SERVICE QUALITY PERCEPTION AND STUDENTS' SATISFACTION IN HIGHER LEARNING INSTITUTIONS IN TANZANIA: THE SERVQUAL MODEL

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By

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DEDICATION

To the most exceptional people in my life, my wife, Neema Mariki Mkunde (PhD). My parents, Modester Masale Munubi and the late William Kezilahabi Muhassa Bwachele, and my daughters Sophia, Celine, Modester, and GiftHillary, whose loving, caring, and sacrifices they have made manifest on every page of this work.

ABSTRACT

SERVICE QUALITY PERCEPTION AND STUDENTS' SATISFACTION IN HIGHER LEARNING INSTITUTIONS IN TANZANIA: THE SERVQUAL MODEL

Victor William Bwachele

In developing the nation's economic and social status, the Tanzanian government dev elops human capital by establishing more local higher education learning institutions (HLIs). Nevertheless, the growing count of student enrolments and the establishment of local HLIs decrease the proportion of public financial aid for each student and HLI . As a result, students evaluate their HLIs' service quality (SQ) related to their study e nvironment and the provision of teaching and learning resources as they pay higher tuition fees. Hence, the SQ parameters are used to determine student satisfaction.

The widespread student dissatisfaction of HLIs student services with social media networks marks the importance of understanding students' perceived SQ dimensions. A preliminary study was carried out to conceptualize the SQ dimensions using content analysis. The result shows that seven SQ dimensional v ariables were elicited; the five-dimensional variables are explained in the service quality model (SERVQUAL) - tangibility, reliability, responsiveness, assurance, and empathy – and another two-dimensional variable is perceived transparency and trust.

Subsequently, a closed-ended questionnaire was conducted using a drop-off and pick-up self-administered method to test the hypothetical relationship between the seven elicited SQ dimensional variables and student satisfaction. From selected HLIs in Tanzania's coastal region, 398 final-year students were picked using multistage cluster sampling. The main data were analyzed using structural equation modeling partial least square approach.

The result shows that reliability and trust in institution dimensional variables are significant predictors, and perceived transparency is an essential external variable to trust. Also, trust in an institution partially mediated the relationship between perceived transparency and student satisfaction. The tangibility, responsiveness, assurance, and empathy dimensional variables are non-significant predictors. Based on the study's findings, recommendations are suggested to the academics to enrich the service quality literature and to public and private policymakers in planning tactical strategies.

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APPROVAL SHEET

This thesis entitled "**SERVICE QUALITY PERCEPTION AND STUDENTS' SATISFACTION IN HIGHER LEARNING INSTITUTIONS IN TANZANIA: THE SERVQUAL MODEL"** was prepared by VICTOR WILLIAM BWACHELE and submitted as partial fulfillment of the requirements for the degree of Doctor of Philosophy in Management and Administration at Universiti Tunku Abdul Rahman.

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SUBMISSION OF THESIS

It is hereby certified that **VICTOR WILLIAM BWACHELE** (ID No: **20ABD04514)** has completed this thesis entitled **"SERVICE QUALITY PERCEPTION AND STUDENTS' SATISFACTION IN HIGHER LEARNING INSTITUTIONS IN TANZANIA**: THE SERVQUAL MODEL" under the supervision of Dr Chong Yee Lee (Main Supervisor) from the Department of Marketing, Faculty of Business and Finance, and Dr Gengeswari Krishnapillai (Co-Supervisor) from the Department of Marketing, Faculty of Business and Finance.

I understand that the University will upload a soft copy of my thesis in PDF format into UTAR Institutional Repository, which may be accessible to the UTAR community and the public.

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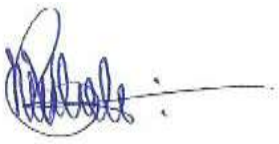

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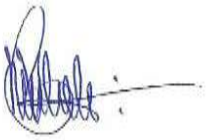
DECLARATION

I **VICTOR WILLIAM BWACHELE** hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.



VICTOR WILLIAM BWACHELE

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LIST OF ABBREVIATIONS

AMOS	Analysis of Moment Structure
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
CVI	Content Validity Index
DOPU	Drop Off / Pick Up
EFA	Exploratory Factor Analysis
eWoM	Electronic Word of Mouth
HLIs	Higher Learning Institutions
HTMT	Heterotrait-Monotrait Ratio of Correlations
ICT	Information and Communications Technology
I-CVI	Item Content Validity Index
ISO	International Organization for Standardization
NACTE	National Council for Technical Education
NFI	Normed Fit Index
PLS	Partial Least Squares
SEM	Structural Equation Modelling
SERC	Scientific and Ethical Review Committee
SERVQUAL	Service Quality Model

SQ	Service Quality
TCU	Tanzania Commission for Universities
UN	United Nations
URT	United Republic of Tanzania
UTAR	Universiti Tunku Abdul Rahman
VIF	Variance Inflation Factor
WOM	Word of Mouth

LIST OF SYMBOLS

R^2	Coefficient of Determination
Q^2	Stone-Geisser
f^2	Effective Size
X	Direct Effect
Y	Indirect Effect
Z	Total Effect
α	Cronbach's alpha
>	More Than
<	Less Than

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A higher learning institution (HLI) is responsible for serving a nation by disseminating theoretical and practical knowledge using various teaching and learning methods, conducting research, and transferring the research results that improve a specific community or industry. In other words, higher education is the basis for a knowledge-driven economy that develops human capital and technology that can assist a country, especially less-developed ones like Tanzania, to become more competitive in the world economy (Tanzania Commission for Universities (TCU), 2020).

In developing a more qualified and competent local labour force, the Tanzania government has been increasing the establishment of HLIs since 1999 (TCU, 2021). These institutions offer certificates, diplomas, and bachelor's and postgraduate programmes. Universities, trade schools, and colleges are considered higher education institutions by the World Bank (World Bank, 2020). Adapting the World Bank's definition, HLIs in Tanzania are composed of universities, colleges, and other HLIs (TCU, 2020).

The first university established in Tanzania was the University of Dar es Salaam (UDSM), which started in 1961 as an affiliated college of London. UDSM became a constituent college of the University of East Africa in 1963 and a fully-fledged

independent national university in 1970 (Mkude et al., 2003). Since the 1980s, higher education in Tanzania has made remarkable progress in various areas, including increasing HLIs and student enrolment.

In 2021/22, the total students' enrolment in local HLIs reached 100,858 compared to only 14 students in 1961 (TCU, 2021). Also, universities increased from 1 to 51 fully-fledged public and private universities and colleges from 1961 to 2020. Among these, 7 are public university colleges, 12 are fully-fledged public universities, 10 are private universities, and 18 are fully-fledged private universities (TCU, 2021). Although the growing number of the establishment of various local HLIs benefits domestic and international students, the pressure to ensure the sustainability of specific HLIs intensifies (Ishengoma, 2013; Mgaiwa, 2018; Oanda, 2013; World Bank, 2010).

Despite the increasing student enrolment in Tanzania's HLIs (TCU, 2015),HLIs need help to maintain their long-term viability because government funding is scarce and shared among the long and newly established HLIs. In other words, the proportionate rate of public financial aid obtained by each HLI is decreasing (Johansson & Lundborg, 2021). As a result, HLIs must increase the student fee to cover the increasing economic operation cost. Although study fee is one of the essential criteria that can influence a potential student's decision to select specific HLIs, students also compare the living expenses, study environment, and availability of teaching and learning resources. Thus, to attract students to stay enrolled, local HLIs ensure that students are satisfied with their study environment and that the

provided teaching and learning resources are worth the amount paid. Hence, the frequent linkage of student satisfaction and the parameters used to assess the professional study environment's service quality (SQ) and teaching and learning materials (Getahun, 2019).

1.2 Statement of the Problems

The following sub-sections discuss the possible problems related to the perceived SQ dimensions that could explain the student satisfaction issue.

1.2.1 The Concerns Arising from the Services Provided by the HLIs in Tanzania

Providing student service that satisfies HLIs' students is challenging. Dissatisfied students spread negative word of mouth, and such a scenario can discourage the enrolment of potential candidates in the HLI. Therefore, efforts to meet the students' satisfaction are in worldwide HLIs' management policy (Abdullah, 2006). Sadly, less than three Tanzania HLIs examine students' satisfaction with their HLI's SQ (Mashenene, 2019). As a result, the Tanzania HLI management cannot put forward past studies' results in improving specific SQ dimensions.

The government encourages more people to further their education. According to the Tanzania Commission for Universities (TCU) and the National Council for Technical Education (NACTE) reports, the local economy grows better when the population is more educated. However, such government efforts could not be materialised when students complain about their dissatisfaction with HLI's study

environment and teaching and learning resources. In assisting the government in achieving the mission, more research is required to solicit how students conceptualise the SQ dimensions. This study aims to close the knowledge gap.

A few SQ dimensions are suggested in past studies, defined by specific Tanzanian HLI students. For example, Mgaiwa and Poncian's (2016) study results show that the teaching and learning infrastructure cannot accommodate the growing number of enrolled students in HLIs, and the count of qualified academic staff in private HLIs is insufficient. As a result, the public has been questioning whether private HLI graduates can secure comparable employment opportunities to students upon graduation (Kishimba, 2021).

Poor practices that resulted in quality lapses led to the closure of some of the private HLIs in Tanzania. Some of these HLIs are Tanzania International University (TIU), St. Joseph University College of Agricultural Science and Technology (SJUCAST), St. Joseph University College of Information and Technology (SJUCIT), St. Joseph University in Tanzania (SJUIT)-Arusha Campus, Kenyatta University (KU) Arusha Centre, Tumaini University Makumira (TUMA) Mbeya Centre, Teofilo Kisanji University (TEKU) Tabora Centre, St. John's University of Tanzania (SJUT) Msalato Centre and Stefano Moshi Memorial University College (SMMUCo) Town Centre.

Based on TCU preliminary study results from 2014 to 2019 at selected public universities, more than 50% of the HLIs in 2018 were closed or suspended as a quality assurance unit or directorate was not established (TCU, 2019). Only 24% of

fully-fledged private universities and 19% of private university colleges monitor quality assurance issues. As a result, students spread their dissatisfaction with their HLI's SQ through social media platforms.

Tanzania's largest online social media platform consists of Jamii forum palace, General forums, East Africa forums, social forums, Sports, and Entertainment, and Educational, Technology, and Professional conferences (https://www.jamiiforums.com/search/type=post) that enable social networks to voice their opinion or responses openly. In a topic forum (Jamii forum, 2020), students contended that the HLIs should consider students as customers because the primary financial resource of the HLI is the tuition fee. Students may withdraw from the HLI if the SQ issue is not solved satisfactorily. The Tanzanian HLIs fail to monitor the SQ of their teaching and learning infrastructures, such as syllabus, assessment methods, and course or subject delivery methods (TCU, 2019).

1.2.2 Importance of Understanding the Service Quality Model(SERVQUAL) Framework

A service quality model (SERVQUAL) is a scientific tool developed to assess the link between package excellence and satisfaction (Gabriel, 2012; Parasuraman et al., 1985). Despite the need for more consensuses in defining a viable approach for measuring SQ in higher education, researchers have widely acknowledged the SERVQUAL and used it to analyse students' perceptions of SQ (Mwiya et al., 2017) because the SERVQUAL dimensional variables and student satisfaction are positively related (Jiewanto et al., 2012).

Since the 1980s, researchers have studied SQ and student satisfaction at Tanzanian HLIs (Mkude & Cooksey, 2003). As illustrated in Table 1.1, the recent SQ studies in Tanzania HLIs merely examined how the SERVQUAL dimensional variables drive the respondents' satisfaction. For example, in Mashenene's (2019) study, the tangibles, reliability, empathy, and assurance of the SERVQUAL dimensional variables were significantly related to students' satisfaction. Still, past studies have yet to attempt to enrich the SERVQUAL model (Mashenene, 2019; Mbise, 2015; Mbise & Tuninga, 2013; Mwongoso et al., 2015). In addition, a few studies were limited to only one HLI (Mashenene, 2019). Therefore, developing a more comprehensive SERVQUAL model and broader coverage of HLIs is essential to develop a generalised result that could represent the overall perception of Tanzanian HLI students.

Table 1.1: Service Quality and Students' Satisfaction Studies in Tanzanian HLIs

Author	Respondents detail	Sampling methods (sample size)	Statistical model	Satisfaction Drivers
Magasi et al. (2022)	Tanzanian HLI's students	Cross-sectional questionnaire survey (326)	Binary Logistic Regression Model	Tangibility, Reliability, Assurance, Responsiveness, Empathy, & Compliance
Mashenene (2019)	Tanzanian HLI's students	Cross-sectional questionnaire survey (200)	Binary Logistic Regression Model	Tangibility, Reliability, Assurance, Responsiveness, & Empathy
Mbise (2015)	Tanzanian HLI's students	A longitudinal survey (206)	A One-way ANOVA	Tangibility, Reliability, Assurance, Responsiveness, & Empathy
Mwongoso et al. (2015)	Tanzanian HLI's students	Stratified sampling technique plus focus group discussions (132)	SPSS-20	Tangibility, Reliability, Assurance, Responsiveness, & Empathy
Mbise & Tuninga (2013)	Tanzanian HLI's students	Cross-sectional questionnaire survey (364)	ANOVA	Tangibility, Reliability, Assurance, Responsiveness, & Empathy

1.2.3 Preliminary Study Procedures

The current researcher fills the literature gap by conducting a preliminaryanalysis to explore other prospective SQ dimensional variables that the SERVQUAL model still needs to define. The preliminary study used a phenomenological design to explore the essence of phenomena by examining the students' perception of the SQ provided by their HLIs. The researcher conducted the study in the lake zone, where two HLIs,

one public and one private were conveniently selected.

The area has 9 HLIs,including three universities, one university campus, centre, and institute and five tertiary institutes that offer degree courses. However, out of the 9 HLIs, only one University, the St. Augustine University of Tanzania (SAUT), has its main campus in the lake zone, and other HLI's main campuses are in other zones. The SAUT, a private catholic university, is selected also because it is the biggest and oldest private University in the country owned by the Catholic Church.

The second chosen University was Mzumbe University (MU), a public university with its main campus in the Morogoro region and another branch campus in the Mwanza region, both in the lake zone. MU is selected for the preliminary investigation because, as a training Institute, the University boasts over 50 years of experience training in the administration of justice, business management, public administration, accountancy, finance, political science,and good governance.

The target respondents were final-year students in those HLIs. Forty informantswere chosen for the preliminary study, twenty from each of the two HLIs. This number was enough, given the time and financial resources available to the current researcher (Suziana, 2019). As the main purpose of the preliminary study is to understand how HLI students conceptualise the SQ dimensions, a detailed discussion through direct interaction with individual informants was adopted.

The length of time for each interview session was about 30 minutes. To facilitate the interviewees to voice their dissatisfaction with their HLIs' student services embedded in their minds, the researcher forwarded the indicative open-ended questions consist of main and probing questions (see Table 1.2), to them a day before the interactive discussion session. For reference, the researcher recorded all the interviews. The researcher provided a qualitative thematic analysis by the ATLAS to analyse the qualitative data.

1.2.4 Preliminary Study Results

The qualitative data acquired from the interviews were analysed using a qualitative content analysis technique (Shankar et al., 2020). The process began by understanding the meaning of the information given by the participants through the categorisation by words, themes, and concepts. Then, after audio- record transcription, the researcher interpreted the data and removed whatever was irrelevant to this study.

In other words, the collected data were analysed by extracting the relevant data from the field and then compressed, organised, and assembled (Shankar et al., 2020). Then, the researcher manually coded and categorised the collected information. Finally, the researcher presented the participants' views through verbatim quotations in this study. The second cycle code generated the themes or conceptual similarity from the coding. Overall, the primary purpose of the content analysis is to elicit the identity of the SQ dimensional variables that have been influencing student satisfaction.

Table 1.2: The Elicitation of Students' Perception of Their Satisfaction and Service Quality through Open-Ended Questions

Main questions	Probing questions
"Noted you are the final year student in this institution, have spent XX years here. Could you share some of your key experiences with the university?"	Experiences - can be both positive and negative. What was the ending of this incident? If you had a negative experience, how did you address it or was the issue solved?
"Are you happy with this institution? How would you rate your satisfaction?"	What actions will be taken by you when you are not satisfied?
"What are quality services in your opinion/ understanding? How do you find the quality of services at this institution?"	How do you rate … 1. the sufficiency of your HLI's tangible teaching and learning infrastructure, such as classrooms,computers, projectors, academic labs, library resources, printing materials, smart devices, internet accessibility, and others? 2. The reliability of student services such as your HLI in materialising their promises? 3. Your HLI's service providers' responsiveness in prompt services and willingness tohelp? 4. Your HLI's service providers' knowledge, competence, and courtesy when responding tostudent's inquiries, complaints, and suggestions? 5. Your HLI's service providers in providing empathy services such as caring and individualisedattention?
Are there any other problems that you encounter?	What other problems have you encountered that need to be improved?

The grouping and coding information that shares similar meaning is based on the reference with the items used to measure each SERVQUAL dimensional variable. The model's measuring items of each dimensional variable are more independent or do not overlap with items used to measure another dimensional variable. In justifying the need to examine the first SQ dimensional variable, tangibility, the problems must be related to tangible services such as library resources, printing materials, internet accessibility, and physical teaching and learning infrastructure that assist the delivery of courses or subjects.

The second SQ dimensional variable, reliability, relates to HLI's ability to perform the promised service dependably and accurately. The third SQ dimensional variable, responsiveness, refers to the HLI staff's willingness to assist students and deliver timely and prompt service. The fourth problem, the SQ dimensional variable, assurance, implies the staff's knowledge and competence in performing their job task. The fifth SQ dimensional variable, empathy, signifies customer care, support, and individualised attention from service providers in solving individual students' difficulties.

Responses from interviewees, such as problems related to the sufficiency of tangible facilities like chairs, library resources, and washrooms to cater for the growing counts of students, indicate that HLI needs to evaluate their tangibility materials or physical teaching and learning equipment and facilities personnel, and communication materials. These observations are evident in the following paraphrase as given by an informant, a student in the public university who has five years of

study tenure at that institution, testified:

> *You can imagine the number of students admitted to this institution is sohuge that students even have lectures on top of the girls' and boys' hostel buildings.*
>
> (Interview**:** informant 5, 19th April 2021).

Another respondent from the private university, who has studied at the university since three years ago, testified that:

> *My HLI did renovate classes, but more needs to be done. For example, the elevators in a building have not been functioning since my study tenure started. Thus, students must walk to the upper floors for academicpurposes. Also, some toilet facilities in HLI's buildings are not functioning. Therefore, we need to search for toilets located elsewhere.*
>
> (Interview**:** Informant 6, 19th April 2021).

The student's reaction shows that the HLI personnel responsible for cleaning the bathrooms must do their job adequately. These issues further support the need to evaluate the main survey's first SQ dimensional variable, tangibility.

The results revealed that teaching and learning facilities and resource capacity needed to be improved to cater to the current students' needs. In addition, most informants felt that their university did not supply reliable services. For example, students revealed that lecturers must demonstrate an interest in resolving student issues, keep track of time, and avoid cancelling classes. Although HLIs improve internet connectivity, internet accessibility is only available at specific locations. Also, the researcher noted that universities still need to fulfil students' promises even after a long overdue. After comprehending the mentioned SQ problems, the researcher grouped and coded the problems as related to the second SQ dimensional variable: reliability.

Another area for improvement was the staff's attentiveness. The results showed that the service providers needed to be more interested in assisting learners, and it took a long time to respond to learners' queries. For example, staff members seldom answer students' inquiries via email or only answer inquiries when students talk to them face-to-face at the administrative offices. From students' responses, the researcher grouped and coded the above information related to the third SQ dimensional variable: responsiveness.

Furthermore, the researcher found that academic and non-academic employees generally fail to fulfil their assurance responsibilities. For instance, they did not address the student's inquiries and concerns based on their job knowledge or treat students respectfully while handling inquiries. The informant's claim manifested the above argument, which is shown below.

