4.8 CHAPTER SUMMARY

This chapter provides detailed data analysis, presentation, interpretation, and discussion of the empirical findings obtained from the primary study. Attention was given to the discussion of critical components, including descriptive analysis and inferential statistics, as well as determining validity and reliability. Several observations were made from the analysis conducted. The results of this study revealed quite interesting results, which are significant for more research, especially when compared to previously investigated research studies.

The constructs' reliability was determined using Cronbach's alpha (α). Construct validity was also established using two aspects, namely, convergent and discriminant validity. Exploratory factor analysis was performed to ascertain the factor structure of the variables.

Correlation analysis was then performed to determine the association between the service quality variables. The study revealed and confirmed that all five SERVQUAL

dimensions were loaded with unique factors as well as satisfaction. The study further identified four challenges listed by the respondents as barriers or problems to service quality at TVET colleges. The next chapter offers the concluding remarks and recommendations for further studies derived from the identified limitations encountered during the completion of the study.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The preceding chapter presented and discussed the empirical findings obtained from the primary study. Both descriptive statistics and inferential statistics were presented in an attempt to answer research questions. Exploratory Factor Analysis was then performed to achieve the aim of the study. The purpose of this study was to analyse service quality as a catalyst for customer satisfaction at TVET colleges in the Free

State province of South Africa. This concluding chapter commences by providing a review of the study.

Thereafter, the key findings and conclusions are presented, followed by recommendations on how student satisfaction can be enhanced through the findings obtained on the service quality dimensions (tangibility, assurance, reliability, responsiveness, and empathy), student satisfaction and challenges to SERVQUAL. This chapter continues by highlighting the theoretical and practical contributions of the study. Limitations of the study and suggestions for future avenues are discussed before presenting final concluding remarks.

5.2 OVERVIEW OF THE STUDY

To draw the relevant conclusions and recommendations on this study, it is important to use the inputs obtained over the previous four chapters of the study.

Chapter One: The aim of this chapter was to lay out the background of the study by defining the problem (Section 1.3), providing a preliminary literature review (Section 1.4), as well as research objectives formulation (Section 1.6). The research design and methods followed were also outlined in Chapter one. The data analysis techniques were highlighted as well as ethical considerations adhered to throughout the course of the study. The theoretical objectives formulated under Section 1.6 were used in structuring.

Chapter Two (Literature review). Chapter 2 presented a comprehensive literature review regarding different variables of the study including an overview of the Technical Vocational Education and Training (TVET) South Africa in Section 2.2. The conceptualisation of TVET colleges focusing on its aim as the force for the socio-economic growth and technological development of the country was discussed.

The chapter further provided an overview of the National Student Financial Aid Scheme (NSFAS) as a financial enabler of the disadvantaged students in South Africa see (Section 2.3). In addition, Chapter Two presented a comprehensive literature review on the expectancy-disconfirmation theory (EDT) (Section 2.4.1), cognitive

dissonance theory (Section 2.4.2), and contrast theory (Section 2.4.3) used in the study as a cornerstone to understand service quality as a catalyst of customer satisfaction at TVET colleges.

A detailed discussion on nine service quality determinants identified for this study was provided (Sections 2.5.2.1 - 2.5.2.9). The concept of customer satisfaction was discussed in section 2.6 focusing on the definition, conceptualisation, measurement, and factors affecting customer satisfaction are discussed in this section. Service quality at TVET colleges (section 2.7), students' satisfaction and service quality (section 2.8), challenges faced by students at TVET colleges (section 2.9), and the chapter concluded with the discussion on the effect of the TVET college image on students under Section 2.10.

Chapter Three focused on the methodology which was employed in the study. It commenced with the discussion of research reasoning (Section 3.2), research paradigm (Section 3.3), research approach (Section 3.4), research design (Section 3.5), literature review (Section 3.6), empirical design (Section 3.7), the procedure for data analysis (Section 3.8) as well as reliability and validity assessment (Section 3.9). The chapter concluded by providing a discussion on the ethical considerations which were adhered to during the course of the study in Section 3.10.

Chapter Four presented the empirical findings emanating from primary research. This chapter recapped the research objectives (Section 4.1). The chapter commenced with a brief discussion of the response rate from the questionnaires distributed in Section 4.2, followed by descriptive analysis, which covered the demographic characteristics (Section 4.3), mean and standard deviations of the study constructs (Sections 4.4.1, 4.4.2 and 4.4.3), including normality assessment (Section 4.4.4).

Inferential statistics followed in Section 4.5, which covered different aspects such as Exploratory Factor Analysis (EFA) results (Sections 4.5.1, 4.5.2, and 4.5.3), and psychometric properties results (reliability and validity analysis, and factor loadings) in Section 4.5.4. The chapter further provided the findings from the correlation analysis in Section 4.5.3. This chapter concluded by addressing common method bias in Section 4.6.

The following sections discuss the conclusions associated with the formulated empirical research objectives to demonstrate the attainment of the objectives within the framework of the study.