> *I am not satisfied with the caring and individualised attention the HLI staff provides. For example, some Heads of the Department, subject coordinators, and staff from admission, finance and accounts, and security departments use foul language when answering students' comments or inquiries. Particularly, the accounting staff treats students like they are not public officials like someone is running his shop.*
>
> (Interview: Informant 1, 19th April 2021).

The assurance problem is likely due to the staff's need for familiarity and competency with HLI's product offers. As a result, the fourth SQ dimensional variable, assurance, was examined further in the main study.

The staff's sympathetic attitude was also a source of dissatisfaction for some informants. Overall, the staff needed to be more open to providing caring and

individualised attention to each student. Such responses triggered the researcher of the current study to investigate the fifth SQ dimensional variable: empathy in the main study. For example, an informant from a private university, who has eight years of study tenure at the institution, advocated that:

> *When I started studying at this institution, the total number of students in my class was 600, and the room's capacity was about 300 occupants. So, most students attended lectures while standing outside and peeping through windows. Lack of facilities is a severe problem with the quality of services HLIs in Tanzania. For example, there needs to be more books and computers in the library to accommodate the number of students admitted; there is no internet connection.*
>
> (Interview: Informant 4, 19th April 2021).

The results from the preliminary study also indicate that other SQ dimensional variables cause dissatisfaction among the interviewees. Interviewees were dissatisfied when their university was deficient in transparently updating students on current and new student services. In addition, the disclosure of the process to acquire specific student services must be more evident. Also, interviewees complained that they were merely informed of the university's decision, not the undertaken processes, or the transparency in handling students' appeals or complaints is missing. Such a negative response drives the present study's researcher to examine the sixth SQ dimensional variable: perceived transparency in the main study.

Another SQ dimensional variable is elicited when the interviewees did not trust that the universities plan to provide student services that could increase the student's happiness, welfare, safety, or health well-being. For example, not all universities offer printing facilities, or such facilities are located far away from their faculty or

campus. Therefore, the researcher examines the seventh SQ dimensional variable: trust in the main study.

The following SQ dimensional variables are formed from the preliminary study: tangibility, reliability, responsiveness, assurance, empathy, perceived transparency, and trust in the institution.

1.3 Research Questions

The preliminary study results guide the current researchers to examine the following research questions:

i. How do the service quality dimensional variables (tangibility, reliability, responsiveness, assurance, and empathy) relate to HLI students' satisfaction?

ii. How do perceived transparency of student services and trust in an institution affect HLI students' satisfaction?

1.4 Research Objectives

Generally, the current study is a behavioural study aimed at assessing how students' perceptions of the SQ provided by HLIs in Tanzania influence their satisfaction with the provided services. Specifically, two research objectives guided this thesis:

i. To examine the direct effect of each service quality dimensional variable (tangibility, reliability, responsiveness, assurance, and empathy) on HLI students' satisfaction.

ii. To examine the direct and indirect effects of perceived transparency of student services and trust in an institution on HLIstudents' satisfaction.

1.5 Significance of the Study

1.5.1 for Academics

By and large, this research offers a comprehensive understanding of the requirements of HLIs and the evaluation of service quality. Its insights have the potential to significantly enhance performance and improve service provision, making it a valuable resource for researchers and higher learning institutions. Findings from this study inform researchers on how to accelerate the measurement of service quality in HLIs in Tanzania and inform HLIs on how to create an enabling environment for the availability of infrastructures to make students more satisfied and improve their value-for-money expectations. This study intends to develop the basis for improving the quality of service provision in Tanzanian higher learning institutions.

Specifically, a strand of studies focused on the service quality studies on the services provided by banking (Haron et al., 2020; Usman et al., 2021); broadcasting and electronic media (Arshad & Khurram, 2020; Shin, 2020); systems and signal behaviour companies (Chancey et al., 2015); and business and economics sectors (Hofmann & Strobel, 2020). Thus, a modification of the traditional service quality model by adding the construct of perceived transparency and trust as a mediator will be new knowledge in the literature.

1.5.2 For Policymakers

The regulatory body, TCU, with the new Education and Training Policy (2014), produced the Quality Assurance General Guidelines and Minimum Standards for the Provision of University Education in Tanzania (TCU, 2019).

However, despite developed guidelines, the SQ provided by HLIs remains an issue because maintaining and improving the quality of education is becoming a significant challenge. Inadequate financial support should not be used as an excuse for HLIs to compromise their SQ and provide sufficient supporting teaching and learning infrastructures (Mnubi, 2013).

The current study's findings provide the public and HLIs' policymakers an in- depth understanding of the vital SQ aspects that may influence the overall HLI students' satisfaction as the currently studied respondents are selected from different HLIs located in the coastal zone. Therefore, the study results aid policymakers in developing competitive and robust policies. For example, to improve students' satisfaction with HLI services, policymakers shouldestablish policies and strategies that provide insight into the benefits of using high-quality HLIs. These strategies and approaches could dispel the myth that HLIs are merely conducting business rather than providing services to society.

Additionally, the results on the indirect function of trust in an institution construct may aid policymakers in focusing on the aspects that influence students' satisfaction rather than presenting overly generic information that may have a minimal or no impact on the quality of HLI services. Furthermore, such knowledge could minimize the resources in areas less likely to be affected.

1.6 Scope of the Study

The current study developed a conceptual framework to evaluate how students

evaluate the SQ provided by the Tanzanian HLIs and the relationship between each SQ dimensional variable and their satisfaction with student services provided by their HLI. The present study's targeted population was final-year students selected from HLIs because they have been at the institution for at least two years and have experience with the HLI's student services.

In eliciting the SQ dimensional variables for the main study, a preliminary qualitative study involving eight representatives of the target population was conducted predominantly at two HLIs in Lake Zone to justify the statement of each problem scientifically. Subsequently, a current theoretical extension of the SERVQUAL includes adding two SQ dimensional variables, perceived transparency and trust, incorporated in the study's conceptual model for hypothetical testing.

The primary study was conducted in the Coastal Zone of Tanzania using a close-ended questionnaire survey. The researcher chose the location because it hosts most (54 per cent) Tanzanian HLIs. Chapter Three thoroughly documents 398 polled respondents in the Coastal Zone using Yamane's (1967) sample sizeformula.

1.7 The Organization of the Thesis

The thesis covers five chapters. The first chapter discusses the study's background, research issues, and concerns that need further addressing. The chapter also presents the study's objectives, significance, and scope. Chapter two explains how the researcher examined the SQ provided by the service providers and respondents' satisfaction in past studies. It also discusses the theoretical stances of the research

and delineates the current conceptual framework based on the reviews of past empirical studies. Overall, this chapter aimed to identify and synthesise the literature gap that this study filled.

Chapter three describes the methodology. The methods were carefully selected to ensure that the data for this main study was valid and reliable. Also, the chapter explored the rationale for choosing a specific research paradigm, research approach, the definition of the study population, sampling and data collection methods, data analysis strategy, and ethical considerations. Chapter four offers the research findings and interpretation of the results to support the study's hypothesis. The current study's researcher submitted results compared to previous investigations. The present study's results provide an overview of recent disputes, concerns, and questions in the discipline and their significance. Finally, Chapter Five discusses the main study results so that appropriate implications to policymakers and academics can be recommended and summarizes the research work. The study's limitations in data collection are also detailed so that future researchers can make appropriate recommendations to reduce such problems.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the SQ literature and relevant applicable philosophical paradigms. The chapter discusses relevant past studies' theoretical and conceptual frameworks and their empirical study details where the present study's framework fills the identified literature gaps.

2.2 Overview of the Philosophical Paradigms Used in Service Quality Studies

Many disciplines like operations, sociology, psychology, and marketing have influenced SQ research. Therefore, the study examined logical and paradigmatic roots that reflect this influence (Tronvoll et al., 2011). In marketing, for example, the positivistic paradigm dominates SQ research.

According to Kuhn (1970), a paradigm is "the full collection of beliefs, values, and procedures held by members of a given community." Because the research paradigm influences methodological choices, selecting a research paradigm should precede a method when doing research (Guba & Lincoln, 1994). Ontology and epistemology, not methodology, are the most important predictors of good social science (Alvesson & Skoldberg, 2000). Thus, the study's design and findings are critical to understanding the impact of paradigms individually, as they are essential in empirical and practical research (Tronvoll et al., 2011). The SQ literature reveals that positivistic, hermeneutic, dialogic, and monologic paradigms are prevalent. However, the positivistic paradigm is the most common paradigm used by service

researchers (Tronvoll et al., 2011).

2.2.1 The Positivistic Paradigm

Most SQ scholars are positivists as they test the basic theory's propositions through hypothesis testing. Positivists also draw quantifiable measures of variables and inferences about a phenomenon from a representative sample of the studied population (Tronvoll et al., 2011). The objectively given reality is a general assumption under the positivistic paradigm. This assumption can suggest guiding principles for how customers, employees, and organisations should act as the drivers of positivistic studies.

The positivistic paradigm stresses progress, accumulation, and positivity (Gergen, 1992). In addition, the paradigm focuses on codifying data about the phenomena under investigation to arrive at a generalizable understanding (Tronvoll et al., 2011). Predetermined relationships characterize this phenomenon. This study used positivistic studies (illustrated in Table 2.1) to test theories to increase the predictability of events (Orlikowski et al., 1991). This effort is fundamental in SQ research, where consistency and relevance are critical requirements for accepting positivistic conclusions.

Table 2. 1: Summary of Positivistic Paradigm-Related Studies

Authors	Research detail
Shostack (1977) [b]	Getting away from the promotion of products
Parasuraman, Zeithaml & Berry (1988) [b]	SERVQUAL is a multi-item scale for evaluating customer service satisfaction.Taylor & Cronin
(1992) [b]	Re-examination & extension of SQ measurement
Sullivan & Anderson (1993) [b]	Customer satisfaction antecedents and repercussions for businessesAnderson, Fornell & Lehmann
(1994) [b]	Customer satisfaction measurement
Berry, Parasuraman & Zeithaml (1996) [b]	The behavioural effects of poor service
Anderson et al. (1997) [a]	Differences between commodities and services in terms of customer satisfaction, productivity, and profitability
Tax et al. (1998) [a]	Customer ratings of service complaint experiences have relationship marketing consequences.Johnson
& Garbarino (1999) [b]	In customer relationships, the various roles of happiness, trust, and commitment
Rosen & Kirkman (1999) [b]	Antecedents and effects of self-management
Hartline et al. (2000) [a]	Influence corridors in the delivery of customer-focused strategy to customer contact service representatives
Bharadwaj (2000) [b]	Using a resource-based model, an empirical study of the relationship between information technology expertise and corporate performance.
Lynch & Ariely (2000) [b]	The expense of purchasing wine online impacts pricing, quality, and distribution.

Continue next page

Authors	Research detail
Cronin et al. (2000) [b]	Evaluate the influence of quality, value, and customer satisfaction on consumer behavioural intentions inservice settings.
Hitt et al. (2001) [b]	A resource-based approach on the direct and indirect implications of human capital on tactic and performance in specialised service organisations
Bhattacherjee (2001) [b]	An expectation confirmation model for understanding the continuity of information systemsBerry
et al. (2002) [a]	Recognising the value of service convenience
Sirdeshmukh et al. (2002) [b]	In relational contacts, consumer trust, value, and loyalty are essential.
Mckinney et al. (2002) [b]	An expectation and disconfirmation approach to measuring web-customer happiness Devaraj, Fan
& Kohli (2002) [b]	Validating E-Commerce Metrics: B2C Channel Satisfaction and Preference Antecedents
Zenger & Poppo (2002) [b]	Do official agreements and interactive governance serve as replacements or complements for one another?
Chatterjee, Grewal & Sambamurthy(2002) [b]	Official Enablers of Administrative Web Technology Assimilation: Getting Ready for Electronic-Commerce
Batt (2002) [b]	Human resource strategies, resignation rates, and sales growth are all factors to consider while managingcustomer service
McLean & DeLone (2003) [b]	A ten-year update on the Delone and Mclean model of the information systems success

Continue next page

Authors	Research detail
Burnham, Frels & Mahajan (2003) [b]	Switching costs for Consumers: a typology, experiences, and costs
Lemo, Rust & Zeithaml (2004) [b]	Increasing the return on marketing investment by focusing marketing efforts on client fairness.
Barney, Muhanna & Ray (2004) [b]	Selecting the dependent variable in resource-based view empirical tests: competencies, business procedures, and advantage in the marketplace
Gefen & Pavlou (2004) [b]	Creating efficient online marketplaces based on institutional trustHarris & Ogbonna (2006) [a]
	Service sabotage: a study of antecedents and outcomes
Rust & Chung (2006) [b]	Models of service and relationship marketing
Gupta & Zeithaml (2006) [b]	Two competing perspectives exist in qualitative research.Notes: [a] Service Research Community

award-winning article;
[b] Articles that have been widely cited
Source: Tronvoll, Brown, Gremler & Edvardsson, 2011

This chapter reviews the SQ literature and relevant applicable philosophical paradigms. The chapter discusses relevant past studies' theoretical and conceptual frameworks and their empirical study details where the present study's framework fills the identified literature gaps.

2.2.2 The Hermeneutic Paradigm

The study of interpretation is called hermeneutics. The study of hermeneutics is relevant to many academic fields whose subjects typically require interpretive methods because these fields deal with the meaning of human intentions, beliefs, and behaviours as well as the meaning of the human experience as it is recorded in literature, the arts, historical accounts, and other artefacts. Historically, the humanities, social sciences, and some humanities-related fields have relied on hermeneutics, as have theology, particularly Biblical studies, law, and medicine. Hermeneutics is frequently defined as an "auxiliary" study of the foundations, practices, and arts relevant to a particular discipline (David & Zalta, 2019). Biblical hermeneutics, for instance, is the study of broad guidelines for accurate Bible interpretation in theology. Recently, several disciplines have advanced the use of applied hermeneutics as a research approach (Moules, 2015). Unlike the positivistic paradigm, the hermeneutic paradigm can be adopted in service research if the study assumes that social constructions, using an available language system with terms and shared meanings, can provide insight into reality (Tronvoll et al., 2011).

The paradigm subscribes that the most significant way to apprehend reality is acquaintance with the world as a social creation that can be uttered as an outcome of

human sense-making procedures (Walsham, 1993). Generally, hermeneutic researchers believe that the best approach to comprehending reality is to perceive it as a social construct expressed through human sense- making processes (Walsham, 1993). Consequently, this paradigm is more prevalent in social science research than other interaction perspectives. In otherwords, this paradigm captures various socially constructed elements that influence research phenomena.

Because this paradigm does not include predefined dependent and independent variables, Kaplan and Maxwell (1994) advise that the focus should be on sense-making in humans as the situation evolves rather than the complexities of sense-making in humans as the scenario unfolds. According to Schwandt (1994), the centre of attention in the hermeneutic paradigm is the knowledge of meaning associated with the focal phenomenon at a particular time.

In the Hermeneutic paradigm, a researcher cannot generalize from a distant observation as with the positivistic paradigm. However, in the hermeneutic paradigm, static and emergent approaches are combined using an available language system. The combination enables a researcher to get phenomenological insights, the essential epistemological viewpoint of the origins of notions and issues in dimension.

Keaveney's (1995) hermeneutic paradigm study on client substituting conduct in amenity sectors can serve as evidence to understand the system's complexity and variety at a given juncture. In Keaveney's (1995) study, the researcher explored the causes of client switching behaviour, and an inert report of the amenity substituting

procedure was provided by detecting its drivers.

Like the dialogic paradigm, the hermeneutic paradigm generates theories to understand the interactions between amenity and market phenomena. In contrast, the dialogic paradigm focuses on the established structures of a connection. Hermeneutic researchers see service and market phenomena as a social construction that the researcher must disclose and describe.

The hermeneutic paradigm highlights the importance of study design that may capture human and subjective perspectives on market events. Therefore, hermeneutic researchers must know the participant's views of the phenomena under investigation (Tronvoll et al., 2011). See Table 2.2 for a summary of leading service research from the hermeneutic perspective.

Table 2. 2: Summary of Hermeneutic Paradigm-Related Studies

Authors	Title
Bitner, Booms & Mohr(1994) [a]	The employee's perspective on critical service encounters
Keaveney (1995) [a]	An exploratory study of customer switching in service sectors
Arnould & Price (1999) [a]	Relationship between amenity providers and clients in a setting of commercial friendships
Huy (2002) [b]	Middle managers' role in the emotional balance between organisational continuity and rapid change

Notes: [a] Service Research Community award-winning article;
[b] Articles that have been widely cited
Source: Tronvoll, Brown, Gremler & Edvardsson. 2011

2.2.3 The Dialogic Paradigm

A dialogic paradigm is used in service research when the main goal is to

capture the dynamic and complicated nature of the area and the topic of study (Tronvoll et al., 2011). The researcher reveals all the participants' uncertainties and certainties in dialogue and tries to understand one another as unique individuals speak (Becker et al., 2003). In addition, researchers and study participants are encouraged to investigate alternate problem descriptions and resolution methods and uncover faults in current theories and conceptions to challenge the dominant paradigm (Tronvoll et al., 2011).

The dialogic paradigm stresses the knowledge of procedures and associations as time goes on in research. The researchers founded the dialogism paradigm on relativistic ontological ideas of multiple, produced, and comprehensive realities (Lincoln & Guba, 1985). Lincoln and Guba (1998, 2000) stated the epistemological conviction that the linkage between the object of inquiry and the inquirer affects each other and finally becomes attached based on thedialogic framework.

The production of "more informed and sophisticated reconstructions" results from a discourse between the researcher and the participants (Lincoln & Guba, 2000). Clarification is always a part of comprehending; henceforth, clarification is an obvious sort of learning (Gadamer, 1989). Different structures can be compared, contrasted, and learned through dialogical interactions.

One of the discourse goals is progressing from an incomplete to a broad comprehension of events. Human behaviour is inextricably linked to the social fact of consciousness, thinking, and exchange deeply rooted in dialogic principles (Tronvoll et al., 2011). The dialogic paradigm examines active and composite

connections in service operations, focusing on time and how it affects happenings and relationships. Several study participants, such as single investigators and single or otherwise informers are regularly exposed to dialogue using the dialogue approach (Tronvoll et al., 2011).

Interactions with other participants directly influence and are influenced by what one participant says or does (Tronvoll et al., 2011). When clients and service providers dialectically engage and affect one another, this influence is known as the "moment of truth" in service research (Tronvoll et al., 2011). Because "knowing is formed and remade by a person, reified and sustained, challenged and destroyed in communication: in conversation, dispute, and negotiation," according to Dervin (1994), dialogism implies that people create knowledge together.

The researcher in this paradigm combines the dynamic and emergent techniques in the dialogic paradigm. A researcher is interested in learning more about the function of the actor in the service encounter. Researchers utilising this paradigm aim to record the variety and complications of happenings inside the study throughout a specific time frame.

This paradigm differs from the most positivistic in studying participant dynamics and connections. Research must include behavioural patterns of activities, relationships, experiences, processes, and linkages to embrace service as a dynamic reality (Tronvoll et al., 2011). Furthermore, new methodologies are necessary that allow researchers to empirically explore dynamic phenomena by capturing procedures in

amenity operations and difficulties related to time in greater understanding. The lack of tools to record methods constantly changing throughout time is the primary roadblock toward further advancement in service research in this paradigm. The researchers have been using the dialogic paradigm in relevant service research. Table 2.3 shows the summary

Table 2. 3: Summary of Dialogic Paradigm-Related Services

Authors	Title
Ofir & Simonson (2001) [a]	The impact of expecting to be evaluated on satisfaction ratings when looking for negative customer feedback
Suchman (1995) [b]	Tactics to managing legitimacy from a tactical and formal perspective
Malhotra, Parasuraman & Zeithaml (2002) [b]	A Critical Review of Existing Knowledge on WebSites
Tucker & Edmondson (2003) [b]	What motivates hospitals to do so? Failures can teach us about legislative and emotional features that hinder organisation transformation.

Notes: [a] Service Research Community award-winning article;
[b] Articles that have been widely cited
Source: Tronvoll, Brown, Gremler & Edvardsson (2011)

2.2.4 The Monologic Paradigm

According to the monologic paradigm, everything is a component of a single underlying essence or principle (James, 1912). However, this paradigm also offers a self-governing and different basis by connotation that a researcher has produced. In other words, a researcher's voice frames the assertions of others, such as people being studied by a researcher or other researchers, and establishes a separate context (Tronvoll et al., 2011).

A monologist scholar, to clarify, assumes the roles of the knower, apprentice, and learner, meaning that a researcher is a single person (Sampson, 1993). The investigator focuses on adding to knowledge of procedures, then capturing a temporal component throughout service delivery and the link's changing aspects under this paradigm, in which syndicates are changing factors together with antecedent approaches. Finally, the investigator can look at the shifting behaviour patterns of the informants and the surrounding environment at that time. The researcher can use this paradigm to explore complex, people-centredtopics within a set time. Like the positivistic, the researcher generates this paradigm to adopt that realism objectively and that the research instrument is unaffected by the participants. The monologic paradigm stresses in dynamic service operations that time is essential. In contrast, the positivistic paradigm takes a static technique that captures a moment during a stationary service activity.

The researcher developed a dynamic quantitative model in Bolton's (1998) study. The model shows that customers with better cumulative customer satisfaction rankings in the past had long associations with the company (Tronvoll et al., 2011). The researchers have been using this paradigm in several investigations despite their limited time and awareness of techniques for collecting dynamic properties (see Table 2.4).

Table 2. 4: Summary of Monologic Paradigm-Related Studies

Authors	Title
Bharadwaj, Fahy & Varadarajan (1993) [a]	A Conceptual Model and Research Propositions for Long-Term Competitive Advantage in Service Industries
Keller (1993) [b]	Conceptualization, assessment, and management of customer-based brand equity
Boulding, Kalra, Staelin & Zeithaml (1993) [b]	From expectations to behavioural intents, a dynamic process model of service excellence
Bronnenberg, Balasubramanian & Peterson (1997) [b]	The Internet's Consequences for Consumer Marketing
Leonard & Sensiper (1998) [b]	In group creativity, what role does tacit knowledge play?
Bolton (1998) [b]	The fulfilment function is employed in a dynamic model of the period of a client's affiliation with a constant services company.
Oliver (1999) [b]	Where does consumer loyalty come from?
Hogan et al. (2003) [a]	What is the genuine worth of a squandered customer?
Vargo & Lusch (2004) [b]	Adapting to a new dominant marketing rationale
Matta & Folkes (2005) [a]	Counter stereotypical services business inferences about the brand
Hitt et al. (2006) [b]	The importance of resources in professional service organizations' internationalization: the good, the awful, and the nasty
Wangenheim and Bayon (2007) [a]	Behavioural repercussions of overbooking service capacity
Lusch, O'Brien & Vargo (2007) [b]	Insights from service-dominant logic on competing through service
Benı´tez (2007) [b]	In the hotel sector, fuzzy numbers are used to assess service quality
Kleijnen, Ruyter & Wetzels (2007) [b]	An examination of the production of value in mobile service delivery, as well as the controlling effect of time awareness
Fang, Palmatier & Steenkamp (2008) [a]	Effect of service transition techniques on business value
Vargo and Lusch (2008) [b]	Continue the advancement of service-dominant logic

Notes: [a] Service Research Community award-winning article;
[b] Articles that have been widely cited

Recent talks on service-dominant logic (S-D logic) and the creation of a multidisciplinary service science emphasize the necessity for a paradigmatic debate that provides directions for continued service research. Service research often uses these four paradigms (Tronvoll et al., 2011). Therefore, including these four paradigms in Chapter 2 is justified since they are critical paradigms in service research. Moreover, paradigms are essential predictors and drivers of practical research.

The qualitative technique was employed in the earliest stages of this study to define definite and measurable research objectives. The researcher collected quantitative

data after finalizing the variables and measuring items necessary to study the current investigation. The regulatory bodies can apply the study's findings to Tanzanian HLI students like the standard highlighted in the positivist paradigm. Chapter 3 describes in full the present research paradigm.

2.3 The Conceptualisation of Service Quality and Satisfaction

The customers genuinely compare the experienced service with their expectations when evaluating the SQ offered by the service providers. Suppose the experienced SQ is lower (or greater) than expected. In that case, the customers will assess the SQ dimensional variables inferiorly or exceptionally, which, in turn, causes them to feel dissatisfied (or satisfied) (Bitner et al., 2009; Gupta et al., 2006; Lewis & Booms, 1983; Oliver, 1980; Mwiya et al., 2017; Parasuraman et al., 1985). Thus, a service provider's ability to meet or exceed a customer's expectations determines customer satisfaction (Alipour et al., 2011; Khan & Matlay, 2009).

According to Oldfield and Baron (2000), students assess the three critical criteria of HLIs' SQ: obligatory encounters, which allow students to fulfil their study commitments; good contacts, which students perceive as desired but not required during their studies; functional meetings that are helpful or practical.

Such definitions imply that HLI's students determine the quality of student services. Grounded on prior encounters with the supplied service, students estimate services perceived or cognitive worth. The current study evaluated the quality of student services based on the students' expectations of the services (if they have not used

them before) and their experience with the services they encountered (if they have used them).

Student satisfaction, according to Arokiasamy and Abdullah (2012) and Cohen, Dove, and Bachelder (2001), is not limited to classroom lectures or tutoring during consultation hours but also includes students' experiences of the teaching and learning environment, interactions with non–academics or administrative staff, physical infrastructure, and other extracurricular activities such as sports. In other words, the frontline and backstage service providers in a HLI are responsible for providing excellent student services (Gold, 2001; Low, 2000, cited in Banwet & Datta, 2003) by managing the students' expectations and interactions (Ananthaet al., 2012). In conclusion, to improve student satisfaction with student services, HLIs must comprehensively understand how students conceptualise the SQ dimensions (Onditi & Wenchuli, 2017), as the negative outcome of SQ jeopardises a university's reputation (Banwet & Datta, 2003).

The spreading of positive word of mouth increases domestic and international students' enrolment (Arokiasamy & Abdullah, 2012; Cohen, Chun, 2005; Dove & Bachelder, 2001). Also, consistently improving students' learning environment is essential for HLIs to meet the expectations of their constituent groups and legislative bodies (Arokiasamy & Abdullah, 2012).

2.3.1 The Development of the Theoretical Framework for Service Quality and Satisfaction

Numerous theoretical approaches have been applied to understanding the dimensions of SQ and customer satisfaction. For example, the dissonance theory explains that cognitive dissonance occurs when a person simultaneously maintains two contradicting concepts; researchers developed the theory in 1957. The theory states that people will change their opinions, behaviours, and viewpoints to lessen disagreement. Customers decide whether they are satisfiedbased on a mental contrast between prospects and the user acceptance aspects.

The second theory, the assimilation theory, developed in 1920, disputes the assumption of a relationship between expectation and satisfaction (Ongo, 2019). The theory describes the adaptation process, or when consumers learn novel knowledge, they will incorporate it into their previous practices. In other words, consumers are prone to altering their experiences in response to new information, and the effects of such alteration are very subjective. The idea fails to explain how disconfirmation of an expectation leads to contentment or discontent (Ongo, 2019).

In 1964, Helson developed the Adaptation theory (Ongo, 2019). The theory explains that a consumer only perceives stimuli about a modified yardstick. The stimuli determine the yardstick, the setting, and the organism's mental and physical qualities. Once established, this "adaptation level" survived successiveexaminations.

Olashavsky and Miller (1972) created the assimilation contrast hypothesis to explain why apparent excellence is in a straight line to prospects. Assimilation effects arise

when the variance between possibilities and distinction is too tiny to notice. In criticising the assimilation contrast hypothesis framework, Anderson (1973) argued that an assimilation outcome exists only when the variance between prospects and excellence is too significant to observe and consumers increase the gap.

According to the anticipation disconfirmation hypothesis, customers establish satisfaction assessments by evaluating actual products or services (Oliver, 1977, 1980, 1997). In other words, a buyer has clear expectations before acquiring a product or experiencing a service. Consumers will compare the outcomes to their expectations after consuming or experiencing the received goods or services (Yuksel & Yuksel, 2001) to obtain confirmation. The term "disconfirmation" refers to a misalignment between prospects and results. When service performance exceeds client expectations, a positive confirmation results in satisfaction; conversely, negative disconfirmation will lead to discontent when the service performance falls short of the customer's expectations.

Researchers have introduced a variety of tools to assess SQ. However, delivering the definition of SQ is quite tricky because the SQ measure is ambiguous; researchers strive to build a generic framework to quantify it (Zeithaml et al., 1985, as cited in Onditi & Wenchuli, 2017). The original SQ model or SERVQUAL, as introduced in 1985 by Parasuraman et al. (1985), quoted in Gabriel (2012), considers ten criteria to measure quality: dependability, preparation, capability, availability, politeness, communiqué, trustworthiness, safety, comprehension, and tangibility.

It is challenging to assess the study subjects' SQ using the original SERVQUAL model (Parasuraman et al., 1985) because researchers cannot quantify some of the dimensional variables, and the same measuring items researchers can use them to measure other dimensional variables. As a result, Parasuraman, Zeithaml, and Berry (1991) refined the ten original dimensional variables into five new dimensional variables: tangibility, assurance, empathy, reliability, and responsiveness, as detailed in Figure 2.1.

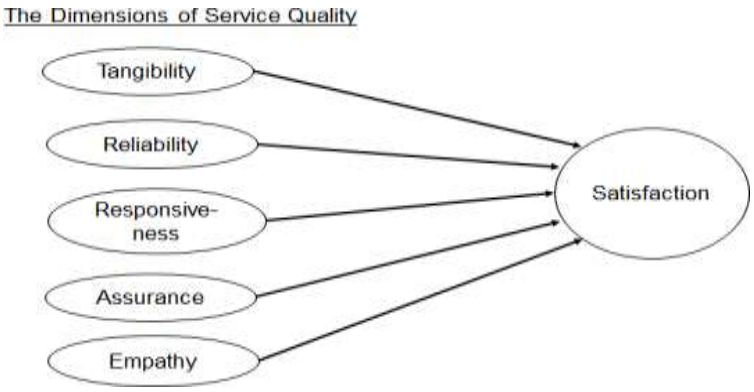

Figure 2. 1: Service Quality Theoretical Framework (SERVQUAL)

Source: Kajenthiran & Karunanithy, 2015

The modified SERVQUAL also explains that after rating the quality of the experienced service based on the five-dimensional variables, the examined respondents can determine their pleasure or dissatisfaction feelings. The modified SERVQUAL has received much attention in academic and non-academic literature (Onditi & Wenchuli, 2017).

Nonetheless, the enhanced SERVQUAL model has its challenges. Researchers argue that the five-dimensional variables do not apply to specific research scenarios

(Abbas, 2020; Babakus & Boller, 1992; Brown, Carmen, 1990; Churchill & Peter, 1993; Cronin & Taylor, 1992). Therefore, Annamderula and Bellamkonda(2012) and Sultan and Wong (2010) developed the Higher Education SQ Model (PHed) and the Performance-Based Higher Education SQ (HiEdQUAL) models. These models contend that SQ should also measure the total service environment, including tangible services like library, infrastructure, and recreation services, instead of measuring SQ from an academic perspective.

The eight SQ dimensional variables of the Performance-Based Higher Education SQ Model (PHed) developed by Sultan and Wong (2010) are dependability, effectiveness, capability, efficiency, competencies, assurance, and ad hoc practice related to managing course syllabus and delivery method. Meanwhile, the Higher Education SQ model (HiEdQUAL), developed by Annamderula and Bellamkonda (2012) and validated by Latif et al. (2019), has five SQ dimensional variables: instructing and content of courses, managerial services, academic amenities, campus set-up, and non-teaching services.

Ho and Wearn (1996) developed the higher education TQM excellence (HETQMEX) model with the following dimensional variables: commitment, total customer satisfaction, total involvement, training education, ownership of the problem, reward and recognition, error prevention, and teamwork to incorporate the measure of comprehensive quality management. Table 2.5 shows the dimensional variables of alternative SQ models in which the different dimensions scale assesses SQ.

Table 2. 5: Dimensions of Service Quality in Higher Education Studies

Author(s) and Model	Explanations for each of the models	SQ Dimensions
Berry, Parasuraman & Zeithaml (1990); and Parasuraman & Berry (1991) SERVQUAL Model	The model has attracted the most significant attention by developing the five-dimensional variables of perceived quality across service industries.	Tangibles, Reliability, Responsiveness, Assurance, & Empathy
Cronin & Taylor (1992) Performance only; SERVPERF Model	Criticized the SERVQUAL instrument by arguing that there is little theoretical or empirical evidence to support the notion of the 'expectations minus performance' gap as a basis for measuring SQ. They proposed a 'performance only' measure of SQ known as SERVPERF.	Reliability, Assurance, Tangibles, Empathy, & Responsiveness
Owlia & Aspinwall (1996) SERVQUAL	Based on traditional SERVQUAL model dimensional variables.	Tangibles, Competence, Attitude,Content, Delivery, & Reliability
Ho & Wearn (1996) HETQMEX Model	Incorporated the SERVQUAL into HETQMEX, A Higher Education TQM excellence model that measured SQ based on leadership, commitment, training, education, and teamwork.	Leadership, Commitment, Total customer satisfaction, Total involvement, Training education, Ownership of problems, Reward and recognition, Error prevention, &Teamwork

Continue next page

Author(s) and Model	Explanations for each of the models	SQ Dimensions
Athiyaman (1997) – multi-criteria Analysis	The model used a multi-criteria analysis	Availability of staff for student consultation, Library services, Computing facilities, Recreational facilities, Class size, Level, and difficulty of subject content, & Studentworkload
Sangeeta et al. (2004)	This research examines the numerous aspects used and implemented inassessing SQ in the HLIs.	Competence, Attitude, Content Delivery, Reliability
Firdaus (2006) Higher Education Performance (HedPERF)	The instrument is aimed at considering the academic components of SQ and the total service environment.	Non – Academic aspects, Academic aspects, Reputation, Access, Programme issues, & Understanding
Carney (1994)	College and academic reputation, campus, Faculty-student interaction and financial support, Instruction quality, faculty, Friendly and caring atmosphere, social life, Student quality, Religious atmosphere, Location.	Multiple dimensions
Owlia & Aspinwall (1996)	Readiness and Attentiveness, Tangibles, Delivery, Competence, Attitude	
Athiyaman, (1997)	Level & difficulty of subject content & student workload, Library services, computing & recreational facilities, class size, Teaching quality, consultation,	

Continue next page

Author(s) and Model	Explanations for each of the models	SQ Dimensions
Abbas (2020); HEISQUAL	A modern method for measuring service quality in HLIs.	The items and dimensions of the instrument cover basic and advanced elements of quality in HEIs in a holistic manner by covering traditional and modern dimensions.
Gronroos (1998)	Reputation & credibility, Access & flexibility, recovery; Professionalism skill, Attitudes & Behaviour	
Hadikoemoro (2002)	Readiness and Attentiveness, Tangibles, Readiness and Attentiveness, and Fair and impartial, General attitude, Academic services andfacilities.	
Sangeeta (2004)	Reliability, Orientation towards achievement, Physical facilities; adequate and appropriate classroom, Sufficient staff, access to staff andteachers, Faculty expertise and sufficient staff, Effective problem solving, Healthy, competitive & collegial environment.	
Brooks, (2005)	Reputation; program features; career outcome, financial support, Faculty research; teaching assistantship; Fellowship grant; Instructions; Interaction with faculties; Proportion of students, co-curriculum;interaction with peers; campus life.	
Ramaiyah, Md. Zain, &Ahmad (2007) Different authors used multiple dimensional variables—for example,' Parasuraman et al., 1991 Tangibility, Reliability, Responsiveness,Assurance, and Empathy. Teeroovengadum, Kamalanabhan, and Seebaluck, (2016); HESQUAL:	A hierarchical model for assessing service quality in higher education.	

However, researchers have yet to agree on which variables or models should beused to evaluate the quality of service in HLIs (Onditi & Wechuli, 2017). The present SQ models focus on determining the perceived SQ of a given tool or facility created to deliver a specific service, such as training education, computer and recreational facilities, semester and syllabus, and teaching and course material (Onditi & Wenchuli, 2017).

Because they concentrate on the education sector, the HEdPERF and HESQUAL instruments created by Abdullah (2006b) and Teeroovengadum, Kamalanabhan, and Keshwar Seebaluck (2016) are thought to be superior to SERVQUAL and SERVPERF. These tools cover both academic and environmental issues. In contrast to SERVPERF, Brochado (2009) discovered that the HEdPERF instrument was more valid and dependable. These instruments still need to address the SQ factors, especially the technological ones.

Furthermore, the scholars strongly linked the tangible abilities explained by Multi-criteria Analysis and HiEdQUAL models to other elements. Factors like computer and recreational facilities, for example, are strongly related to education expenses. However, variables like teaching and course material are difficult to quantify because each educational program has its teaching and course content structure. In other words, when the profiles of the respondents and the HLIs differ, the items used to assess the dimensional variables, such as semester and syllabus, and teaching and course content, cannot easily be used to measure SQ (Athiyaman, 1997; Elliot & Shin, 2002).

The current study's respondents are students, not service providers. Therefore, the dimensional variables of the Higher Education TQM model of excellence (HETQMEX) – leadership, commitment, total customer satisfaction, involvement, training education, problem ownership, reward and recognition, error prevention, and teamwork – are inapplicable to the current study context.

Other models like PHed and HiEdQUAL segregate the tangible elements into a few specific physical facilities. Although such segregation is helpful, the specific tangible equipment and resources can differ according to HLI's education program, location, and financial support, to mention a few. Therefore, the segregation may derive inconsistent responses from the respondents that may eventually cause the hypotheses to be non-supported.

Comparatively, SERVQUAL fits well with the current study context because the model assesses students' reactions or satisfaction because they evaluate the service provider's tangible and intangible service performance, such as reliability, responsiveness, assurance, and empathy.

2.3.2 The Service Quality Model (SERVQUAL) Theoretic Context

Parasuraman, ZeithamI, and Berry (1985) established the SERVEQUAL based on the reasoning stated in the expectation–perception gap model. According to Brown and Bond (1995), the expectation-perception gap model was one of the most well-received and heuristically significant contributions to the services literature. The model identifies the significant inconsistencies or gaps inmanagerial perceptions of

SQ and duties related to customer service delivery. As demonstrated in Figure 2.2, Gap 1, Gap 2, Gap 3, and Gap 4 are all servicedelivery functions. However, Gap 5 focuses on the customer, illustrating the discrepancy between customer expectations and the perceived level of service, and the varied prior studies view this as an appropriate indicator of SQ (Shahin,2006).

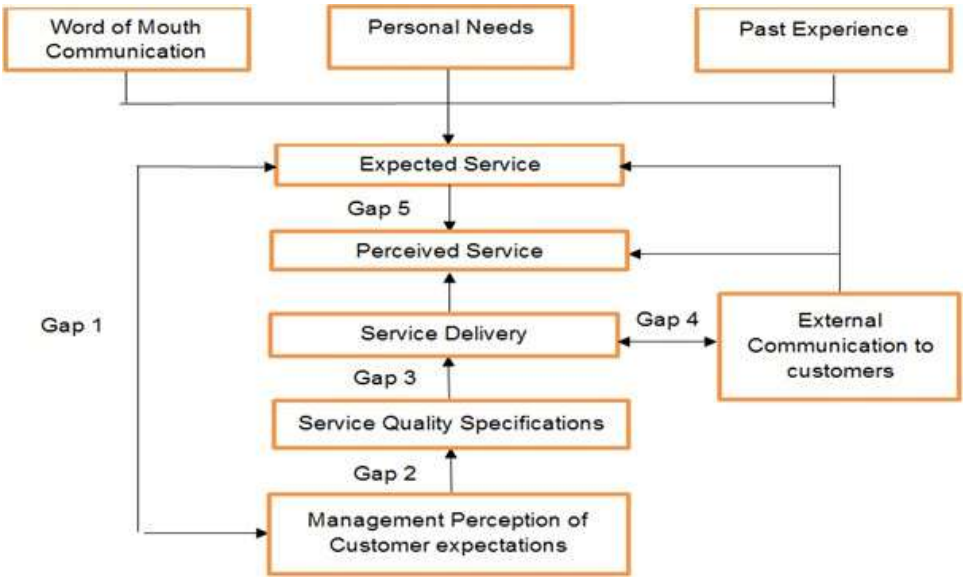

Figure 2. 2: Model of Service Quality Gaps Theoretical Framework

Source: Parasuraman et al., 1985

The below explains the five SQ gaps shown in Figure 2.2. GAP 1 occurs when consumer expectations and management's perceptions of consumer expectations are divergent or known as the "knowledge gap". GAP 2 happens when management's perceptions of customer expectations differ from the specifications of SQ, known as the design chasm. GAP 3 exists when consumers perceive the difference between the specifications of SQ and service delivery. GAP 4 shows when consumers sense the disparity between service delivery and communication to consumers about the

service, known as a communication chasm. Lastly, GAP 5 shows the discrepancy between consumer expectations and perceptions.