5.3 CONCLUSIONS RELATED TO THE STUDY OBJECTIVES

The study objectives, as set out in Section 1.7 of Chapter One, are outlined, and reviewed. For TVET colleges, decision-makers, researchers, and academics to make informed decisions and derive value from this study, all the stated study objectives have to be addressed based on the data generated from the survey to ensure that the initial purposes of the study were achieved. The empirical objectives, as set out in the first chapter are the following:

- To identify challenges that current students experience at TVET colleges.
- To determine problems and difficulties in service quality at TVET colleges.
- To determine the effect of service quality on student satisfaction in TVET colleges.
- To determine the association or relationship between service quality, student satisfaction, loyalty, and image in TVET colleges.

These objectives were formulated into research questions as delineated in Chapter 1 and empirically tested. The results, which are in Chapter 4, are summarised in the next section.

5.3.1 Conclusion on the challenges experienced by current students at TVET colleges

This objective was achieved in Chapter Four under section 4.4.3 (descriptive statistics of the constructs). The challenges faced by current students at the TVET colleges were identified using descriptive statistics (see Table 4.6) of Chapter 4. Different challenges such as tuition Fee, financial aid, variety of programs, learning environment, student-staff relations, quality of teaching, college accessibility, poor teaching methods, lecturers' lack of interest, negligence of duties, lack of conducive

staff offices, inadequate classroom blocks, poor evaluation methods and poor research attitude of lecturers were identified by the students.

The mean scores of these challenges ranged $\bar{x}$ =2.72 - 4.90. While the standard deviation ranged from SD ± 1.262 - 1.806. The results showed that respondents fairly agreed with the statements regarding these challenges. The prevalence of these challenges implies the need for TVET colleges to try solving these challenges by providing quality services ranging from teaching to learning the environment.

The essence of these challenges resonates studies (Van Rensburg, 2016:2; Zungu & Lekhanya, 2018:186; Makinde & Bamiro, 2022:118), who identified similar challenges such as lack of infrastructure, poverty, poorly resourced campuses, high turnover of staff, limited course offerings, lack of policies and lack of financial assistance for disadvantaged students as key challenges faced in the rural areas with data gained from interviews with relevant role players.

5.3.2 Conclusion on the problems and difficulties to service quality at TVET Colleges

This objective was achieved through Exploratory Factor Analysis (EFA) under sections 4.5.2 and 4.5.2.1 of Chapter 4. The problems and difficulties with service quality are presented in Table 4.8 (see Section 4.5.2.1 and 4.5.2.2) (interpretation and naming of the challenges). EFA was performed to reduce the number of items (challenges) into small groups of factors. From the 17 challenges/difficulties identified, only 4 factors were factored explaining 65.575 percent of the variance.

The first problem or difficulty was named *quality teaching, college accessibility, tuition fees, and program availability*, comprising eight (D1 – D8) variables and accounted for 30.89% of the variance, with an eigenvalue of 5.253.

Factor two, labelled *lecturers' commitment to teaching*, comprised 4 variables (D9-D12) that accounted for 21.222% of the variance, with an eigenvalue of 3.608. Factor three, *lack of resources,* comprises two variables accounting for 7.181% of the variance, with an eigenvalue of 1. 221. Factor four was labelled, *student-teacher*

relationship, comprising three variables accounting for 6.273% of the variance with eigenvalue of 1.066.

This suggests that quality teaching, college accessibility, tuition fees, and availability of the programs have been identified as problems by the students within the TVET college. In addition, lecturers' commitment to teaching and lack of resources were also suggested to be difficulties within the sampled TVET college.

5.3.3 Conclusion on the effect of service quality on student satisfaction in TVET Colleges

The effect of service quality on student satisfaction was achieved in Chapter Two (literature review) under section 2.8 and outlined in Table 4.4 and Table 4.5. It was found that the assessment of student's experience is vital in determining the service quality dimensions of TVET globally and South Africa in particular. Additionally, it was found that student perceptions of service quality led to customer satisfaction. Empirically, descriptive statistics through mean scores was employed to assess the level of service quality and student satisfaction within the TVET college.

All the service quality dimensions had mean score values of above $\bar{x}$=3.29 to 3.86, while satisfaction mean scores were $\bar{x}$=3.57 – 4.83. Service quality and student satisfaction are correlated variables. The results imply that service quality is a predictor factor of student satisfaction among the sampled TVET college students in Free State province.

5.3.4 Conclusion on the relationship between service quality, satisfaction, loyalty, and image in TVET Colleges

This objective was achieved in Chapter 2, Section 2.10. It was found that sound service quality is a predictor of many outcomes, such as satisfaction, loyalty, and enhanced brand image. On the other hand, a good image of TVET could have the effect of making young people dedicate their time to it and having their parents invest money in it. It could also influence future lecturers to choose TVET, political stakeholders to provide resources for TVET, and companies to hire TVET graduates.

It was found that service quality can be used as a marketing tool to attract potential students and employers. The results denote that an increase in service quality correlates to an increase in student satisfaction, loyalty, and brand image within the sampled TVET college by almost 59.5 percent, thus highlighting the importance of overall service quality as a critical measuring tool for customer satisfaction. The recommendations emanating from the presented conclusions are addressed next.