Researchers must quantify the differences between the consumer's reaction to the experienced SQ and the expected level of SQ that should be delivered bythe service provider or as perceived by the customers when using the SQ gap model in a study. However, the researcher cannot measure SQ differences in practice because the measuring items conceptually established by past researchers are outside the literature for all variables shown in Figure 2.2(Parasuraman et al., 1985). Thus, Parasuraman et al. (1985) created the SERVQUAL framework, which is shown in Figure 2.1, which consists of 5 magnitudes: physicality, dependability, receptiveness, guarantee, and sympathy, and explains how the SQ magnitudes are related to the respondent's satisfaction behaviour.

The preliminary study's findings show that the five SQ dimensional variables can explain Tanzanian HLI students' perceptions of the quality of student services provided by their HLIs, eventually determining their satisfaction. Therefore, the SERVQUAL framework is used as the study's basic theory. The following paragraph explains the definitions of the SERVQUAL dimensional variables.

The first-dimensional variable, tangibility, is preoccupied with one's appearance of facilities, equipment, workers, and communication materials (Haron et al., 2020). These physical items impact how clients assess or anticipate the quality of the service provided. For example, a service might be rated low when students find the

visited office is dirty, the office computers are outdated and off-line, broken chairs are not removed, and so on. The second- dimensional variable, reliability, refers to the ability of service providers to deliver on their promises consistently and accurately (Joppe, 2000). Service providers also must keep their promises. When students perceive a specific service provider as unreliable, they will likely go to another service provider.

The third-dimensional variable, responsiveness, demonstrate service providers' readiness to assist clients and deliver quick service. The time it takes for a student to inquire about anything and receive an answer is crucial (Gronroos, 2000). The time indicates that the faster the service, the better. The time is also known as the lead time and is contingent on how supportive the staff is of their consumers. The fourth-dimensional variable, assurance, refers to the service provider's job expertise, competence, and courtesy. Students perceive HLI staff as able to solve students' problems or answer questions without relying on guesswork (Van der, 2007).

Finally, the fifth-dimensional variable, empathy, refers to the kind, one-on-one or individual attention a service provider can give a student. Students will react well if the service provider is concerned about their concerns and takes action to resolve them. For example, students will be grateful if the library staff assists them in obtaining certain reading materials.

According to Parasuraman et al. (1985), customers assess perceived service with five quality proportions: dependability, receptiveness, guarantee, sympathy, and physical.

Customers consider SQ by adjudicating the involvement built on the five characteristics each time they receive a service. Therefore, examining these SQ aspects can help to close the five gaps.

2.3.3 Measuring the Satisfaction Variable

For a business to establish an adequate quality control level, customers' satisfaction behavioural response is highly significant due to the experience gained from the usage of products or services (Kotler & Keller, 2009). Consumers' or users' satisfaction improves loyalty and retention behaviour, which assists businesses in gaining a competitive advantage.

The Cardozo model is among the first client gratification social psychology models, designed by Cardozo in 1965, that explains the relationship between satisfaction and future purchase behaviour. The Cardozo model incorporates Helson's "contrast effect" and Festinger's cognitive dissonance theory (Vavra, 1997). According to the model, customers might raise or lower their satisfaction ratings to alleviate the dissonance caused by high expectations or a bad experience (Vavra, 1997). Cardozo proposes that contrast theory would apply in situations demanding little input and effort and that customers gain in such settings.

This study's conceptual framework is developed based on the modified SERVQUAL framework because the five SQ dimensional variables fit well with the problems faced by current respondents in assessing their HLI's SQ, and their evaluation of the

five SQ dimensional variables influences their pleasure or dissatisfaction feelings (Onditi & Wenchuli, 2017).

2.3.4 Service Quality, Perceived Transparency, Trust, and Satisfaction Empirical Studies

The researchers have widely accepted the SERVQUAL framework to measure SQ (Onditi & Wechuli, 2017) in organisations that deal with mass services like banking, schools, and wholesaling, and the degree of client involvement with the firm influence perceived SQ (Lim, 2020) – See Table 2.6. However, generalising the measuring items for each SERVQUAL SQ dimensional variable across all sectors is not viable because the degree of interaction between consumers and service providers varies based on the type of service offered (Handrinos et al., 2015). Professional service providers, such as legal firms and hospitals, may need specialised service offerings compared to mass service providers.

Table 2.6 also shows that the SERVQUAL framework is adopted to quantify student satisfaction in previous HLI studies (Hanaysha et al., 2011; Hassan et al., 2008; Kajenthiran & Karunanithy, 2015; Khan et al., 2011; Khodayari & Khodayari, 2011; Mashenene, 2019; Mbise, 2015). According to the findings, the five SQ dimensional variables of tangibility, reliability, responsiveness, assurance, and empathy significantly influenced total student satisfaction. Magasi, Mashenene, and Dengenesa (2022), Mashenene (2019), Mbise (2015), Mbise and Tuninga (2013), and Mwongoso et al.'s (2015) studies, which used the SERVQUAL model, found favourable associations between SQ dimensional variables and satisfaction among

Tanzanian HLI students. On top of the five-dimensional variables explained in the SERVQUAL model, the preliminary study's results also reveal the other two additional variables: perceived transparency in performing student services and trust in the institution, which the researcher needs to examine in this study. Therefore, the researcher in the current research modified the SERVEQUAL to include the two variables, perceived openness and trust, which are still limitedly practised by past researchers. The recently developed SQ models like PHed, HEdPERF, and HiEdQUAL are adapting the SERVQUAL model (Onditi & Wechuli, 2017) so that the new dimension variables can reflect the study context better.

Table 2. 6: Service Quality, Trust, Perceived Transparency and Satisfaction Studies

Authors (year of publication)	Model used	Remark
Hansysha, Abdullah & Warokka (2011)	Adopting the SERVQUAL model	
Hasan, Ilias, & Razak (2011)	Adopting the SERVQUAL model	
Hassan et al. (2008)	Adopting the SERVQUAL model	
Jalali, Islam & Ariffin (2011)	Adopting the SERVQUAL model.	To investigate the relationship between satisfaction and SERVQUAL qualities of tangibility, reliability, responsiveness, assurance, and empathy.
Kajenthiran & Karunanithy (2015)	Adopting the SERVQUAL model	
Khan, Ahmed & Nawaz (2011)	Adopting the SERVQUAL model	
Khodayari & Khodayari (2011)	Adopting the SERVQUAL model	
Mbise (2015)	Adopting the SERVQUAL model	
Mashenene (2019)	Adopting the SERVQUAL model.	
Hwang & Choi (2019)	Adapting the SERVQUAL model.	This study aimed to look at the relationship between SQ parameters, institutional image, behavioural intent, and satisfaction.
Sultan & Wong (2010)	PHed	Dependability, effectiveness, capability, efficiency, competencies, assurance, uncommon situation management, semester and syllabus, and satisfaction.
Firdaus (2006)	HEdPERF	To investigate the relationship between non-academic aspects, academic aspects, reputation, access, program difficulties, understanding, and satisfaction.
Mwiya et al. (2017)	SERVPERF	investigates the impact of each SQ factor on overall satisfaction and behavioural intentions such as loyalty and positive word of mouth.

Continue next page

Authors (year of publication)	Model used	Remark
Annamdevula & Bellamkonda(2012)	HiEDQUAL	To investigate the relationship between teaching and course content, administrative services, academic facilities, campus infrastructure and supportservices, and satisfaction.
Denhardt & Denhardt, (2009)	A preliminary investigation	To investigate the relationship between satisfaction and trust.
Gracia & Arino, (2015)	A preliminary investigation	To investigate the relationship between satisfaction and trust.
Sfenrianto, Wijaya & Wang (2018)	A preliminary investigation	To develop the constructs that can represent the trust dimension.
Arshad & Khurram (2020)	A preliminary investigation	To explore the role of transparency in trust
Medina & Rufín (2015)	n/a	To determine the success of a public university's transparency policy in termsof impact on student happiness and confidence.

Past study results show that transparency influences the change of trust significantly (Medina & Rufin, 2015). When an organisation or institution is transparent in disseminating specific services, news, or information, the trust level increases among the recipients. In addition, transparency also influences the change in satisfaction (Medina & Rufin, 2015). As trust influences the satisfaction change (Medina & Rufin, 2015), the trust variable mediates between the transparency and satisfaction relationship. The mediation effect, therefore, is tested in this study.

Despite their relevance, few studies have examined citizens' perceptions of transparency and trust in their governments. Moreover, in an academic setting, these variables have been used rarely with the SERVQUAL model in literature (see Table 2.6). This study, therefore, fills the literature gap.

2.4 Development of the Present Research's Hypotheses

The current study develops the following hypotheses: H1, H2, H3, H4, and H5 to meet the first research objective to test the relationship between each SERVQUAL five-dimensional variable and student satisfaction. Meanwhile, H6, H6a, H6b, and H7 are developed to meet the second search objective, which aims to test the relationship between perceived transparency, trust in an institution, and student satisfaction. The sub-sections below describe and justify the hypothetical relationships.

2.4.1 Tangibility and Student Satisfaction (H1)

According to the SERVQUAL framework, the tangibility dimensional variable refers

to the appearance of physical facilities, equipment, staff, and communication materials. Tangibility services are amenities that can help students learn curricular and non-curricular knowledge, as per HLI's SQ research. Study and learning physical facilities include study venues, computers, projectors, labs, study venues, and fixtures. Study and learningtangible resources include printing, library resources, and internet accessibility, The tangibility service dimensions influence student satisfaction(Farahmandian et al., 2013; Kundi et al., 2014; Mwiya et al., 2017; Rajab et al.,2011; Twaissi & Al-Kilani, 2015).

Empirical SQ research in Malaysia (Afshardost et al., 2013; Rahman et al., 2011); Pakistan (Akhtar et al., 2014); Jordan (Al-Kilani & Twaissi, 2015); and Zambia (Mwiya et al., 2017) has generally supported the SERVQUAL proposition: tangibility and satisfaction is positively related.

However, Khan, Ahmed, and Nawaz's (2011) study result shows that the tangible services variable is unrelated to student satisfaction with HLI services in Pakistan. This disconnection is most likely because student respondents had varying reactions regarding the availability of tangible equipment (such as computers and projectors) and the performance of physical service amenities (constructions, fixtures, schoolroom setting, published school materials, and the appearance of university employees). Students with computers may not feel discomfort when the university is not providing computer services compared tothose without computers.

The current preliminary study finding indicates that HLIs' tangibility services assist students in acquiring curricular and extracurricular knowledge. In addition, Tanzanian HLIs' physical facilities and tangible resources are essential to students because many tertiary students do not come from well-off families. Therefore, the current study predicts that the availability and sufficiency of tangible facilities and resources and the student's satisfaction with the student services are positively related (see H1 below).

H1: The tangibility of student services is positively related to students' satisfaction with student services.

2.4.2 Reliability and Student Satisfaction (H2)

Reliability refers to a service provider's ability to deliver the promised service consistently and precisely (Parasuraman et al., 1988). Also, the ability to provide the promised service is essential (Gupta et al., 2006). Past study results in Australia (Sultan & Wong, 2012), Malaysia (Hasan et al., 2009; Hassan & Ibrahim, 2010), Romania (Avram et al., 2014), and Zambia (Mwiya et al., 2017) show that HLI students expect their HLI to keep their promises and provide error-free services. For example, an institution must maintainaccurate student academic records and fulfil its pledges to provide high-quality student services. Therefore, the current study anticipated the following hypothesis based on the preliminary study's findings and previous studies'support:

H2: The reliability of student services is positively related to students' satisfaction with student services.

2.4.3 Responsiveness and Student Satisfaction (H3)

Parasuraman et al. (1988) define responsiveness as "willingness to assist clients and deliver prompt service". A client's willingness to judge an organisation's success depends on how soon the service provider answers their requests, questions, or complaints (Zeithaml et al., 2006). Thus, employees' service performance behaviours strongly influence consumer satisfaction. According to empirical studies in Australia (Arambewela & Hall, 2006); Pakistan (Kundi et al., 2014); Malaysia (Wei & Ramalu, 2011); Indonesia (Jiewanto et al., 2012); and Zambia (Mwiya et al., 2017); responsiveness and students' satisfaction are positively related.

Similarly, the current preliminary study result shows that HLI students' satisfaction is affected by the willingness of HLI personnel to assist students, their ability to communicate when offering services, and the speed of delivery services. Based on the preliminary and previous studies' results, the H3 hypothesis is developed.

H3: The responsiveness of student services is positively related to students'satisfaction with student services.

2.4.4 Assurance and Student Satisfaction (H4)

Respondents assess the service provider's knowledge and competency in performing their job task or term as assurance (Parasuraman et al., 1988).

In other words, the presented service performance during the interaction between service providers and consumers is critical (Pollack, 2008).

Previous SQ study results in HLIs show that students evaluate HLIs employees' graciousness, courtesy, approachability, and capacity and are satisfied if the services match their expectations (Cardona & Bravo, 2012; Farahmandian et al., 2013; Jiewanto et al., 2012; Mwiya et al., 2017; Sumaedi et al., 2011; Yunus et al., 2010). Based on the preliminary study's findings and previous studies' support, the current researcher projects the below hypothesis.

H4: The assurance of student services is positively related to students' satisfaction with student services.

2.4.5 Empathy and Student Satisfaction (H5)

Empathy reflects a service provider's willingness to express their care and provide personalised attention to studied respondents (Parasuraman et al., 1988). Customers expect to be grateful when their wants are acknowledged and cared for (Zeithaml et al., 2006), leading to appreciation and satisfaction with the service. Researchers of SQ in different countries like Malaysia (Ramalu & Wei, 2011), Iran (Babakhany et al., 2011), Pakistan (Akhtar et al., 2014), and Zambia (Mwiya et al., 2017) support SERVQUAL's proposition.

Similarly, the current preliminary study respondents expect their HLIs' service providers to provide empathize services to those students who need special attention; the receiver and other students will develop satisfaction feelings towards the special services. In other words, the researcher of the current study predicted that:

H5: Empathy for student services is positively related to students'satisfaction with student services.

2.4.6 Perceived Transparency, Trust, and Student Satisfaction (H6, H6a, and H6b)

Transparency is an organisation's willingness to share information about its decisions, procedures, and performance with its stakeholders (Arshad & Khurram, 2020). Factors like honesty, clarity, correctness, and transparency help reduce the perception that stakeholders hide information (Yang, 2018). The relationship between transparency and citizen satisfaction provides evidence (Medina & Rufin, 2015). More public services are transparently performed to increase citizens' trust in the public organization and their satisfaction (Van de Walle, 2018). The basic concept is that improving SQ will increase satisfaction in the public sector.

In general, empirical studies in Greek (Solakis et al., 2022); Spain (Ramírez & Tejada, 2022); Chile (Thelen & Formanchuk, 2022); Indonesia (Honora et al., 2022); Finland (Kumar et al., 2021); German (Hofmann & Strobel, 2020); Libya (Vandewalle, 2018); and Spain (Medina & Rufin, 2015) have backed up perceived transparency on satisfaction.

Porumbescu's (2017) study shows that exposure to computer-mediated transparency is negatively associated with citizens' satisfaction with public service provision in South Korea. The dissatisfaction is most likely because the respondents were those younger than 60, who are likely computer literate and understand how their government works. Citizens in the age group older than 60 may not feel discomfort when the government does not provide ICT-based transparency.

Customers' perceptions of price fairness improve when they receive more information about the pricing (Rothenberger, 2015). Transparency thus becomes a direct function of easy access to information and is reflected in product quality. As a result, customers may better grasp how to use products and provide suggestions for improving the company's products and services. By the look of things, most research demonstrating the link between transparency and satisfaction is from developed countries with more transparent and polite administrations.

Transparency is a helpful SQ dimensional variable in the academic industry in a developing country like Tanzania as well—transparency increases studentsatisfaction as it reduces ambiguity scenarios. Thus, the researcher proposed that transparency affects student satisfaction in this study context, see H6.

H6: The perceived transparency of student services is positively related to students' satisfaction.

Customers disappointed with service failures today are more likely to exhaust their frustrations on social media (Honora et al., 2022). The possibility of the viral spreading of consumers' e-complaints forces service providers to work more proactively in reducing the spread of negative comments on social media (Rosario et al., 2016).

The flow of information in cyberspace has evolved into transparency, which refers to the openness of information flows thanks to the advent of the internet and social media (Honora et al., 2022). Transparency refers to stakeholders' ability to get information about themselves (Tapscott & Ticoll, 2003). To provide continuous

service, users must trust the organization. Conflict of interest is unlikely when citizens believe in public agencies (Cheng et al., 2017). On the other hand, because these technologies have transformed how citizens engage with government agencies, trust has become a central issue in online and offline information systems research (Capistrano, 2020). In general, empirical research in Indonesia (Honora et al., 2022), Pakistan (Mansoor, 2021) Pakistan (Arshad & Khurram, 2020), and Pakistan (Arshad & Khurram, 2020) support the hypothetical positive relationship between transparency and trust in an institution.

Nonetheless, the relationship between transparency and government trust must be supported by a past study in South Korea and the Netherlands (Grimmelikhuijsen et al., 2013). The South Koreans display a more extreme reaction to the information provided by the government than their Dutch counterparts. Therefore, transparency in disseminating public notification is more essential to the South Koreans than the Dutch. Such discrepancy reactions cause the hypothetical relationship to become not supported.

In any worldwide HLIs, students are expected to be transparent in performing student services, such as informing students of the appeal process and results for examination marks review. When students perceive their HLI is transparent, student satisfaction increases. Therefore, this study posits that:

H6a: The perceived transparency of student services is positively related totrust in the institution.

Confidence is necessary for personal ability, job satisfaction, and a firm's long- term viability. If the organisation's members have built mutual trust and understanding, they are among the high-performance organisations (Çiçek & Şahin Macit, 2016). In human relations, trust abounds (Saleem et al., 2017). Customers' desire to participate in future transactions, which demonstrates trust in the seller's transactional conduct, leads to a perception of lower future risk and the possibility of opportunism in relationship marketing (Kotler & Keller, 2012). According to some experts, trust is cognitive anticipation of what to believe; achieving expectations necessitates gaining emotional support (Milan et al., 2015).

Trust is crucial in the academia-industry relationship because of pre-and-consumption evaluations of service attributes such as convenience, safety, certainty, and responsiveness (Palmer, 2008; Park, 2007). Conversely, consumer satisfaction has been linked to the growth of trust. One of the more comprehensive definitions of job satisfaction is "positive and exhilarating sensations arising from the individual's appraisal of their employment and experiences received from the job", proposed in Sarkaya and Kara's (2020) study.

Many past researchers have supported the trust and satisfaction relationship. For example, trust was positively related to satisfaction (Inan & Çelik, 2018; Macit, 2016; Shin, 2020; Sökmen, 2019; Yuan et al., 2020). However, a past study in Vietnam (Nguyen et al., 2020) found that trust in e-government and citizens' satisfaction are not significantly related. The scenario is that not all citizen respondents subscribe to internet connectivity.

Similarly, in Rouibah, Al-Qirim, Hwang, and Pouri's (2021) study in Kuwait, the trust of e-WoM in social commerce and satisfaction has no significant link. The Kuwait community has a strong bonded tie with family members and friends, which explains the positive relationship between trust and satisfaction. However, in the above study, most of the respondents were female students with a bachelor's degree who may prefer to make decisions than trust the e- WoM spread in social commerce media in making decisions. As a result, there was no consensus on the influence of trust on satisfaction.

In improving the country's social and economic status, the Tanzanian government has provided significant incentives to encourage the residents to pursue higher education. For example, public school education is free, and the government subsidises public HLIs. Public agencies are established to monitor public and privately owned HLIs. To secure continuous support from the Government and to increase student enrolment, this study formulated the following hypothesis.

H6b: Trust in an institution directly and positively relates to students'satisfaction.

2.4.7 The Mediation Effect of Trust Between Perceived Transparency and Student Satisfaction (H7)

The concept of trust characterises customers' struggles in reducing risk (Boonlertvanich, 2019). Trust entails a behavioural intention that denotes a customer's reliance on a service provider and vulnerability and confusion about the provider's role (Sumaedi et al., 2015). In the customer–service provider relationship, trust is the idea that a service provider's statement or promise is trustworthy and that

the provider will keep its promises. In addition, trust represents citizens' opinion of the agency because it has sufficient expertise to make judgments, works in the best interests of society, and keeps its pledges and commitments (Grimmelikhuijsen et al., 2013; Porumbescu, 2017). In HLIs, trust refers to a student's confidence that an HLI would perform and deliver services per the student's expectations.

Many past study results support that trust mediates between transparency and satisfaction. For example, in the SQ of HLI's study in Tanzania, trust partially mediates the relationship between perceived transparency and student satisfaction (Bwachele et al., 2023). In addition, Yue, Men, and Ferguson (2019) note that trust mediates the positive relationships between transparency and employees' openness to change. In the supply chain, trust may influence the social values between the producer and the buyer, which can alter and increase the producer's attachment to the connection (Mutonyi et al., 2016). Trust boosts mutual advantage and strengthens long-term cooperation. In the Malaysian tourism business, trust is a mediator between client satisfaction and loyalty, according to Osman and Sentosa (2013).

In some previous research, trust does not mediate transparency and satisfaction. For example, Rubel, Rimi, Yusliza, and Kee (2018) discovered that trust in management does not mediate the relationship between high commitment to human resource management practice (HCHRM) in aspects such as disclosure of information, accuracy of information, willingness to share information, honesty, clarity, correctness and extra-role service behaviour (these are crucial choices because research demonstrates that organisations perform better and are more efficient

when employees are willing to go above and beyond their formal roles by helping coworkers, volunteering to take on special assignments, introducing new ideas and work practises, attending optionalmeetings, putting in extra time to finish significant projects, and so on). As a result, banking institutions should strive to identify, develop, and apply HCHRM to increase employees' trust in management, which eventually enables companies to achieve desired outcomes.

Citizens can view government updates (representing the transparency variable) on social media as either positive or negative, depending on their level of trust in the government; as a result, citizens react in terms of political involvement (representing the satisfaction variable). Given that customers are more likely to provide negative than good feedback, the study hypothesised that their trust in the entity reduces their chance of participating in activities, particularly thoseof an online character (Haron et al., 2020). In summary, trust functions as a mediator between perceived transparency and students' satisfaction in Tanzanian HLIs, see H7:

H7: Trust mediates the relationship between perceived transparency and students' satisfaction.

2.5 Current Research Conceptual Model

The study presents the following conceptual model based on the arguments and support for developing current hypotheses. The current research's model consists of five SQ dimensional variables that serve as predictors, one dependent variable, satisfaction, which initially belonged to the SERVQUAL model, and two additional SQ dimensional variables. Trust in an institution mediates the relationship between

perceived transparency and student satisfaction.

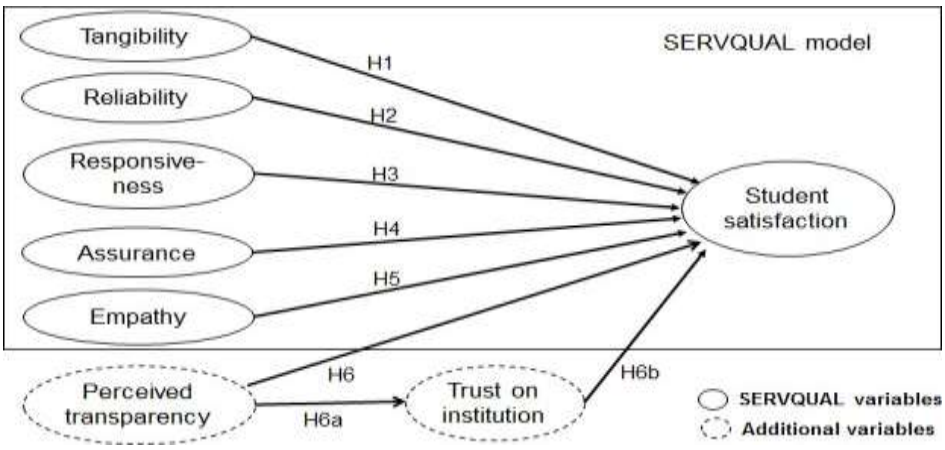

Figure 2. 3: Research Model for the Current Study

Note: H1 to H6, H6a, and H6b refer to direct relationships between respective variables, and H7 refers to the mediation hypothesis between perceived transparency, trust, and student satisfaction.

Except for the tangibility dimension, this study defined the SERVQUAL dimensional variables according to the SERVQUAL framework. In SERVQUAL, the tangibility dimension refers to the appearance of physical facilities, equipment, staff, and communication materials. In this study, the tangibility dimension refers to physical facilities (such as computers, projectors, and classrooms) and physical resources (such as library materials and internet access) that can help students get curriculum and non-curricular knowledge.

Past studies (Annamderula & Bellamkonda, 2012; Sultan & Wong, 2010) modified the tangibility dimensional variable to measure only specific teaching and learning physical materials. For example, the PHed model changes the tangibility dimension variable to the semester and syllabus variable (Sultan &Wong, 2010). In the HiEDQUAL model, the tangibility dimension variable splits into two components:

academic facilities and campus infrastructure (Onditi & Wenchuli, 2017).

This study maintains the tangibility dimensional variable to measure whether HLIs are providing sufficient physical facilities like computers, projectors, and labs; tangible resources such as library resources, printing materials, internet accessibility, and other teaching aids) to facilitate students' learning progress.

Perceived transparency refers to the clarity and correctness of the information an organization can supply and how specific information has been disclosed (Arshad & Khurram, 2020). Meanwhile, people's expectations of how institutions should treat them, deliver information or services to customers, and confidence in the institution and its service enhance the institution to be perceived as meaningful and valuable. That is credible; thus, one must be convinced that others also trust this institution (Thomas et al., 2015).

2.6 Literature Review Summary

This chapter began with a discussion of common paradigms in SQ research, the construction of a theoretical framework for SQ and satisfaction, and the theoretical framework of the SERVQUAL model, which established the context for the current study. This chapter also covered the notions of perceived SQ and student service satisfaction and the relationship between the two. Finally, it presented definitions of critical topics in the field of education, such as the definitions of SQ dimensional variables and customer satisfaction, which the researcher has used to provide the context for the current study.

According to the current researcher's examination of the literature, the function of HLIs in SQ in Tanzania has received little attention, and researchers have conducted few studies to enrich the SERVQUAL model. Therefore, the current study aims to close a gap in the literature by adding two variables to the SERVQUAL model: perceived transparency of student services and trust in the institution. With the addition of the two variables, the modified model addressed the concerns found in the preliminary study. The current study's methodology is detailed in the third chapter.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter provides, discusses, and justifies the approaches used in investigating how students' perceptions of the SQ given by their HLIs in Tanzania affect their satisfaction with the service. Based on the literature analysis, the researcher fine-tuned the research procedures to guarantee the validity and reliability of the current research's results.

3.2 Justification for Study's Paradigm Selection

This deductive study employs quantitative construct measures, with previous findings supporting hypotheses. The study adopted the positivist paradigm to make inferences from the current study's conclusions based on the significance level (Koloseni, 2017). The study setting, including the respondents' behaviour, was not altered to reduce the risk of biased results.

One of the essential measures of excellence in this regard was recognizing that respondents' natural behaviour when responding to a survey might be the most effective. The researcher used multiple quality control questions throughout thestudy to flag respondents (Timpany, 2015). Instead of screening out respondents while taking the survey, the researcher of the current research labelled respondents after getting the responses.

According to Easterby-Smith, Thorpe, and Jackson (2012) and Steinmetz (2005), the study can use the positivist paradigm to generalize findings if the sampling and sample size represent the population. Section 3.5 of this chapter contains sampling procedures and sample size determination.

Positivism is associated with scientific research methodology and quantitative procedures that allow study parameters to be monitored, controlled, and altered (Broom & Willis, 2007). Furthermore, the assumptions about the study's conclusions' objectivity, impartiality, and generalizability support the positivist paradigm (Broom & Willis, 2007). In the context of the current research, objectivity helped the positivism paradigm in that the researcher's findings were not influenced by emotions, surmise, or prejudice based on observable phenomena presented factually. On the other hand, impartiality supported the chosen paradigm by ensuring the researcher was not biased.

Furthermore, the current researcher recognizes that adopting appropriate sampling methodologies, sample sizes, and processes enhances the study'sgeneralizability. It is impossible to obtain absolute generalizability when a researcher studies a sample. The entire population must look at the research problem to get absolute generalizability. Nevertheless, exploring part of the population is only possible because it is time-consuming and requires many resources. However, the current study's researcher demonstrated the study's generalizability by employing appropriate sampling approaches, sample sizes, and statistical procedures. Finally, because the present research attempted to examine the connection between variables and test

hypotheses objectively, the positivist paradigm was employed to develop the study's methodology (Marczyk et al., 2005).

3.3 Research Design

This study examined the perceived SQ and students' satisfaction with the HLI's student services in Tanzania. The study primarily used a quantitative research approach in conjunction with descriptive research. Descriptive research (survey research) characterizes phenomena and establishes relationships between variables. In the current study, the descriptive analysis assessed students' satisfaction with Tanzanian HLIs.

Most previous investigations used the quantitative methodology, a standard strategy in SQ and satisfaction assessments (see Table 3.1). Because the majority of the studies are deductive, the study used this methodology intending to confirm the theory's propositions and enrich the basic idea by adding variables tested in previous studies (Arokiasamy & Abdullah, 2012; Hanaysha et al., 2011; Islam & Ariffin, 2011; Jalali et al., 2011; Kara et al., 2016; Mashenene, 2019; Mbise, 2015; Medina & Rufín, 2015; Mwiya et al., 2017; Osman et al., 2017; Sultan & Wong, 2010; Tandilashvili, 2019).

Also, the current study used the quantitative technique because the analyzed factors (five-dimensional variables of the SERVQUAL model) have been evaluated in many previous studies worldwide. For example, prior research looked at the quality of service in higher education in Colombia (Cardona & Bravo, 2012), Jordan

(Twaissi & Al-Kilani, 2015), Zambia (Mwiya et al., 2017), and Portugal (Brochado, 2009). Therefore, the present study was significant because few past studies enriched the SERVQUAL model in the context of HLIs. Furthermore, the inclusion of perceived transparency and trust in an institution variable into the SERVQUAL model is an added uniqueness to the context of this study. Besides, earlier research relied on SEM, limited to covariance-based applications, and the present study used partial least squares in data analysis.

The current researcher collected cross-sectional data because the researcher wanted to study the impact of service quality the HLIs have on students. First, the researcher conducted a cross-sectional study with a sample of HLI finalists from the coastal region to see if students were satisfied with the servicesprovided by their HLIs. From the results of the cross- sectional study, theresearcher plans to design a longitudinal study to examine further the link between the variables discovered in the longitudinal study.

Table 3. 1: Summary of Relevant Past Studies Research Design

Scholars (year) (study region)	Reasons for using the sources of data	Study design (Sampling method)	Statistical models (Sample size)	IndependentVariable	Dependent variables	percentage of explained variance
Sultan and Wong (2010) [Japan]	Examine the relationship between international students studying at Japanese universities and how they measure the HLIs' SQ. The proportions of SQ (reliability, effectiveness, capability, efficiency, competencies, assurance, exceptional scenario management, semester and syllabus) and customer satisfaction.	Quantitative approach (convenience and simple random sampling techniques, snowball sampling technique, a personal survey and purposive sampling techniques)	SPSS and SEM Covariance Based (362)	Dependability; Effectiveness; Capability; Efficiency; Competencies; Assurance; Unusual situation management; Semester and syllabus	student satisfaction	NA
Jalali, Islam and Ariffin (2011) [Malaysia]	To study how the demographic variables (gender, race, student status and CGPA) were related to service satisfaction.	Quantitative approach. (Simple random sampling)	ANOVA (165)	gender, race, student status and CGPA	students' satisfaction	NA
Abdullah, Hanaysha and Warokka (2011) [Malaysia]	To measure the relationship between SQ and student satisfaction.	Quantitative approach. (Simple random sampling)	Pearson Correlation &Regression Analyses (360)	Tangible, Reliability, Responsiveness, Assurance, Empathy	students' satisfaction	44

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Scholars (year) (study region)	Reasons for using the sources of data	Study design (Sampling method)	Statistical models (Sample size)	Independent Variable	Dependent variables	percentage of explained variance
Arokiasamy and Abdullah (2012) [Malaysia]	To study the relationship between SQ and student satisfaction.	Quantitative approach. (Simple random sampling)	Pearson Correlation and Regression Analyses (245)	Tangible, Reliability, Responsiveness, Assurance, Empathy	students' satisfaction	26
Mbise (2015) [Tanzania]	Testing whether an extended SERVQUAL model intended to measure the SQ delivered by the two business schools in Tanzania to meet the student's expectations can produce statistically reliable and valid results.	Quantitative approach. (A longitudinal survey)	A One-way ANOVA (206)	Tangible, Reliability, Responsiveness, Assurance, Empathy and Process Outcome	Overall SQ	NA
Medina and Rufín (2015) [Spain]	To analyse the effectiveness of the transparency policy carried out by a public university in terms of the impact on students' satisfaction and trust.	Quantitative approach. (A mass of mailshots was sent out to the three groups of students, including a summarised explanation as neutral as possible of the purpose of the research and a link to the website where the questionnaire was located.)	SmartPLS (618)	Transparency	students' satisfaction and trust	NA

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Scholars (year) (study region)	Reasons for using the sources of data	Study design (Sampling method)	Statistical models (Sample size)	IndependentVariable	Dependent variables	percentage of explained variance
Mwongoso et al. (2015) [Tanzania]	To measure the SQ gap in higher education using the SERVQUAL model.	Quantitative approach. (Randomly selected using Stratified sampling technique)	SPSS (132)	Tangible, Reliability, Responsiveness, Assurance, Empathy	students' satisfaction	NA
Kara et al. (2016) [Kenya]	To study the relationship between SQ and student satisfaction.	Quantitative approach. (Proportionate stratified random sampling)	Descriptive statistical analysis, factor analysis, and regression analysis. (1062)	The quality of academic resources, quality of administrative service, teaching quality and quality of students' welfare services.	students' satisfaction	NA
Osman, Sarkar, and Islam (2017) [Bangladesh]	To examine the relationship between the SERVQUAL dimensional variables and student satisfaction.	Quantitative approach. (A proportionate random sampling)	Factor analysis, multiple regression, t-test, and ANOVA (117)	Tangible, Reliability, Responsiveness, Assurance, Empathy, student quality	students' satisfaction	NA
Mwiya et al. (2017) [Zambia]	To investigate the impact of each SQ factor on overall service gratification and behaviour intents in terms of loyalty and good WoM.	Quantitative approach. (Proportionate stratified sampling)	Pearson correlation analysis (656)	Tangible, Reliability, Responsiveness, Assurance, Empathy	students' satisfaction	13%

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Scholars (year) (study region)	Reasons for using the sources of data	Study design (Sampling method)	Statistical models (Sample size)	IndependentVariable	Dependent variables	percentage of explained variance
Onditi and Wenchuli (2017) [Kenya]	To develop a modified HiEdQUAL model to measure students' perception of the education's SQ.	Mixed method. (Empirical studies)	Empirical studies (Not disclosed)	SQ dimensional variables	students' satisfaction	NA
Mashenene (2019) [Tanzania]	To study the rapport between SQ and undergraduate satisfaction.	Quantitative approach. (A longitudinal survey)	one way ANOVA (570)	Tangible, Reliability, Responsiveness, Assurance, Empathy and Process Outcome	Overall SQ	NA
Tandilashvili (2019) [USA]	Detect the main components of SQ influencing students' satisfaction	Quantitative approach. (Simple random sampling_	STATA tool using factor analysis and regression. (783)	Non-academic aspects, Academic aspects, Reputation, Access, Programme aspects, Understanding.	students' satisfaction	NA

3.4 Target Population

The HLIs in Tanzania include universities, colleges, and other higher education institutions studied in the current study and those located on the Tanzania Mainland. The study included only HLIs established in the mainland because 97% of the Tanzania population lives in the Tanzania Mainland, whereas only 3% live in Tanzania Zanzibar (URT, 2013c).

The selected respondents are students in the Tanzania HLIs undertaking bachelor's degree programmes in their final year in any academic stream. The postgraduate students were not included in the study because the tenure of theirprogrammes can be as short as one year. Although the research mode of the postgraduate students' study can range from three to eight years, the students only need to pass one or two compulsory courses. Therefore, the interaction frequency probability with the University's staff and non-academic servicefacilities is minimal.

To ensure the results are generalised, the HLIs chosen for the study included a combination of old and recently established public and private HLIs. Theresearcher selected HLIs from only one zone (Coastal), according to TCU (2020) and NACTE (2020); this is the zone with the majority of the HLIs in Tanzania. Refer to Table 3.3 for the list of HLIs based on Coast, Northern, Lake and Central Tanzania zones.

3.5 Sample Size

Determining the best sample size is critical since it saves money and time while generating accurate sample data for the researcher to make population inferences (Mandari, 2017). Furthermore, adequate arithmetic control can accurately evaluate the relationships among the variables of attention due to the ideal size of the sample (Wolf et al., 2013). In finding a suitable length of the selection, many ways are used, such as simulating the sample's size from prior research, utilising existing tables, and usingmathematical formulae (Singh & Masuku, 2014).

Prior studies encountered limitations when calculating the sample size for their investigations; the current study used a mathematical method to calculate the sample size to prevent those limitations (Singh & Masuku, 2014). Before a mathematical calculation, the investigator must check whether the populationof interest is limited or unlimited (Israel, 1992). Because the population of the current study (HLI finalists) size was known, the researcher used the formula of the sample size presented by Yamane (1967). The recent research is basedon a limited population, which is optimal (see equation 1). Yamane's approach presupposes that the population is homogeneous and distributed regularly. It also necessitates self-assurance.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

wherein.

N = The size of the populationn = Size of the sample

e = Sampling inaccuracy that is acceptable

The current study aimed to determine a Confidence Interval (CI) that, while taking the cost implication factor into account, would yield a legitimate parameter's worth with a comparatively small sample number.

In social science investigations, 95 per cent or99 per cent confidence is acceptable, according to Walker and Maddan (2011). Although obtaining 99 per cent confidence is excellent since it results in a broader CI that might encompass a genuine population's worth, estimating the relevant parameters may necessitate a considerable sample size. Thus, in the current investigation, 95 per cent confidence was used because it provides the best balance amongst the precision of the findings to be produced and considers the study research budget available. The sample size was estimated using Yamane's method, as shown in equation 2, because the population of HLI final-year students meets all of Yamane's sample size formula assumptions.

Based on the data gathered from HLIs, the graduation statistics from 2009/10 to 2016/17 academic years, 286,577 students graduated from HLIs in eight years, as summarized in Figure 3.1. From 2013 to 2017, graduates fluctuated between 50,000 and 60,000 per year. In the current study, graduation data from the academic year 2015/2016 (54,998) was utilized for the present research because the academic year has more graduates. If the data were released now, the number of graduates would be significantly greater than 60,000. Considering all criteria and entering data into Equation 1 (Yamane's formula), 398 students are estimated to be the best sample size

(Equation 2).

$$n_0 = 54{,}998 / [1+54{,}998\ (0.05)^2] \quad (2)$$

$$= 398 \text{ students}$$

Where n_0 is the sample size employed in the current research, the count of respondents taken from HLIs is 398, according to equation 2. The researcher established the proportionate number of respondents from each type of HLI.