5.4 RECOMMENDATIONS

This section presents recommendations based on the results obtained.

5.4.1 Recommendations to improve service quality in TVET colleges

The service quality dimensions such as tangibility, assurance, reliability, responsiveness, and empathy are considered.

a) Tangibility

Tangibility exerted a statistically significant influence on the service quality dimension, indicating that tangibility is a crucial element, not only because it is the primary asset that students look for but also because it shapes their initial impression of a TVET college's service quality and determines whether they will continue their present and future association with the institution. The tangible dimension of service quality refers to the tangible conditions and facilities at TVET College. Tangibility exhibits moderate to significant positive correlations with the following determinants of service quality assurance (0.593), reliability (0.710), responsiveness (0.582), and empathy (0.525). These correlations indicate strong relationships between tangibility and the other service quality dimensions.

Therefore, practically, the following suggestive recommendation could be implemented: it is important for setting up a clear transmission of knowledge in the learning and teaching process with the presence of equipment and facilities like well-equipped laboratories, an adequately stocked library with textbooks and reference books, updated computer facilities, a comprehensive information system, and support facilities like sports and recreation centres.

b) Assurance

Assurance is the ability of the faculty and staff to provide trust and confidence to students. Accordingly, assurance is known as the level of service delivered to customers that is believable and can be trusted. TVET college staff members, both academic and non-academic staff, should be polite, show respect to the customers (students), and be approachable. Assurance moderately shows positive correlations, with Reliability (0.478), responsiveness (0.429), and empathy (0.421). These correlations show relationships between other service quality factors and assurance. Practically, TVET colleges should consider the following:

- Define their quality standards.
- Perform frequent reviews.
- Listen and act on customer feedback.
- Automate-specific processes.

c) Reliability

TVET colleges should ensure that the level of knowledge and information learned is accurate, correct, and updated. Up-to-date knowledge and information are fulfilling and perform the services promised to students. Reliability reveals significant positive correlations with both responsiveness (0.794) and empathy (0.713), indicating a strong

relationship between the two determinants. Practically, TVET colleges need to focus on the following:

- Institute management based on leadership, and knowledge-based decision.
- Recognising and improving transformation processes and systems.
- Anticipating and meeting students' expectations.
- Implementing teamwork and collaboration as well as synergy among departments.

d) Responsiveness

TVET colleges should strive to provide a level of service that can help students promptly. TVET should provide prompt or favourable services by the faculty, department, and staff to students. There is a significant positive correlation between responsiveness and empathy, as evidenced by the moderate to high positive correlation (0.633). Practically, the following are recommended for TVET to enhance responsiveness:

- React quickly and positively to students' issues.
- TVET should identify and effectively adapt to the continuous change in the industry and student preferences.
- Create guidelines that are specific and measurable.
- Provide timelines for feedback and channels of information and reporting.
- Train employees.
- Trust technology for enhanced performance.

e) Empathy

The empathy dimension is about showing care and providing students with individualized attention. A good academic environment in TVET institution is not only to establish a good teaching and learning culture for sharing of knowledge but also to be able to involve in the students' personal development as well as academic matters by giving care and advice. Empathy (0.713) demonstrates a strong link between

reliability and the dimensions. Practical recommendations are identified below for TVET colleges to consider and implement:

- Model empathy since students look at their lecturers for social and emotional clues.
- Teach perspective.
- Promote active listening.
- Defer judgement and demonstrate empathetic communication.
- Develop community projects.

Recommendations for overall service qualities include the following:

- Effective supervision of all institutional services and facilities should be ensured.
- Orientation needs to be more meaningful and not a mere one-week process.
- Revise remunerations for teaching and administrative staff so that they can give valuable and friendly services and hold regular seminars on students' welfare for TVET college staff to improve their services.
- There is also a need to translate research into practice in the role of higher education (TVET colleges) for social transformation.
- Mandatory counseling should be encouraged to help students cope with social, academic, and bureaucratic challenges.

5.4.2 Recommendations to improve student satisfaction

Customer or student satisfaction was found to be an important outcome of service quality in this study. Therefore, student satisfaction is fundamental to the growth and expansion of businesses and educational institutions as it leads to an increase in market share, and to acquire repeat and referral business, which ultimately results in greater profitability. Not only does the idea of satisfying students have a good

common-sense appeal, but it is also proven that satisfaction leads towards loyalty, resulting in higher profits.

TVET colleges are recommended to prioritise student satisfaction in order to improve both TVET college students turn over and business' profitability. This is so because satisfaction has become one of the more important key marketing priorities which are the threshold for customer loyalty and retention that ensures their repeat purchasing habit and good word-of-mouth. Practically, the following are recommended:

- Improve tangibility, assurance, reliability, responsiveness, and empathy as service quality dimensions, which in turn may enhance overall service quality of the TVET college.
- Improve quality teaching and develop lecturers' technological skills.
- Gather data from the existing customers.
- Map out the customer journey.
- Measure and monitor current customer satisfaction levels.
- Analyse data to determine the drivers of satisfaction.
- Respond to (and resolve) individual customer feedback.
- Increase customer value.