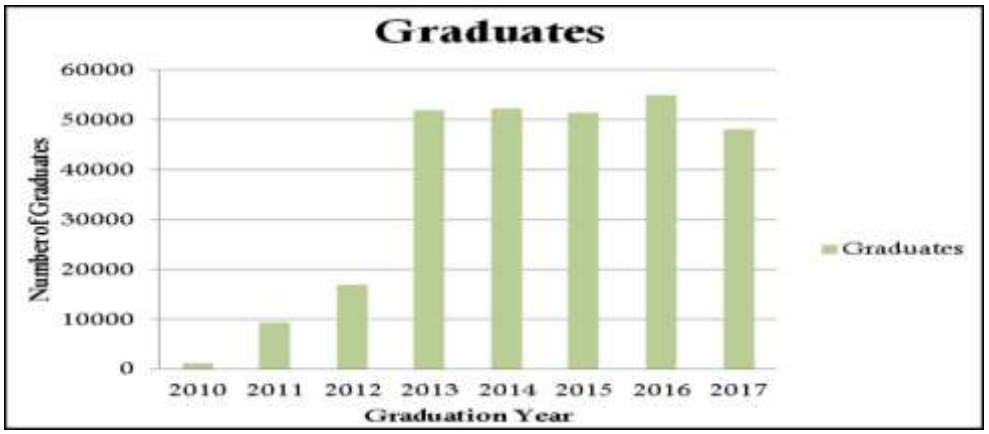

Figure 3.1: Summary of Graduation list from Tanzania's HLIs

Source: TCU, 2018

Table 3.2 shows past studies that employed a small sample size where scholars collected data from one or two universities (Mashenene, 2019). The sample size determination also depended on selecting a subset of the population (say, ten per cent), which may result in a bigger sample size (Fowler, 2014).

According to Fowler (2014), the base for determining the sample size is the researcher's analysis goals. Unfortunately, past researchers (presented in Table 3.2) did not justify their study's sample size and how the adopted sample size could match the data analyses.

Table 3. 2: Sample Size from Relevant Past Studies

Researchers (Year of Publication) (study region)	Sample size
Sultan & Wong (2010) [Japan]	360
Jalali, Islam & Ariffin (2011) [Malaysia]	190
Hanaysha, Abdullah & Warokka (2011) [Malaysia]	1000
Arokiasamy & Abdullah (2012) [Malaysia]	245
Kara et al. (2016) [Kenya]	1062
Onditi & Wenchuli (2017) [Kenya]	190
Tandilashvili (2019) [USA]	793

The targeted sample size was the same as the minimum sample size. The targeted sample size was typically more extensive than the calculated minimumsample size to cater to incomplete responses, outliers, and many more. The rationale/justification is that the researcher was directly involved in the study after distributing more than 400 questionnaires (450, to be precise) when collecting the same. With the help of research assistants, the researcher checked the questionnaires thoroughly before accepting them. The researcher asked the respondent to fill it out before taking it if anything was missing. So, the researcher collected the 398 questionnaires comprehensively answered and stopped at that number since the data filled convinced the researcher that it wasfair and credible.

3.6 Survey Location and Sampling Technique

The Tanzania mainland consists of six different zones, and each zone hasits own region (Refer to Figure 3.2): re 3.2):

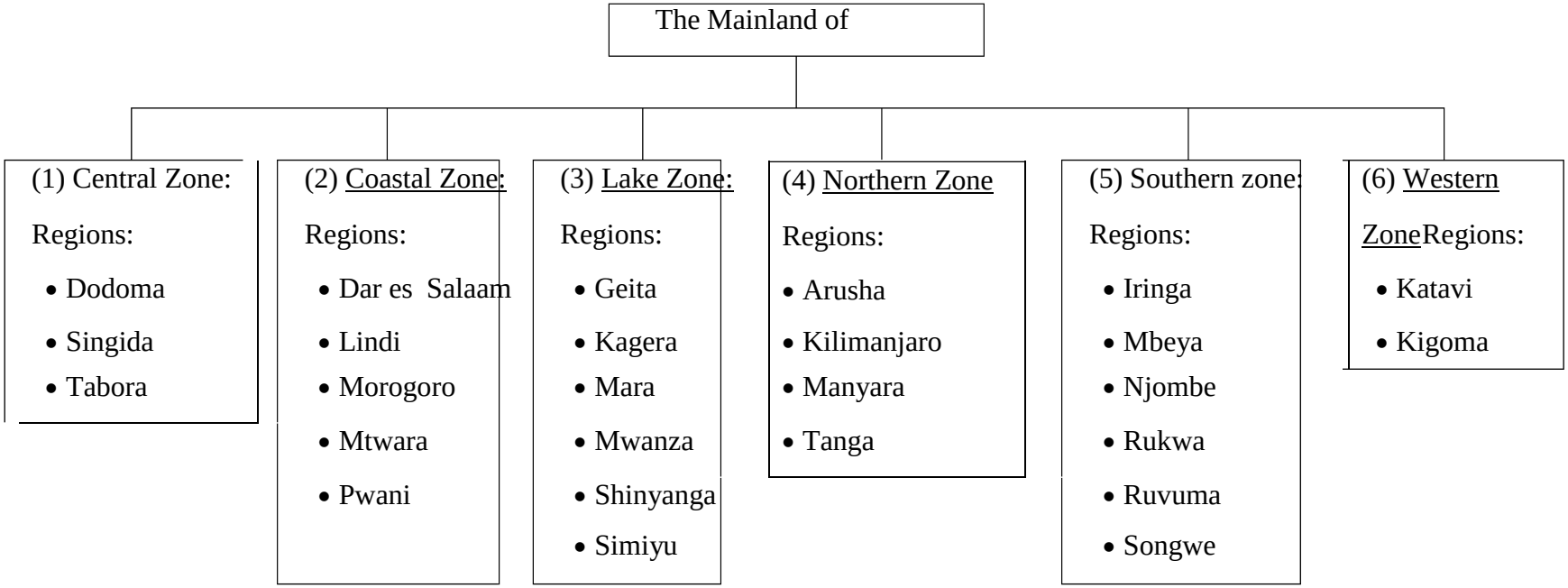

Figure 3. 1: **The Distribution of Zones and Regions in the Mainland Tanzania**

Source: URT, 2017

NACTE (2020) and TCU (2020) statistics detailed in Table 3.3 show that the coastal zone contains the bulk of Tanzanian HLIs (41 out of 76), compared to 17, 9, and 9 HLIs in the northern, lake, and central zones, respectively. Therefore, the Coastal Zone was the chosen zone for the study.

Table 3. 3: The Distribution of Higher Learning Institutions in the Coastal, Northern, Lake, and Central Zones of Tanzania

Types of HLIs	Total countof HLIs	Total counts of HLIs in Coastal Zone	Northern Zone	Lake Zone	Central Zone
University	27	14	8	3	2
University College	10	7	2	0	1
University campus, centre, and institute	6	4	1	1	0
Tertiary Institute, which offers degree courses	33	16	6	5	6
Total	76	41	17	9	9
Percentage out of total HLIs		54%	22%	12%	12%

Source: NACTE, 2020 and TCU, 2020

A multi-stage clustering approach is used to select the respondents from different types of HLIs in the coastal zone. The coastal area comprises five regions (Refer to Figure 3.2), in which the Dar es Salaam Region has the highest number of HLIs. Then, the researcher selected one Municipal Council (Ilala municipal council) out of the five Municipal Councils in the chosen region (Dar es Salaam). Compared to other Municipal Councils, Ilala has the most diverse HLIs. The council has two universities, two university colleges, three university campuses, three centres, three institutes, and seven tertiary institutes that offer degree courses (Refer to Table 3.3 for the distribution countnumber of HLIs).

The present study used a sample size of 398 respondents, whose distribution is detailed in Table 3.4. The respondents from tertiary institutes offering degree courses were the majority [398* (7/14)].

Table 3.4: Distribution of Higher Learning Institutions and Respondent's Count for the Current Main Study in the Ilala Municipal Council of Dar es Salaam Region, Coastal Zone, Tanzania

Types of HLIs	Total count of HLIs	Total count of respondents
University	2*	57
University College	2*	57
University campus, centre, and institute	3*	85
Tertiary Institutes which offer degree courses	7*	199
Total	14	398

Source: * TCU, 2020; NACTE, 2020

[#] Developed for Current Research

3.7 Development of Questionnaire and Data Collection Method

Before collecting the primary survey data, it is necessary to ensure that themain study's respondents understand the questionnaire item statements as clearly and precisely as possible. Therefore, the researcher undertook a pre-test by engaging five academic experts and administrative experts in the HLIs; anda small group of target population representatives to examine the instructions' clarity, the questions' sequence, and the questionnaire length.

Later, pilot studies were carried out to gather feedback from 30 respondents to measure the construct validity using the questionnaire item statements modified during the pre-test stage. Finally, after finalizing the questionnaire item statements, the researcher and the research assistants distributed copies of the final questionnaire to the main study's respondents to get their responses. The following section provides more details.

3.7.1 Pre-test Procedures and Results

The purpose of the pre-test was to see if the measuring items utilised to assess exact

SQ and student satisfaction were error-free and straightforward to comprehend. The primary benefit of a pre-test is that it aids in improving a questionnaire by allowing potential respondents to understand better and interpret the claims and, as a result, answer the survey more honestly. The survey instrument was distributed to industrial experts for verification andrefining shortly after modification by academic experts to reduce mistakes and uncertainties.

There were two sections to the pre-test. First, the researcher gave the questionnaire to academic specialists for review. The feedback of academic experts was crucial in ensuring that the item description appropriately reflects what the item should measure and that the item is not being used to evaluate another examined variable. For example, the feedback on the tangibility construct, which initially had four items, suggested maintaining, in the questionnaire, only two things that bolded the messages about tangibility.

Another construct that had some changes was reliability. Items Rel2, Rel3, and Rel 4 were all changed. Responsiveness and Assurance constructs had minor changes in item 1 each, which were merely wordings only. Again, the researcher added an assurance construct with another object, item 4. In the perceived transparency construct, the researcher substituted item one with a different thing. In contrast, the last construct with changes was student satisfaction. Again, item one had minor differences in terms of wording only, and item 3 was repeating item one, so the researcher substituted it with a different thing.

In the second stage, the researcher delivered the questionnaires to experts in Business Administration, Accounting, Finance, and Management, or similar areas, all with PhD chosen from HLIs in Tanzania. Each expert received a letter detailing the study's goal, the meaning of each concept utilized, and an explanation of every item used to gauge specific students' satisfaction. The researcher gave the drafted questionnaires to five industrial experts in the HLIs for two purposes: (1) to evaluate the clearness of the words and their setting and (2) to compute the content validity index (CVI) scores. However, the experts did not modify it. On the contrary, they all suggested that the questionnaire was worth the study.

However, before the drafted questionnaire was distributed to the pilot study's respondents to test the construct validity, the current researcher tested the content validity of the item statements. The content validity of a measurement method ensures that it measures what it is supposed to measure. The researcher expected to see the goal of content validity, guaranteeing that the two academic experts and five industry experts agreed that what was measured by the questionnaire was real.

According to Lynn (1986), if the panel consists of five or fewer experts, all experts must agree on the content validity of an item (an I-CVI of 1.00). The researcher calculated the content validity index using the ratings from each article. A content validity index is a common technique for measuring the content validity of new or amended feedback form questions in social studies (Polit, Beck, & Owen, 2007). Each component was rated as "not relevant," "somewhat relevant," "relevant," or "highly relevant."

The present study employed the Item Content Validity Index (I-CVI) to evaluate the content validity of the measuring items (Lim, 2020). Table 3.5 summarizes the findings. The I-CVI value was computed by multiplying the total number of experts who agreed on the significance of the artefacts (i.e., 3or 4) by the total number of experts. A 4-point scale was recommended (Lynn, 1986; Polit & Beck, 2006) to avoid a natural or ambiguous midpoint. To conclude, content validity determined how representative these questions' survey items and ratings were of all possible difficulties.

Table 3. 5: Pre-test Results Based on Responses Given by Industry Experts

Item	Construct Name	Ratings Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Agreements	I-CVI
Item 1	T1	4	4	4	4	3	5	1
Item 2	T2	4	4	4	4	3	5	1
Item 3	Rel1	4	4	4	4	3	5	1
Item 4	Rel2	3	3	4	4	4	5	1
Item 5	Rel3	3	4	4	4	3	5	1
Item 6	Rel4	4	4	3	4	4	5	1
Item 7	Rel5	3	4	3	4	3	5	1
Item 8	Res1	4	4	4	4	3	5	1
Item 9	Res2	3	4	4	4	3	5	1
Item10	Res3	4	4	4	4	3	5	1
Item11	Res4	4	4	4	4	4	5	1
Item12	A1	4	4	3	4	4	5	1
Item13	A2	4	4	3	4	3	5	1
Item14	A3	3	4	3	4	4	5	1
Item15	A4	4	4	4	4	4	5	1
Item16	E1	3	4	4	4	3	5	1
Item17	E2	4	4	4	4	4	5	1
Item18	E3	4	4	4	4	3	5	1
Item19	E4	4	4	3	4	4	5	1
Item20	E5	4	4	4	4	3	5	1
Item21	PT1	3	4	3	4	2	4	0.8
Item22	PT2	3	4	4	4	3	5	1
Item23	PT3	4	4	3	4	4	5	1
Item24	PT4	3	4	4	4	4	5	1
Item25	PT5	4	3	4	4	4	5	1
Item26	T1	3	3	4	4	3	5	1
Item27	T2	4	4	4	4	3	5	1
Item28	T3	3	4	4	4	4	5	1
Item29	S1	4	4	4	4	3	5	1
Item30	S2	3	4	4	4	4	5	1
Item31	S3	3	3	3	4	3	5	1
Item32	S4	3	4	4	4	3	5	1
Item33	S5	3	4	4	4	3	5	1
Item34	S6	3	4	4	4	4	5	1
Item35	S7	4	4	4	4	3	5	1
Item36	S8	4	4	4	4	4	5	1

Note: 1: Non-applicable; 2: Somewhat applicable; 3: Applicable; and 4: Highly applicable

The current researcher concluded that all measuring items from the all-dimensional variables of SQ were relevant items to gauging student satisfaction since the index score is over the allowed level of 0.78 (Polit et al., 2007, cited by Koloseni, 2017). Hence, the researcher included all the items in the questionnaire. In other words, because they had high content validity, all items were relevant to measuring satisfaction. Therefore, the researcher developed a questionnaire for the pilot study using the current measurement items used to measure each respective variable. The researcher addressed the comments posed by the research proposal defence examiners before embarking on the pilot study.

3.7.2 Piloting the Questionnaire

The objectives of the pilot test of the current study's questionnaire were to evaluate the soundness and dependability of the data to be collected, utilizing the third drafted instrument from new suggestions posed in the proposal defence (Koloseni, 2017). Through explicit lessons learned in study design and field operations, the pilot test assisted the present researcher in improving the research effort. As a result, the defects discovered during the pilot test were fixed, and this study's design and data collection techniques were set before the entire questionnaire was issued.

This pilot study considered the length of the questionnaire, the flow of questions, the quality of individual items regarding correctness and unambiguity, and the format of scales and questions (Lim, 2020). Meanwhile, according to Perneger, Courvoisier, Hudelson, and Gayet-Ageron (2015), a reasonable default number of respondents to begin the pilot test exercise is 30 units or 10% of the sample size (Hertzog, 2008; Lacy & Riffe, 1996).

Based on that fact, the researcher chose 30 people to test the questionnaire used in the study. Therefore, a sample size of 30 respondents was obtained, as illustrated in Table 3.6.

The present pilot study had a sample size of 30 participants; the researcher selected a total count of four respondents from the universities established in the chosen location [30* (2/14)]; University chosen colleges in the area selected four respondents [30* (2/14)]; University campus, centre, and institutes established in the selected location are seven respondents [30* (3/14)]; and tertiary institutes which offer degree selected courses in the area chosen is 15 respondents [30* (7/14)]. Table 3.6 shows the distribution of the respondent's count from the different types of HLIs in the selected municipalityfrom the Dar es Salaam region - coastal zone.

Table 3.6: Distribution of Higher Learning Institutions and Respondent's Count for the Pilot Study in the Ilala Municipal Council of Dar es Salaam Region, Coast Zone, Tanzania

Types of HLIs	Total count of HLIs	Total count of respondents
University	2*	4
University College	2*	4
University campus, centre, and institute	3*	7
Tertiary Institutes which offer degree courses	7*	15
Total	14	30

Source: * TCU, 2020; NACTE, 2020

[#] Developed for Current Research

The chosen respondents of the pilot study had to meet the following criteria: final year students from the selected HLIs in Ilala Municipality Dar es Salaam region, coastal zone. First, the researcher told the respondents to fill out the surveys while recording the time it took them to do so, and then the researcher compared the time to the 10-minute deadline. If any respondents took more than 10 minutes to complete the questionnaire, the researcher refined the allocated time as the completion time by averaging all the respondents' completion times to obtain the minimum baseline.

3.7.2.1 Pilot Test Results

Table 3.7 explains the demographics of the 30 respondents in the model. The main goal of this combination was to see if the participants could understand and interpret the questions.

Table 3. 7: Demographic Profile of Pilot Study Respondents

Demographic	Category	Frequency	Percentage (%)
Age	18 – 24	26	86.7
	25 – 34	4	13.3
Gender	Male	20	66.7
	Female	10	33.3
Experience at HLI	3 - 4 years	26	86.7
	5 - 6 years	4	13.3
Residence	Dormitory	4	13.3
	Off-campus	26	86.7

The researcher selected the respondents for the pilot study using a multi-stage selection procedure from various types of HLIs in the coastal zone, like the actual fieldwork. First, the time it took one respondent to complete the entire questionnaire was recorded, and the average time to complete it was 15 minutes. Next, the researcher instructed the respondents to read the cover page, comprehend the study's aims, and offer complete and truthful responses.

Their feedback was gathered and thoroughly examined. The questionnaire was then updated based on modifying the most-commented wordings, typos, rearranging phrases, and changing prepositions were all part of this edit. The researcher found no errors or missing data. Internal consistency is determining the link between items and assessing the reliability of research instruments. The present study used stability or consistency of the data on the SQ dimensional variables and student satisfaction to measure the data's goodness through dependability.

a. Cronbach’s Alpha

Cronbach's alpha coefficient is computed to check how closely the answering scores for each item correlated. A high coefficient shows that respondents consistently respond to a variable’s measuring items. The researcher used Cronbach's alpha test on all 40 questionnaire items in this study. According to the statistical data, all items measured the same underlying traits. As a result, the reliability results were outstanding, with coefficientalphas greater than 0.6, as advised by previous consumer satisfaction studies (Canny, 2013; Fornell & Larcker, 1981; Kim et al., 2016; Ryu & Han, 2011; Wirtz & Lee, 2003).

Table 3.8 exhibits the results of Cronbach's coefficient alpha for tangibility, reliability, responsiveness, empathy, assurance, perceived transparency, trust in the institution, and students' satisfaction. In addition, the findings revealed acceptable internal consistency for total scale scores.

b. Correlation and Cronbach's Alpha if Item Deleted

The researcher tested item correlation to ensure that all questions accurately measured the sample idea and correlated well. Most items in the different subscales had a corrected item-to-total correlation of > 0.2, demonstrating that the study linked each item to the sub-scale it belonged to (Itani, Chatila, Dimassi & El Sahn, 2017). As shown in Table 3.8, the corrected item-to-total correlations for most items in the various sub-scales were more significant than 0.2. Hence, the researcher utilized item-to-total correlations to confirm thateach item belonged to its sub-scale.

Table 3.8: Item-to-total Score Correlations and Internal Consistency for Scale Items

Items	Corrected Item-Total Correlation	Alpha if Ite Deleted
Tangibility		
• My university has the latest/current teaching and learning equipment like computers, projectors, classrooms, and labs.	0.067	0.938
• My university has up-to-date and enough library resources.	0.198	0.936
• My university has physical facilities (e.g., buildings and furniture) that are safe to use.	0.366	0.935
• My university has enough printing materials.	0.558	0.933
• My university has up-to-date and accessible internet connections.	0.524	0.934
• The materials at my university (e.g., pamphlets and study material) suit the image of the University.	0.619	0.933
Total subscale Cronbach's alpha		**0.935**
Reliability		
• It follows through when my university says it will complete a task by a specific deadline.	0.446	0.935
• Lecturers are generally reliable: Keep time / don't cancel classes.	0.523	0.934
• Lecturers have a proven capacity to teach and a high level of proficiency.	0.265	0.936
• Lecturers show their concern in solving student problems.	0.561	0.934
• My university maintains detailed records (e.g., accounts, academic reports, student results, and so on).	0.397	0.935
Total subscale Cronbach's alpha		**0.935**

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Items	Corrected Item-Total Correlation	Alpha if Item Deleted
Responsiveness		
• My university informs students about when it will provide the desired services.	0.497	0.934
• Students receive fast (prompt) service delivery from the university personnel.	0.531	0.934
• Lecturers at my University are willing to assist students.	0.292	0.935
• University personnel are not too busy with other kinds of stuff when asked to reply quickly to students' demands.	0.526	0.934
Total subscale Cronbach's alpha		**0.934**
Assurance		
• Students can trust the personnel of the University.	0.65	0.933
• Personnel at my university inspire confidence in students.	0.676	0.932
• personnel at my university are considerate	0.675	0.932
• Personnel at my University receive adequate support from university management to improve the services rendered.	0.582	0.933
Total subscale Cronbach's alpha		**0.933**
Empathy		
• Students receive individualized attention from administrative personnel (e.g., doing something extra for students).	0.583	0.933
• Lecturers give students individual attention.	0.197	0.937
• My University's personnel know what their students' needs are (e.g., recognizing students as clients).	0.511	0.934
• The university personnel have the students' best interests at heart.	0.484	0.934
• The university personnel are easily accessible to students (e.g., available to see or contact by phone, email, WhatsApp, etc.)	0.571	0.933
Total subscale Cronbach's alpha		**0.934**

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Perceived Transparency		
• The institution implements its subjects transparently	0.595	0.933
• The *process* of specific student services like internships, student exchange, or accessing the library's e-reading materials are transparent.	0.487	0.934
• The students can see the *progress and situations* of specific student services like the arrangement for internship/student's exchange or application to change tutorial class/ leave of absence.	0.611	0.934
• The University transparently handles services like handling student appeals or complaints.	0.519	0.934
• There is sufficient disclosure of the information related to student services like library resources/ sports activities/ medical services/counselling services	0.507	0.934
Total subscale Cronbach's alpha		**0.934**
Trust in an Institution		
• The student services provided by the University can meet my interest.	0.606	0.933
• The University allows students to use/utilize student services like co-curricular activities/ internet access,/ computer and printing facilities.	0.532	0.934
• The University performs its role of providing student services very well.	0.572	0.933
Total subscale Cronbach's alpha		**0.933**

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Items	Corrected Item-Total Correlation	Alpha if Item Deleted
Student Satisfaction		
• I am satisfied with the student services provided by the institution.	0.634	0.933
• My choice to enrol at my university was a wise one	0.548	0.934
• I am satisfied with my decision to attend this institution.	0.576	0.934
• I will recommend my relatives and friends to attend this institution in the future.	0.686	0.933
• If I had a choice to study again, I would still enrol in this institute.	0.552	0.934
• I am happy with my decision to enrol in this institute.	0.686	0.933
• I am happy with my experience as a student at my university	0.53	0.934
• I did the right thing by choosing my university	0.608	0.934
Total subscale Cronbach's alpha		**0.934**

3.7.3 Questionnaire Design for Current Study

The researcher collected and carefully reviewed the input after the pre-testing and pilot research stages. The researcher changed the most frequently commented-upon passages, and typos, phrase reordering, and prepositional changes were all included in this questionnaire revision. The researcher discovered correct data. Determining the relationship between items and evaluating the dependability of research instruments are done through internal consistency. The current study measured the goodness of the data through dependability using student satisfaction and stability or consistency of the data on the SQ dimensional factors. At that point, the researcher then prepared the main study questionnaire for usage. The main survey tool was a closed-ended question. The questionnaire was divided into parts A, and B. Part A was meant to record the respondents' profiles. In contrast, part B documented respondents' perceptions of items used to gauge SQ and student satisfaction. The current study used the Likert scale since it is a simple technique to measure respondents' opinions and for students to respond (de Winter & Dodou, 2010).

In behaviour research, Lehmann and Hulbert (1972) advise using five to seven Likert scale points to give an appropriate mix of advantages and costs. Furthermore, because it provides high variance due to more possibilities, the seven-point gauge is considered more accurate than the five-point gauge in capturing participants' opinions (Dawes, 2008; Finstad, 2010). However, some researchers criticize the seven-point Likert scale for requiring extra administration time and missing data due to respondent fatigue caused by too many options (Lehmann & Hulbert, 1972).

Since university students are educated, using a seven-point gauge todifferentiate the various options would be simple. Thus, the current study useda seven-point Likert scale ranging from (1) Strongly Disagree (2) Disagree (3) Slightly disagree (4) Neither agree nor disagree (5) Slightly agree (6) Agree (7) Strongly Agree (see Appendix A4 for the sample of the questionnaire). The researcher confirmed the completed questionnaire via the pilot study data, anda master copy of the finalized questionnaire is available in Appendix A4.

Previous studies research and the pre-test and pilot study findings are the basis of the measuring items for satisfaction and the SQ dimensional variables in the current study. In a nutshell, the present study analysed two draft questionnaires during the pre-test stage. After completing the trial study, the researcher distributed the fourth created questionnaire in the main study, and the pilot results met the internal and constructed validity requirements.

Table 3.9 shows the drafted questionnaire item statements replaced with the third prepared questionnaire item statement with the fourth ready questionnaire after addressing the comments posed by the Proposal of Defense examiners. Independent, antecedent, and dependent variables are involved in this study. The constructs are tangibility, reliability, responsiveness, assurance, empathy, and trust in the institution. The antecedent variable to the trust construct is perceived transparency. The dependent variable is satisfaction withstudent services.

Table 3.9: Development of the Measuring Items for the Current Research Constructs

Constructs	Operationalization of variables	Source
Tangibles of student services	1. My university has the latest/current teaching and learning equipment like computers, projectors, classrooms, and labs. 2. My university has up-to-date and enough library resources. 3. My university has safe physical facilities (e.g., buildings and furniture). 4. My university has up-to-date and accessible internet connections. 5. The materials at my university (e.g., pamphlets and study material) suit the university's image. 6. My university has been providing sufficient tangible resources like library resources, printing materials, internet connections, and other teaching aids	Mwiya et al. (2017)
Reliability of student services	1. When my university says it will do something by a specific date, it does. 2. Lecturers are usually trustworthy: Keep track of time and avoid cancelling classes. 3. Lecturers with a proven ability to teach and a high level of expertise 4. Lecturers demonstrate an interest in resolving student issues. 5. My university keeps accurate records (e.g., accounts, academic reports, student results, and so on).	Kajenthiran & Karunanithy (2015)
Responsiveness of student services	1. When the university provides services, students at my university are informed. 2. University workers provide students with quick (rapid) service. 3. My university's lecturers are eager to help pupils. 4. University personnel are not too busy to quickly reply to students' demands.	Mwiya et al. (2017)

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Constructs	Operationalization of variables	Source
Assurance of student services	1. Students have faith in the University's personnel. 2. The people who work at my university instil confidence in me. 3. My university's employees are courteous. 4. My university's personnel receive appropriate support from management to improve the services provided.	Mwiya et al. (2017)
The empathy of student services	1. Administrative workers provide individualized attention to students (e.g., doing something extra for students). 2. Lecturers pay close attention to each student individually. 3. My university's personnel are aware of their student's needs (e.g., recognizing students as clients) 4. University personnel have the best interests of the students at heart. 5. The. Students have easy access to university employees (e.g., available to see or to contact by phone oremail)	Mwiya et al. (2017) Developed from the current preliminary study.
Perceived Transparency of student services	1. The institution implements subjects transparently 2. The process of specific student services like an internship or student exchange or accessing the library's e-reading materials are transparent. 3. Students can check the status and circumstances of certain student services such as internships, student exchanges and requests to change tutorial classes or take a leave of absence. 4. The University transparently handles services like handling student appeals or complaints. 5. There is sufficient disclosure of the information related to student services like library resources/ sports activity/ medical services/counselling services	Respondents. Park & Blenkinsopp (2011), cited. by Medina &Ruffin (2015)

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Constructs	Operationalization of variables	
Trust in an institution	1. The student services provided by the University can meet my interest 2. The University allows students to use/utilize student services like co-curricular activities/internet access/ computer and printing facilities. 3. The University does an excellent job of providing courses/studies services	Respondents; Venkatesh etal. (2011), cited by Medina & Ruffin (2015)
Satisfaction toward student services	1. The institution's student services have met my expectations. 2. It was an excellent decision to enrol at my university. 3. I am happy with my decision to attend this college. 4. I will suggest this institution to my family and friends in the future. 5. If I could do it all over again, I would still choose to attend this academy. 6. I am pleased with my decision to attend this institute. 7. My experience as a student at my university has been positive. 8. I made the proper decision when I chose my university.	Venkatesh et al. (2011), cited by Medina &Ruffin (2015)

3.7.4 Distribution of the Current Study's Questionnaire

Tanzania's HLI academic year typically commences in October to July of the following year. However, it may start earlier or later in some circumstances, ending earlier or later in the next year. For example, the 2020/2021 academic year commenced in November 2020 due to the General elections and ended in August 2021.

The data was collected when the students reported at their respective institutions at the beginning of the academic year. As a result, students had more time to properly read the item statements and provide responses that best reflected their perceptions or beliefs. Therefore, the researcher collected November and December 2021 data to increase the response rate.

To reduce non-response rates, ensure the selected sample responds to the questionnaire, and assist respondents with any questions, the researcher used the drop-off and pick-up methods to administer the questionnaire. However, the researcher did not feasibly use other methods such as the web, internet, WhatsApp, SMS, postage mail, and telephone to collect the data because the communication infrastructure was poor.

With the assistance of four research assistants, the researcher distributed copies of the questionnaire via a drop-off and pick-up method. The four experienced questionnaire research assistants from the University of Dar es Salaam School of Education assisted the researcher.

The research assistants were briefed on the purpose of the study and what each item wanted to measure. First, the research assistants were familiarised with the items before going to the field. The researcher worked closely with them to ensure that the research assistants were doing what they were supposed to do in the area and were always supported. The research assistants were former HLI students who volunteered or worked in the research department of the HLI and were not researchers per se. Using these research assistants eased the data collection duration because it was easier for them to communicate with respondents.

The researcher used two tactics to increase the response rate. First, the research assistants only departed the study sites after gathering the distributed copies of the questionnaire. Assistance should be provided if the respondents require clarification (Creswell, 2018). Second, qualified and experienced research assistants (UDSM students) created better interpersonal relationships with student respondents, raising response rates and decreasing non-response rates.

First, letters of request to execute the survey were delivered to chosen HLIs in the selected municipality to accomplish this task. Second, the researcher was contacted by HLIs, who agreed to participate in this survey. Third, HLIs, with the help of research assistants and staff from the office of vice-chancellor/deputy rector directorate of academic affairs, assisted the researcher in selecting and arranging the respondents for the survey.

3.8 Data Analysis Techniques and Tools

Structural equation modelling (SEM) uses approaches such as Variance Based-SEM (VB-SEM), also known as PLS-SEM, and Covariance Based (CB-SEM). Both SEM approaches look into measurement theory and structural path models, although having different goals. Although the two SEM techniques have different goals, PLS-SEM implementation has various advantages, according to Astrachan et al. (2014). With its incorporation of multiple suitable techniques, PLS is particularly adept at handling complex models with numerous endogenous and exogenous components and indicator variables, all without inflating the t-statistics. The PLS method may cause changes to each indicator's share of the construct's composite score. By providing significant t-values and high R^2, PLS is intended to show that an alternative hypothesis is significant, allowing the researcher to reject the null hypothesis (Lowry & Gaskin, 2014).

Apart from the advantages mentioned above, PLS-SEM was utilized in this investigation for the following reasons: First off, as PLS-SEM may be applied to both confirmatory and predictive research, Gefen & Straub (2005) and Lowry & Gaskin (2014) suggested using it. Because it allows for the prediction, validation, and confirmation of hypotheses, smart PLS is thus the ideal option for the current investigation. It looks at how Higher Learning Institutions in Tanzania's service provision affects Students' Satisfaction. Second, PLS-SEM provides a more precise analysis of the mediation and moderation effects than previous univariant statistical methods (Sarstedt et al., 2017). This work uses a mediator, and the Smart PLS

program is widely known for its two-stage method that allows for direct interactions (Hair et al., 2019).

It is notably more sensitive to mediator effects because of its increased capacity to tolerate measurement errors (Sarstedt et al., 2016). Similarly, the investigator used Smart PLS software version 3 to accomplish the objectives of the present study. This program can accurately and successfully model and assess the link between the latent model constructs in the current investigation.

3.8.1 Data Assumption

Several methods for data screening, including missing data, outliers, normality distribution, and multicollinearity, were utilised in preparation for data analysis. The goals were to ensure normalcy before data collection and meet the statistical test or procedure assumptions. In the current study, the researcher reviewed previous thesis and articles that used SmartPLS in data analysis and tested for multivariate assumptions like linearity and homoscedasticity.

The review yielded no results as these tests were the assumptions of multiple regressions, not the PLS technique. While it is always good to meet the requirements of regression analysis (despite using the PLS technique), the SmartPLS technique is more flexible than conventional multiple regression analysis (Risher & Hair, 2017).

SmartPLS is robust and can obtain solutions using formative and reflective measurement models. The software is user-friendly, has no normality issues, and

gives results like no other software. Hence, the ability to yield higher statistical power with smaller sample sizes while overcoming the limitations of multiple regression and CB-SEM approaches (Hair, Risher, Sarstedt, & Ringle, 2019; Risher, & Hair, 2017; Hair, Sarstedt, et al., 2014). The following sections discuss how this study dealt with missing values, outliers, normality, and multicollinearity.

a. Missing Values Analysis

Missing data can occur due to human error in answering the questionnaire. Any missing data reduces the ability of a statistical test to imply a relationship in a data set and can contribute to bias in the parameters (Allison, 2003, cited by Lim, 2020). When deciding on an effective technique for missing data, the researcher must carefully evaluate the following issues.

First, is the missing data non-random enough to cause estimation or interpretation problems? Second, what is the appropriate technique if the researcher must recover the missing data? Several methods can deal with the missing data if they appear in a non-random pattern or constitute more than 10% of the lost data items (Dong & Peng, 2013).

According to Hair et al. (2017), SmartPLS allows you to treat missing values. The currently available options are mean value replacement, case- wise deletion, and pairwise deletion. Chapter 4 reports the detailed results.

b. Data Normality Assessment and Outliers

Because the developers built SmartPLS to handle data normalcy, data normality is not a concern while utilising SmartPLS. However, a researcher must evaluate whether the dataset's data points deviate significantly from other values. Because there is an underlying relationship between the facts, the deviation occurs. Outliers can arise for a single variable (univariate outlier) or a group of variables (multivariate outlier).

The researcher employed the Mahalanobis distance metric to diagnose the multivariate detection of outliers in this study because of more than two variables. A study found outliers in this study using box plots in the statistical package for social sciences (SPSS).

The decision to delete outliers is subject to the number of outliers found and depends on the situation (Rousseeuw & Van Zomeren, 1990). The study discovered no outliers that affected the overall estimates. Therefore, the researcher did not decide to delete outliers, and the actual results are in Chapter4 of the thesis.

c. Multicollinearity Tests

When independent variables like SQ and Trust are significantly correlated, multicollinearity occurs. Therefore, before statistically analysing quantitative survey findings, the researcher must screen the data at the univariate and multivariate levels (Lim, 2020). Although multivariate tests are sensitive to high correlations among

predictor variables, the primary goal of data screening is to identify potential multicollinearity in the data (Saidin, 2014). Outlying cases are excluded from the study if they exhibit excessively high or low values on a variable or fail at the extremes of the distribution (Rousseeuw & Van Zomeren, 1990).

Before proceeding with the required multivariate test, it is necessary to eliminate multicollinearity in the correlation relationship between independent variables (Tabachnick & Fidell, 2013). Tolerance and variance inflation factor (VIF) metrics eliminate multicollinearity issues.

Tolerance is a multicollinearity diagnostic tool that looks for independent variable variability that the other independent variables do not justify or explain. Tolerance should be high to reduce the amount of shared variance with the other independent variables. A cut-off criterion of less than 0.1 (equivalent to a VIF of 10) indicates a substantial multicollinearity problem (Cohen et al., 2003; Schroeder et al., 1990).

VIF represents the extent to which multicollinearity has increased the standard error. The square root of VIF2 represents the inverse of the tolerance value (VIF = 1/tolerance). As a result, the VIF should remain at least 5 (Hair, Hult, Ringle, & Sarstedt, 2022). Chapter 4 of the thesis presents the results in detail.

d. Common Method Bias (CMB)

This study used a self-administered questionnaire to obtain data from a single responder; thus, there was worry that common method bias (CMB) would arise.

CMB could jeopardise internal validity because it relates to a variable assigned to the measuring procedures rather than the constructs. Podsakoff, MacKenzie, Lee, and Podsakoff's (2003) investigation identified potential CMB sources and presented procedural and statistical remedies. Based on their observation, the researchers first chose the external and endogenous constructions from various sources regarding the procedural aspect.

Second, the researcher modified instruments to attain simplicity, clarity, and social desirability by assuring respondents' anonymity. The consistency theme refers to the tendency of respondents to provide the same answers across all survey items (Tehseen et al., 2017). This problem was handled by collecting data from responders only once, preventing data gathering from duplicating.

Statistical solutions, such as Harman's one-factor test (Podsakoff et al., 2003), load all variables into a single factor using exploratory factor analysis. As a result, there is no rotation to establish the number of elements required to account for the variance in the variables (Podsakoff et al., 2003).

Suppose there is a significant degree of shared method variation. This test assumes that either (i) a single factor emerges from the factor analysis or (ii) one general factor accounts for the most covariance among the measures. If a single factor accounts for more than 50% of the variance, there is a common method bias (Podsakoff et al., 2003). The researcher designed this test with SPSS as the primary instrument.

3.8.1.1 Measurement Model

The researcher must assess the measurement model of a latent concept before modelling the interrelationships in a structural model. The goal is to validate the conceptualised measurement modes, and the analysis looks at how well the data fit the hypothesised measurement model.

According to Sarstedt, Ringle, Smith, Reams, and Hair (2017), a measurement model should include reflective models to assess indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Subsequently, the researcher should evaluate the structural model by looking at the collinearity, predictive relevance (R^2 and Q^2), and significance of path coefficients.

a. Validity and Reliability of Instruments

The researcher tested the validity and reliability of the constructs using Rossiter's (2002) approach to scale development. First, the researcher determined the scale elements' convergent and discriminant validity and assessed the scale items' reliability.

b. Convergent Validity

Validity testing guarantees that the measurement items (observed variables) can accurately measure the fundamental concepts. The validity of measurement models must be tested for convergent, construct, and discriminant validity(Mandari, 2017).

Convergent validity refers to the percentage of the variance between measurement items when measuring a specific concept. When all measuring items are statistically significant, the researcher attains concurrent validity (Awang, 2015), and the AVE value is 0.5 or more (Fornell & Larcker, 1981).

The fitness indices derived by measurement model analysis are measured using construct validity. The present study assessed construct validity using the absolute, incremental, and parsimonious fit indices (Awang, 2015). In this study, all fit indicators (presented in Chapter 4) met the appropriate threshold values, and the researcher achieved construct validity.

c. Discriminant Validity

In theory, the researcher should not link the elements of one construct to those of other unrelated constructs. As a result, two conceptually distinct constructs should differ from one another. Two well-known methods for measuring discriminant validity are the Fornell-Larcker criterion and cross-loadings.