5.4.3 Recommendations to improve TVET college image (Brand image)

The results of this study revealed that TVET college image is of paramount importance in shaping students' attitudes. TVETs have a key role to play in the international education agenda, as outlined under Sustainable Development Goal 4 of the 2030 Agenda for Sustainable Development. Three of the seven targets under the goal are specifically related to TVET, indicating that member states realize the importance of ensuring inclusive, equitable, and quality TVET for all. Other goals also have TVET-related targets, proving that skills and education are central to realising all the SDGs.

However, while the importance of TVET is increasingly recognized in international discourse and policies, the image of TVET can be quite challenging when compared with other educational pathways such as traditional universities and universities of technology. The initial enrolment in TVET in South Africa is declining, and many students continue to prefer to follow the academic education track as their first choice.

TVET colleges, therefore, should brand image as the sum of attitudes, associations, and feelings about non-academic vocational education and training which people in a cultural group implicitly or explicitly communicate among each other and that influence the willingness of individuals involved to invest in TVET**.**

A good TVET college image has an effect on students' dedication to invest their time and parents' resources. A good image leads to more gifted young people choosing TVETs. Such young people graduate with better results and are more easily employed by companies. Through this process, certain career paths and options for non-academic professions develop further in companies and, in turn, add to the attractiveness of certain professions in the TVET sector. Investment in TVET (by the government, by companies, and by individuals) becomes less risky and more profitable. Then qualified teachers also choose TVET as an attractive option for themselves. Thus, in turn, the quality of TVET improves. Practically, the following are recommended:

- TVET colleges need to understand what inspires their target audience;
- Need to align the TVET college strengths to that of the preferred audience;
- Ensure consistency across all marketing channels;
- Incorporate community and history into the TVET brand strategy;
- Look critically at the brand identity of competing colleges.

5.4.4 Recommendations to address the challenges to service quality in TVET colleges

These challenges have also presented TVET management with difficult situations to consider over the years, despite multiple changes intended to improve the quality and efficiency of the colleges. The most pressing issues are poor leadership, a lack of management skills, poor performance, and inequitable resources. With challenges identified in this study such as tuition fee, financial aid, variety of programmes, learning environment, student-staff relations, quality of teaching, college accessibility, poor teaching methods, lecturers' lack of interest, negligence of duties, lack of conducive staff offices, inadequate classroom blocks, poor evaluation methods, and poor research attitude of lecturers, TVET colleges must address these problems. Practical recommendations are therefore suggested:

- It should be mandatory for TVET lecturers to have appropriate academic qualifications, workplace qualifications, experience, and relevant teaching qualifications.
- Make workplace learning mandatory for vocational programmes.
- Co-ordinate vocational provision through the strategic body.
- Establish flexibility in a proportion of the curriculum that can be adapted by the training providers.
- Invest in better data, especially on labour market outcomes.

Efforts should be made to improve students' motivation and career counselling, stigma towards TVET education, lecturers' competency, and inadequacies of infrastructure resources in TVET colleges.

5.5 CONTRIBUTIONS OF THE STUDY TO THEORY AND PRACTICE

The theoretical and practical contributions are detailed in the subsections below.

5.5.1 Theoretical contributions

This study empirically tested five selected service dimensions (tangibility, assurance, reliability, responsiveness, and empathy) influencing TVET college students' satisfaction. This comprehensive analysis provides a solid foundation for understanding the nuances of service quality and challenges within TVET colleges, offering valuable insights for stakeholders aiming to enhance the educational experience for students. The uniqueness of this study is its holistic stance, which posits TVET college service quality-related dimensions that impact student satisfaction. Additionally, challenges faced by students related to service quality were identified.

The results revealed high levels of reliability and validity for the selected service quality dimensions and challenges. The factor loadings above 0.60 and the variance explained by each factor reinforce the robustness of these dimensions. This implies that the chosen objects accurately represent respective constructs and guaranteeing the accuracy of measurement. Given that the findings provided evidence of high levels

of reliability and validity, they can be used as a basis for future research in other product or service categories, provinces, regions, and emerging countries.

The exploratory factor analysis (EFA) has effectively identified different aspects of service quality (tangibility, assurance, reliability, responsiveness, and empathy) and the corresponding items. This clarity to clearly identify and quantify service quality factors allows for focused plans of improvement within these specific areas. It offers TVET colleges an organized method to improve various aspects of service delivery.

The overall variables found in the study demonstrate strong psychometric qualities, as seen by the high eigenvalues, percentage of total variance explained, and Cronbach's alpha coefficient of .943. This suggests internal consistency among the items assessing service quality dimensions and problems, indicating that these factors are strong constructs and internally reliable.

Prior studies in the TVET sector have been fragmented, and contradictory results have emerged from various contexts and countries. There was, therefore, a call to consolidate SERVQUAL dimensions and satisfaction towards the education sector previously neglected and determine their impact in different settings, such as South African TVET colleges. This study has revealed service quality dimensions that can help enhance customer satisfaction within the Free State province of South Africa. The findings of this study would improve the management-service quality models related to TVET colleges, and researchers studying different determinants of satisfaction for other industries could use these findings.

5.5.2 Practical contributions

In an effort to respond to service quality challenges and dissatisfied customers within the education context, this study has made significant practical contributions, discussed in the details below. TVET colleges, such as the one in this study, and their extensive networks are putting much effort into improving the service quality of their operations. Despite these efforts, a good number of South African TVET colleges are still struggling to satisfy their students based on service quality and the resultant impacts.

This effectively leads to the declining of enrolment numbers, inability to maintain students' success rate, incomplete studies and students are struggling to find work. With the impact that service quality dimensions have on satisfaction as the study

revealed, TVET colleges need to devote resources to improve their efforts on quality services. Based on the study findings, service quality has a great effect on student satisfaction.

These empirical findings can serve as a basis for developing policies, formulating intervention programs, or initiatives targeted at enhancing service quality within TVET colleges. Using this data-driven information, can help college decision-makers and administrators to effectively allocate resources and set priorities to address the identified challenges and improve quality of services.

Section 5.4 provided practical recommendations for TVET colleges to implement successful strategies for better market share, enrolment rates, success rates and sustainable behaviour change. In addition, the need to improve awareness of the benefits of being associated with the college, marketers will also need to use their persuasion platforms to foster brand image as a topical phenomenon in contemporary consumer market.

This will help solve both economic and social dilemmas, which Masri *et al*. (2020:4) assert are situations in which students experience a conflict between their academic careers and the damages associated with certain institutions. Knowing more about what drives student satisfaction will help TVET colleges and their marketers to create the correct communication and advertising strategies to strengthen and stimulate customers' future behavioural intentions.

The study's conclusions provide TVET colleges with useful information. Colleges can create targeted strategies, by identifying certain areas within service quality and highlighting challenges that require improvement. For instance, better quality of teaching, addressing resource deficiencies, cultivating more favourable student-teacher relationships, and enhancing lecturer commitment can notably influence overall service quality and, as a result, student satisfaction.

This study does not only provide this much-needed information but indicates the extent to which satisfaction is sustainable based on the study's measurement/determinants of satisfaction. This would guide the marketers' appropriate allocation of their marketing budgets. This study would also be useful for TVET institutions and marketers because it would provide insights into their market potentials and help them target potential students in South Africa and Africa as a whole.

In summary, the empirical findings make a theoretical contribution by deepening our comprehension of the elements of service quality. They also have a practical value by providing practical insights and acting as a foundation for interventions and policies aimed at boosting service quality at TVET campuses. This twofold contribution enhances the research's overall impact. The next section discusses the limitations of the study.

5.6 LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

It should be noted that the study is by no means without limitations, which offers avenues for future research. These limitations and associated areas for future research are discussed. The first limitation of the study is that it comprised N6 students from one TVET college in South Africa, based in the Free State province. *There could be regional* and *student-level variations in the study, as rightly pointed out since this study was limited to one college in one province. Future research could encompass multiple provinces or regions to explore potential variations in TVET institutions. Different regions as well as students from all levels may have unique study dynamics, customer behaviours, and cultural influences that impact customer satisfaction.*

Another limitation of this study rope in the application of non-probability convenience sampling with focus on the study respondents from one TVET college as indicated, which advocates that the study results cannot be generalised to the entire cohort of South African TVET colleges. *A* sample size of n=168 students was used in the study and needs to be taken in cognisance regarding the ultimate generalisation of research results, as this is not a South African representation of all TVET college students. The study proposes that larger samples be used in future studies to improve response rates and reduce the margin of error. This may increase generality of results and allow for further conclusions to be drawn. *This study used a single cross-sectional design since the data was collected only once from the sample.*

Future studies may opt for a longitudinal design to track changes in service quality dimensions, and student satisfaction over time could provide insights into how

students evolve and adapt to changes. This could be particularly useful for understanding the long-term impact of these dimensions on student satisfaction. This study used a quantitative research approach using a survey questionnaire as a method of gathering data. Qualitative research such as in-depth interviews or focus groups can provide a deeper understanding of the underlying service quality dimensions, influencing satisfaction.

Cross-industry comparisons - comparing service quality and student satisfaction across different colleges can offer valuable insights. Future research could incorporate other factors that may influence satisfaction. Currently, the aforementioned recommendations are made to improve student satisfaction in TVET colleges. *By addressing these areas in future research, scholars can enhance our knowledge of different dimensions and their influence on student satisfaction. This, in turn, can lead to more loyal students, productivity, enhanced brand image, and improved business profitability and market share.*

5.6 CONCLUDING REMARKS

The objective of this study was to analyze service quality as a catalyst for customer satisfaction at TVET colleges in the Free State province, South Africa. This study analyzed the level of service quality using the SERVQUAL dimensions that incorporated tangibility, assurance, reliability, responsiveness, and empathy (predictor variables) of student satisfaction (outcome variable) to understand different service quality dimensions influencing student satisfaction within the TVET college in the Free State province. These dimensions were empirically tested to determine student satisfaction.

This study made theoretical contributions by identifying these dimensions and assessing its impact on overall service quality and enhancing student satisfaction. It was found that the five selected service quality dimensions are prevalent in TVET colleges. In addition, overall service quality is a predictor of student satisfaction, loyalty, and brand image development.

Practical contributions exposed areas where decision/policymakers and TVET colleges could improve their efforts in predicting student satisfaction and future behavioural intention such as spreading word of mouth, loyalty, and willingness to reuse the TVET services. The study opens up avenues for future research to expand the findings obtained and deal with the limitations. While the service quality dimensions predicting student satisfaction can be useful in TVET college students' satisfaction, corresponding efforts should be made to investigate the predicting power of some service quality dimensions using statistical methods such as regression modelling.

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APPENDIX A: LETTER OF APPROVAL TO CONDUCT A STUDY

higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GOLDFIELDS TVET COLLEGE

PRIVATE BAG X 95
WELKOM
9460

admin@gfc.edu.za
www.gfc.za.net

CENTRAL OFFICE
36 BUREN STREET
FLAMINGO PARK
WELKOM
9459

TEL: 057 910 6000
FAX: 057 392 1082

TOSA CAMPUS
14107 NDAKI ROAD
THABONG
WELKOM
9463

TEL: 057 910 6700
FAX: 057 395 1304

WELKOM CAMPUS
CNR PETRUS BOSCH &
TORONTO ROAD
JAN CILLIERS PARK
WELKOM
9459

TEL: 057 910 1600
FAX: 057 353 2298

TO: Mr. BOTLE BOSIU

2432 CHOLOGI STREET
KGOTSONG
BOTHABILLE
9660

LETTER OF APPROVAL: RESEARCH FOR MBA PROGRAMME

This letter serves as an official confirmation from Goldfields TVET College that as a student enrolled at the NWU Business school for the Master of Business Administration programme, at the North-West University, the college grants you permission to gather information for a mini dissertation study in this field as per your request.

This confirmation is granted on the basis that none of the questionnaire would be conducted during teaching and learning time, and neither the name of the college nor the name of any participant will be mentioned in any piece of the work that you will submit.

Hoping that you will find everything in order

Your sincerely

.....
Mr. FREDDIE BOSIU
(082 222 9176)
MANAGER: BUSINESS DEVELOPMENT
(freddie@goldfieldstvet.edu.za)

APPENDIX B: RESEARCH CONSENT FORM

INFORMED CONSENT FORM

NORTH-WEST UNIVERSITY: MBA-Research project

RESEARCHER: B Bosiu
Cell: 0780097840
Email: botle.bosiu@gmail.com

STUDY SUPERVISOR Prof JJ Prinsloo
Email: Hein.Prinsloo@nwu.ac.za

Dear Respondent,

RESEARCH TOPIC: ANALYSE SERVICE QUALITY AS A CATALYST FOR CUSTOMER SATISFACTION AT TVET COLLEGES.

You are requested to participate in an academic research study conducted by Mr. B Bosiu, an MBA student from North-West University. The purpose of the study is to gather information on service quality and customer satisfaction at TVET Colleges and demonstrate best practices in the college for managers to better understand, anticipate and satisfy the needs of the clients it serves. The study will explore current service quality challenges that are impeding student satisfaction at TVET colleges. You have been chosen to participate in the study based on your level of study and the course you are registered for.

The research will be conducted through a questionnaire. The estimated time to complete the questionnaire will be 10 minutes of your time. Your willingness to participate in the study is much appreciated. Your participation in this study is voluntary, should you feel uncomfortable at any point, you may withdraw from participation in the completion of the questionnaire at any time without any negative consequences. The questionnaire will be conducted face to face, and distributed to the participants.

The completed questionnaire will be safeguarded. The information will be used for academic purposes, captured, and analysed using SPSS Statistics to ensure accuracy at the North-West University. The

researcher will ensure that results are kept confidential. Only the researcher, the Supervisor, and Statistician will have access to the results. The information will solely be used for academic purposes.

Researcher Signature:

.....

Subject Consent

I have read the contents of this consent form, have been encouraged to ask questions, and have received satisfactory answers to my questions. I understand that my participation is voluntary and that I may withdraw my participation at any time without penalty. I voluntarily agree to participate in this study.

I _____hereby declare that I have read and understood the content of the Informed Consent Statement and give my full consent to Mr. **Botle Bosiu 30980135** to use the information from the survey in her MBA research project.

Signature: _____

Date: _____

APPENDIX C: QUESTIONNAIRE TOOL

SECTION A: DEMOGRAPHIC PROFILE

This section has questions that focus on your background information. Please indicate your answer by crossing (X) in the appropriate block or by filling in your answer.

A1	Your gender	Male	Female

A2	Your Age Group	18 -23years	24-30years	31-37years	38-41years	42 & older

A3	Race	Black-African	White	Asian	Coloured	Other, please specify

A4	Level of education	NCV	N4	N5	N6	Advanced Diploma	Other, please specify

A5	Course you are enrolled for	Financial Management	Hospitality	Edu-care	Management assistant	Marketing management	Business management

SECTION B: Service quality dimensions

Please indicate the extent to which you agree or disagree with the following statements by placing an X in the appropriate box.

The following statements pertain to the service quality dimensions (tangibility, assurance, reliability, responsiveness, and empathy). Please indicate in your opinion, the extent to which you relate to each of the statements. The scale is anchored along 1 (Strongly disagree), 2 (Disagree), 3 (Slightly disagree), 4 (Slightly Agree) 5 (Agree) to 6 (Strongly agree). Mark only one number with an 'X' for each statement.									
Tangibility									
B1	TVET equipment is excellent.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B2	TVET Facilities provided are excellent.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B3	TVET materials are made available.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B4	TVET workforce performance provides a good experience.	Strongly disagree	1	2	3	4	5	6	Strongly agree
Assurance									
B5	TVET workforce behavioral conduct is of a high standard.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B6	TVET students' safety is a priority.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B7	TVET workforce treatment of customers is good.	Strongly disagree	1	2	3	4	5	6	Strongly agree
B8	TVET workers approach customers' questions in a well-mannered way.	Strongly disagree	1	2	3	4	5	6	Strongly agree

NWU Business School
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Potchefstroom, 2520
http://commerce.nwu.ac.za/business-school

Reliability

TVET feedback is excellent.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET workforce's interest on customers' problems is a priority.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET service quality is of a high standard.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET service provision is good.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET excellence in records.	Strongly disagree	1	2	3	4	5	6	Strongly agree
Responsiveness								
TVET promise of good service delivery.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET workforce delivers quality service to customers.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET College workforce helps their customers.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET Workforce responds to customer requests.	Strongly disagree	1	2	3	4	5	6	Strongly agree
Empathy								
TVET college gives attention to individual customers.	Strongly disagree	1	2	3	4	5	6	Strongly agree
TVET college schedule convenient hours for customers.	Strongly disagree	1	2	3	4	5	6	Strongly agree

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North-West University
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SECTION C: Client/Student Satisfaction

The following statements pertain to student satisfaction with services. Please indicate in your opinion, the extent to which you relate with each statement. The scale is anchored along 1(Strongly disagree), 2 (Disagree), 3 (Slightly disagree), 4 (Slightly Agree) 5 (Agree) to 6 (Strongly agree). Mark only one number with an 'X' for each statement.									
C1	I am happy with the quality and availability of extra-curricular activities.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C2	Lecturers are open to communicating with students.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C3	I have access to facilities and academic resources.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C4	I am pleased with the coursework.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C5	I am deeply satisfied with my overall academic experience at this college.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C6	Students' evaluations are done quite objectively.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C7	I am proud of telling others that I am a student of this college.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C8	Employees across the campus are generally helpful and approachable.	Strongly disagree	1	2	3	4	5	6	Strongly agree
C9	I would recommend this college to my friends and family members.	Strongly disagree	1	2	3	4	5	6	Strongly agree

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SECTION D: Challenges/Problems/Difficulties to Service Quality

The following factors pertain to the challenges faced by students at the college. Please indicate in your opinion, the extent to which you relate with each statement. The scale is anchored along 1(Strongly disagree), 2 (Disagree), 3 (Slightly disagree), 4 (Slightly Agree) 5 (Agree) to 6 (Strongly agree). Mark only one number with an 'X' for each statement.									
D1	Quality of teaching is good.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D2	College is accessible.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D3	Sufficient program availability.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D4	Tuition fee is reasonable.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D5	Financial aid – NSFAS is readily available.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D6	Good variety of programs.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D7	Good learning environment.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D8	High-quality teaching.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D9	Poor teaching methods employed by teachers.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D10	Teachers lack the interest to teach.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D11	Negligence to duties.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D12	Lack of conducive staff offices.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D13	Inadequate classroom blocks.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D14	Poor evaluation of students' academic performance.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D15	Poor student-teacher relationship.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D16	Poor use of teaching aids by teachers.	Strongly disagree	1	2	3	4	5	6	Strongly agree
D17	Poor research attitude of teachers.	Strongly disagree	1	2	3	4	5	6	Strongly agree

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Please answer the questions as truthfully as you can. Should you not feel comfortable at any point, you are free to withdraw from participation.

Thank you for your contribution.

Student:

APPENDIX D: STATISTICAL ANALYSIS

Dynamic Language & Translation Specialists

Antoinette Bisschoff
71 Esselen Street, Potchefstroom
Tel: 018 293 3046
Cell: 082 878 5183
Language@dlts.co.za
CC No: 1995/017794/23

Sunday, 12 November 2023

To whom it may concern

Re Certificate of Statistical Analysis

The quantitative data analysis of the MBA dissertation by Botle Bosio was done in accordance to recognised statistical guidelines and practices. The statistical software *IBM's Statistical Package for the Social Sciences* (IBM SPSS, version 28) was used.

The data showed acceptable normality, reliability, and adequacy; hence it is suitable for multivariate analysis and interpretation.

Prof CA Bisschoff
MCom, DCom (Marketing Research)

APPENDIX E: CERTIFICATE OF LANGUAGE EDITING

ALPHA EDITS
EST.2019

17 November 2023

Certificate of Editing

"This is to confirm that the dissertation titled:

Analysing service quality as a catalyst for customer satisfaction at TVET colleges"

Authored by Botle Bosiu,

has been subjected to English Language Editing and is now good for publication or for any other academic usage.

Ané Oosthysen

Oosthysen

Editor

APPENDIX F: SOLEMN DECLARATION AND PERMISSION TO SUBMIT

NWU Higher Degrees Administration

SOLEMN DECLARATION AND PERMISSION TO SUBMIT

1. Solemn declaration by student

I, BOTLE BOSIU

declare herewith that the thesis/dissertation/mini-dissertation entitled (**exact registered/approved title**),

Analysing service quality as a catalyst for customer satisfaction at TVET colleges

which I herewith submit to the North-West University is in compliance/partial compliance with the requirements set for the degree:

Master of Business Administration

is my own work, has been text-edited in accordance with the requirements and has not already been submitted to any other university.

LATE SUBMISSION: If a thesis/dissertation/mini-dissertation of a student is submitted after the deadline for submission, the period available for examination is limited. No guarantee can therefore be given (should the examiner reports be positive) that the degree will be conferred at the next applicable graduation ceremony. It may also imply that the student would have to re-register for the following academic year.

Ethics number: NWU-00586-23-A4 ORCiD: 0000-0002-9801-5678

Signature of Student: B BOSIU University Number: 30980135

Signed on this 20 day of November of 20 23

2. Permission to submit and solemn declaration by supervisor/promoter

The undersigned declares that the thesis/dissertation/mini-dissertation:

- ☑ Complies with the A-rules and the technical requirements provided for in the Manual for Higher Degree studies and in faculty rules;
- ☑ Has been checked by me for plagiarism (by making use of TurnitIn software for example) and a satisfactory report has been obtained, and;
- ☑ That the work was language edited before submission for examination.

Faculty specific requirements as per A-rules: 1.3.2, 4.3.2, 4.3.3, 4.4.2, 4.10.4, 5.3.2, 5.4.2, 5.10.2

- ☑ Complies with regards to faculty rules on submission or acceptance by an accredited scientific journal;
- ☑ Complies with regards to faculty rules on peer reviewed conference proceedings;
- ☑ The student is hereby granted permission to submit his/her mini-dissertation/ dissertation/thesis for examination.

Signatures of supervisor(s) and Promoter(s): (only compulsory in cases where there are co- or assistant- supervisor(s/promoters)

JJ Prinsloo — Digitally signed by JJ Prinsloo Date: 2023.11.22 10:01:46 +02'00'

Supervisor/Promoter

Co-Supervisor/Co-Promoter

Assistant -Supervisor
Assistant-Promoter

Original details: (10512187) M:\HDA Toolbox\Forms\Pdf fillable forms\13.Solemn Decl and Permission to submit exam copy.pdf 3 December. File reference: 7.1.11.3.2/3

APPENDIX G: ETHICS APPROVAL LETTER OF STUDY

Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: http://www.nwu.ac.za

Senate Committee for Research Ethics
Tel: 018 299-484
Feziwe.Mseleni@nwu.ac.za

12 June 2023

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Economic and Management Sciences Research Ethics Committee (EMS-REC)** on, 23/05/2023 the Economic and Management Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-REC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Analysing service quality as a catalyst for customer satisfaction at TVET Colleges

Study Leader/Supervisor (Principal Investigator)/Researcher): Prof JJ Prinsloo

Student: B Bosiu (30980135)

N	W	U	-	0	0	5	8	6	-	2	3	-	A	4
Institution				Study Number						Year			Status	

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type:
Commencement date: 12/06/2023 **Risk:** Minimal
Expiry date: 12/06/2024
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.

Special in process conditions of the research for approval (if applicable):

•

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the EMS-REC:*
  - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
  - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the EMS-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*

- *The date of approval indicates the first date that the study may be started.*

n the interest of ethical responsibility, the NWU-SCRE and EMS-REC reserves the right to:

- *request access to any information or data at any time during the course or after completion of the study;*
- *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
- *withdraw or postpone approval if:*
  - *any unethical principles or practices of the study are revealed or suspected;*
  - *it becomes apparent that any relevant information was withheld from the EMS-REC or that information has been false or misrepresented;*
  - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
  - *new institutional rules, national legislation or international conventions deem it necessary.*

The EMS-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the EMS-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,

Mark Rathbone

Digitally signed by Mark Rathbone
DN: cn=Mark Rathbone, o=North-West University, ou=Business management, email=mark.rathbone@nwu.ac.za, c=ZA
Date: 2023.06.13 09:02:41 +02'00'

Prof Mark Rathbone
Chairperson: NWU Economic and Management Sciences Research Ethics Committee

APPENDIX H: TURNITIN REPORT

30980135:B_BOSIU_30980135_MBAC_873_FINAL_MINI-DISSERTATION.docx

ORIGINALITY REPORT

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