The Fornell-Larcker criterion emphasises that measurement items are better than other measurement items at explaining the variation of their assigned latent variables. Discriminant validity exists when the AVE of each latent concept surpasses the squared correlations with all other latent constructs.

In PLS-SEM, a new approach to discriminant validity has gained popularity. The heterotrait-monotrait ratio of correlations is a variance-based SEM discriminant

validity technique (HTMT). This rigorous method can verify discriminant validity in two ways: first, as a criterion by comparing it to a predefined threshold, and second, HTMT as a criterion by comparing it to a predefined threshold. If the HTMT values exceed this threshold, discriminant validity may be lacking.

Some authors propose 0.90 as a threshold (Gold et al., 2001), while others suggest 0.85 (Clark & Watson, 1995; Gong & Yi, 2018; Kline, 2015). After meeting these conditions, the study obtains the measurement model's discriminant validity (Lim, 2020). However, the exact threshold is still a contention (Henseler et al., 2015). According to Henseler et al. (2015), the researcher's discretion determines the maximum threshold.

Similarly, Henseler et al. (2015) subscribe that the most conservative HTMT ratio threshold values are less than or equal to 0.90 to check for discriminant validity. Again, the researcher's discretion is involved in determining the maximum threshold. The HTMT scores in this study are 0.90 and less as a cut-off value. As a result, discriminant validity is achieved (see Table 4.10 presented in Chapter 4).

d. Unidimensionality

The researcher uses the term "unidimensionality" to determine if each item in the presented model measures only one construct. Because of this, the outcomes of other conditions are significantly dependent on it (Awang, 2015). Solitary measurement items with a loading value of 0.5 or above are appropriate measurements for a specific construct to attain unidimensionality (Awang, 2015). As

part of the measurement model evaluation, the researcher removes indicators with low factor loadings (< 0.60) (Hair et al., 2019).

This study removed three items from the analysis due to factor loading; most indicators met the minimum threshold. Composite reliability is the initial component of the measurement model in the reliability analysis. The combined reliability cut-off value of 0.70 is ideal (Ringle et al., 2018). Consequently, all the latent constructs of the model possessed composite reliability. Table 3.10 summarises the reflecting outer model or measurement model assessment criteria proper to govern the validity and reliability of the measurement model.

Table 3.10: Measurement Model or Outer Model Assessment Criteria Summary

Measurement model (reflective outer model) assessment criteria summary	Measures of validity of the factors of latent constructs
Criterion	Description
1. Convergent validity	
• AVE	The AVE should be > 0.5
2. Discriminant validity	
• Fornell-Larcker	The AVE of each latent construct should be higher than the squared correlations with all other latent constructs (i.e., eachlatent construct shares more variance with its block of items than any other latent construct).
• Cross-loadings	If an indicator has a higher correlation with a latent construct than its respective latent construct, the researcher should reconsider the appropriateness of the model.
• HTMT	The HTMT should have a threshold of < 1.0
3. Unidimensionality	
• Cronbach's alpha & composite reliability	Cronbach's alpha coefficient should be > 0.7, and compositereliability should be > 0.7

Source Hair, Hult, Ringle, & Sarstedt, 2022

3.8.1.2 Structural Path

The structural model's job is to examine the latent constructs' route linkages and determine their importance in the model. SmartPLS can deal with big and complicated structural models (Lim, 2020). The structural model refines the measurement model. As a result, the objective for these stages in the current study was to guarantee that robust statistical qualities validated the postulated correlations via SmartPLS analysis.

The model's predictive relevance and the path significance between the latent construct and the explained variance (R^2) for the endogenous latent construct are

crucial tests to analyze the inner model. Resampling approaches such as bootstrapping are essential to determine the confidence intervals of the structural model route coefficients and statistical conclusions (Hair, Risher, Sarstedt, & Ringle, 2019). The direct effects have no additional variables in the model to mediate them. Table 3.11 hypothesizes the immediate results of the current research's conceptual model.

Table 3.11: Conceptual Direct Effect Path Modelling

Hypothesis Relationship	Measurement of Path Significance (T-Values Output by Bootstrapping)
Assurance -> Student Satisfaction Empathy -> Student Satisfaction Perceived Transparency -> Trust in Institution Reliability -> Student Satisfaction Responsiveness -> Student Satisfaction Tangibility -> Student Satisfaction Trust in Institution -> Student Satisfaction	Significance using t-statistics: > 1.96 at = 0.05 (Hair et al., 2011)

Any of the model's other variables can mediate the indirect effects. Table 3.12 hypothesizes the indirect impacts of the current research's conceptual model.

Table 3. 12: Conceptual direct effect path modeling

Hypothesis Relationship	Measurement of Path Significance (T-Values Output by Bootstrapping)
Perceived Transparency -> Trust -> Student Satisfaction	Significance using t-statistics: > 1.96 at = 0.05 (Hair et. al, 2011)

The overall effect of a latent construct on another (the sum of direct and indirect pathways) should provide additional interpretation and insight (Albers, 2010). The sum of the direct and indirect coefficient matrices is the overall effect. Hair et al. (2013, p. 224) argue that it can also be found by looking at the variation accounted for (VAF) (see Table 3.13).

Table 3.13: Total effect tabulation and magnitude of mediation

	Direct Effect	Indirect Effect	Total Effect	VAF Range	Mediation
Exogenous Variables	X	Y	Z = X+Y	(Y)/(X+Y)	If 0 < VAF < 0.20, then there is no mediation; if 0.20 < VAF < 0.80, then there is partial mediation; if VAF > 0.80, then there is full mediation (Hair et., 2013, p. 224)

3.8.2 The Measure of Model Predictive Accuracy and Relevancy

The R^2 (coefficient of determination) and the Stone-Geisser Q^2 values are two essential statistical outputs from the PLS algorithm that allow an analysis of theinner model's predictive accuracy and relevance.

According to Hair et al. (2022), R^2 is used to estimate model accuracy since it represents the amount of variance in endogenous constructs explained by all exogenous constructs linked to it. For example, in the structural model, endogenous latent variables are deemed substantial, moderate, or weak, respectively, with R^2 values of 0.75, 0.50, or 0.25. However, in PLS path models, R^2 values of 0.67 are significant, 0.33 are reasonable, and 0.19 are ineffective, according to Chin (1998). Therefore, the R^2 value is the most critical criterion for determining impact size, and

the formula for calculating effect size is as follows (Chin, 1998):

$$f^2 = \frac{R^2\ included - R^2\ excluded}{1 - R^2\ included}$$

The effect size f^2 is an essential factor in determining predictive significance. The effect size measures the relative impact of an external latent variable on endogenous latent variables using a change in the R^2 value (Lim, 2020). The effect size is determined as the amount of unexplained variance in the latent variable to which the path is multiplied by increasing the R^2 value of the latent variable (Lim, 2020).

The predictive relevance of Q^2 is another way of evaluating the current model. Blindfolding is utilized for tabulating the Q^2 values (Hair et al., 2013). Regarding the predictive relevance Q^2 for each endogenous indicator, a number more than 0 suggests predictive relevance, whereas a value of 0 or less indicates a lack of predictive significance (Hair, Hult, Ringle & Sarstedt, 2016).

A blindfolding process also examined the predictive relevance of the research model, a supplementary examination of the goodness of fit in PLS-SEM modelling (Duarte & Raposo, 2010). On the other hand, this predictive usefulness assessment was limited to endogenous latent factors. Therefore, Q^2 is defined as using a method identical to that used to determine the effect size of R^2: Table 3.14 summarizes the above-mentioned structural model validity assessment criteria.

$$Q^2 = \frac{Q^2\ included - Q^2\ excluded}{1 - Q^2\ included}$$

Criterion Description

Table 3.14: Summary of Assessment Criteria for Structural ModelValidity

Criterion	Description
1. Path significance	
Path Coefficient	Using t-values produced by SmartPLS 3 by utilizing bootstrapping, the algebraic sign (to inform the relationships between the latent construct) should be eitherpositive or negative, also the magnitude
2. Explained variance (R^2)	
R^2	The classification of substantial, moderate, or weak endogenous latent variables in the structural model with R^2 values of 0.75, 0.50, or 0.25
3. Effect size of mediating effect (f^2)	
F-squared	$f^2 > 0.35$ is considered a large effect size, between 0.15 and 0.35 is a medium effect size, between 0.02 and 0.15 is regarded as a small effect size, and a value less than 0.02indicates no effect size.
4. Predictive relevance (Q^2)	
Q-Squared	If the Q^2 value is more significant than 0, it shows predictiverelevance; if the value is 0 and below, it indicates a lack of predictive relevance

3.8.3 Model Fit

Justifying the current structural model fits in with the real-world phenomena and best represents the sample data that reflects the underlying theory is essential to providing evidence (Lim, 2020). The study examined the theoretical model's fit using the goodness of fit. Two methods are adapted to test the model's fit criteria in the current study — the normed fit index (NFI) and the standardized root mean square residual. These methods provide outcomes from bootstrapping approaches that allow for statistical inferences on the fit of the estimated model (Müller, Schuberth, & Henseler, 2018).

The standardized root means square residual (SRMR) is a transforming measure of the correlation matrices of the sample and projected covariance matrices. As a result,

the SRMR distinguishes between the observed and predicted correlations, and an acceptable fit is defined as a value less than 0.08 (Hu & Bentler, 1998). SmartPLS SRMR outputs can help you avoid model misspecification (Ramayah, Yeap, Ahmad, Halim, & Rahman, 2017; cited by Lim, 2020). Furthermore, the study used the average magnitude of the discrepancies between actual and expected correlations to calculate (model) fit.

The normed fit index is a statistical measure that evaluates the model by comparing the model's X^2 value to the null model's X^2 value. The null or independence model states that all measured variables are uncorrelated, which signifies the worst-case scenario. This statistic has a range of values between 0 and 1, and a model with a perfect fit would have an NFI of 1. The studies have suggested the figure of 0.90 as a suitable fit value (Bentler and Bonett, 1980). Hu and Bentler (1999) later advised that the threshold be higher than 0.95.

Nevertheless, the normed fit index (NFI) has a significant drawback because it is sensitive to sample size. Hence, it is unsuitable for sample sizes of less than 200 (Hooper et al., 2008). Due to the shortfall in the NFI and the advantages of the SRMR, the current study adopted both of these methods rather than solely relying on either one. Table 3.15 summarizes the model fit criteria deployed in the present study.

Table 3.15: Model Fit Criteria

Model fit criteria	Author	Criteria
SRMR (Standardized root mean square residual)	Carless (1998); Hooper et al. (2008); Hu & Bentler (1998)	The value should be less than 0.10 (or 0.08 in a more conservative version) for a good fit
NFI (Normed fit index)	Bentler & Bonett, (1980); Hooper et al. (2008)	The value should be closer to 1

Source: Hair, Hult, Ringle, & Sarstedt (2022)

3.8.4 Assessment of the Structural Model

Hair et al. (2022) uphold that a structural model is employed to capture the endogenous construct's linear regression impacts on one another. Also, the structural model can specify the interrelationships between components (Leohlin, 1998). Thus, due to its ability to directly test the theory of interest, this model is still changing and is of considerable interest to researchers (Cheng, 2001). The study used three criteria to evaluate the model: 1) path coefficients, 2) path significance (p-value), and 3) variance explained (R^2). Then, with the help of SmartPLS, the researcher validated the structural model.

3.9 Ethical Considerations

The primary data collection and dissemination of findings focused on the current study's ethical considerations, involving the researcher and his contact with the respondents. In addition, in compliance with the UTAR Scientific and Ethical Review Committee (SERC), the researcher acquired ethical approval before the fieldwork in data collection. To maintain scientific integrity, respect for human rights and dignity, and cooperation between science and society, the researcher obtained

respondents' informed consent using an informed consent form. These guidelines ensured that study subjects were safe, informed, and willing to participate in investigations.

The researcher details how the study ethically ensured the principles of the research process of this study. Tunku Abdul Rahman Universiti (UTAR) permitted research in the United Republic of Tanzania. Similarly, my academic sponsor, the Tanzania Institute of Accountancy (TIA), sent an introductory letter to all HLIs in the survey area requesting permission to collect educational data.

In addition, the researcher explained the research's purpose and informed the participants that participation was free of consent through the questionnaire. McGivern (2006) and Leedy and Omrod (2010) report that explaining the principle of voluntary participation in research to the participant helps one know the nature of the study and its importance. Moreover, the researcher provided a guarantee to the participants on the confidentiality of the data. According to Gray et al. (2007), the researcher should secure participant anonymity about the data they submit and safeguard their interests. Therefore, the researcher informed participants: (1) that there would be no reference to any individual during the whole research process, such as disclosing their names or HLI names, and (2) that the researcher would keep confidential the survey data and no potential harm or discomfort that the study would cause to the participants.

3.10 Conclusion

Chapter three detailed the technique and design of the research project. By doing this, the researcher is convinced that what is included in themethodology is planned to systematically increase the data reliability and validity of the current study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis and findings from 398 questionnaires completed by HLIs' finalists. Section 4.2 explores the primary survey study findings, including survey replies to analysis, data screening, measurement refinement, and structural model, and section 4.3.5 concludes with a summary of the chapter.

4.2 Main Survey Results

This section presents results from the field where the researcher examines the effects of the survey responses. The analysis is presented in subsection 4.2.1, whereas the rest of sections 4.2.2 to 4.2.4 include data screening, measurement refinement, initial investigation, and structural model results.

4.2.1 Survey Response Analysis

The study employed the drop-off and pick-up (DOPU) approach to collect the distributed questionnaires for this study. With the help of research assistants, the researcher reached the respondents multiple times and suggested that they complete the questionnaire as the respondents were preoccupied with their daily activities (studies). Four hundred fifty (450) questionnaires were distributed in the main survey, and the researcher collected 410 questionnaires. This collection is equivalent to a 91.11% response rate.

The remaining questionnaires were not collected because some respondents were unavailable at the University premises. They left the questionnaire to be delivered by their friends. The researcher eliminated no questionnaires from the398 obtained since respondents responded to all the statements about specific items. Hence, the main study used 398 questionnaires in the analysis.

All respondents responded voluntarily without being promised a reward in exchange for their participation. The researcher did not compensate the responders for giving a response to avoid enticing the respondents to provide untruthful responses. Besides, respondents left the questionnaire to someone else, such as a family member or a friend, for submission; the compensation would be meaningless. In summary, the current study statistically analyzed 398completed questionnaires.

4.2.1.1 Profile of the Respondents

Table 4.1 shows the respondents' backgrounds, with the factors compressed into category variables. Nearly 61 per cent of the 398 responders were male. The male dominance could be because females were too shy to participate in the study while males were ready to experience it.

Age plays a vital role in student satisfaction. For example, scholars (Ruiz- Grao, Cebada-Sánchez, Ortega-Martínez, Alfaro-Espín, Candel-Parra, García- Alcaraz, & Delicado-Useros, 2022; Wong & Chapman, 2022) hold that decision-making is significantly associated with the participant's age. In this study, age was

considered necessary because the majority (83%) of the respondents were between 18 and 24. The most significant number of students in this age category means the younger students feel more satisfied with the quality of services offered by the HLIs. This population of youngsters could be because secondary school education is free in public schools, where there is a boom of youngsters eager to join the HLIs at an early age. In terms of HLI experience, more than three quarters (87%) of respondents stayed for 3-4 years, 13 per cent for 5-6 years, and 0.8 per cent for more than six years; this could be because today, the majority of the students are young and fresh from secondary schools compared to matured individuals who are very few in HLIs.

The result further indicates that only a few (21%) respondents lived in the HLI dormitory. Most students live outside the campus because there are few dormitories, so most students must live close to the HLI.

Table 4.1: Demographic Profiles of the Respondents

		Frequency Count	Valid Percentage
Gender	Male	242	60.8
	Female	156	39.2
	Total	398	100
Age	18-24	331	83.2
	25-34	61	15.3
	35-44	6	1.5
	>45	0	0
	Total	398	100
Experience at HLI	3-4yrs	347	87.2
	5-6yrs	48	12
	>6	3	0.8
	Total	398	100
Residence	Dormitory	88	22.1
	Off-Campus	290	72.9
	Other	20	5
	Total	398	100

4.2.1.2 Relationships between Respondents' Profiles and Student Satisfaction

The researcher performed a cross-tabulation to establish the relationship between respondents and their satisfaction. A cross-tabulation evaluates whether two or more variables are statistically independent or related to each other using a combined frequency distribution of cases based on two or more variables, chi-square statistic (χ^2), and symmetric measures. Student satisfaction was at the heart of the research challenge in this study.

Thus, other potentially essential criteria such as gender, age, residence, and experience (length of stay at the HLI) were investigated or cross-tabulated with the students' satisfaction. This estimate provided a broad picture of the relationships between students' satisfaction and respondents' demographics. Unfortunately, the study did not have enough statistical evidence to prove that other factors (sex, residence, and experience at HLI) were statistically related to students' satisfaction. Therefore, this study only looked at significantly associated factors at a precision level 0.05.

The age – student's satisfaction relationship (Table 4.2) demonstrates that most students in the age category of 18-24 were delighted with the HLI services provided. The reason for satisfaction for this age group is most likely because younger students have fewer life responsibilities and, therefore, dedicate more time to academics (Waterhouse, Samra & Lucassen, 2022).

However, most respondents in the age group of 35 to 44 years were unsatisfied with the quality of HLI services because they had family responsibilities, as well as role conflict and role facilitation, which were both substantially linked to their satisfaction (Waterhouse, Samra & Lucassen, 2022).

Therefore, it was fascinating to discover that young students aged 18 to 24were satisfied with the SQ provided by their HLIs compared to older students. The discovery may be related to the fact that older individuals have a lot of responsibilities. These differences are statistically significant because the Pearson Chi-square value was significant at 0.05. The symmetric measures table shows the strength of the relationship – Cramer's V and Phi values. Surprisingly, Laanan (1999) found that older students did better in school, put more effort into their interactions with faculty and course learning, and were more satisfied with their overall experiences. In contrast, younger students continued to engage in social and extracurricular activities and were less satisfied.

Table 4. 2: Relationship between Age and Student Satisfaction

Satisfaction Crosstabs

		Dissatisfaction	Neutral	Satisfaction	Total
Age	18-24	29	25	277	331
	25-34	5	7	49	61
	35-44	5	0	1	6
	>45	0	0	0	0
	Total	39	32	327	398

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.359[a]	4	.000
Likelihood Ratio	19.769	4	.001
Linear-by-Linear Association	9.957	1	.002
N of Valid Cases	398		

a. 4 cells (44.4%) have an expected count of less than 5. The minimum expected count is .48.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.310	.000
	Cramer's V	.220	.000
N of Valid Cases		398	

4.2.2 Data Screening

The researcher used data screening to discover potential multicollinearity in the data (Lim, 2020) because multivariate tests are susceptible to exceptionally high correlations among predictor variables.

4.2.2.1 Missing Data

All questionnaires were double-checked throughout data collection, reducing the possibility of missing data. The data was then manually entered into SPSS version 21. Next, the researcher calculated a frequency distribution for each variable in the study, including missing value analysis. The technique ensured the data was 'clean' (Appendix B). Finally, the findings revealed that the data set contained no missing data.

4.2.2.2 Outlier Examination

The researcher employed box plots diagnostic using IBM SPSS Statistics version 21 in this study. The results revealed influential observations where the observed outliers following verification confirmed that the research team entered the data incorrectly (human errors could be due to fatigue when capturing data from the questionnaire to an Excel sheet), so there were no outliers.

4.2.2.3 Normality

PLS obtained standard errors for testing the statistical significance of hypotheses and determined cross-validated redundancy for predictive validity using nonparametric resampling approaches (bootstrapping).

Thus, the algorithm made no assumptions about normalcy (Risher & Hair,2017).

i. Descriptive Statistics of the Study Variables

Descriptive statistics like mean and percentage describe the percentage of variables and the mean and standard deviation of endogenous and exogenous variables. The descriptive statistics of the study variables, with 398 observations in each case, are shown in Table 4.3. The standard deviation varied from 1.260 to 1.375, and the mean value of all the variables ranged from 4.757 to 5.472. These results demonstrate that respondents agreed substantially about a variable in every questionnaire statement. Though there were no scores of less than 4.00, which suggests that respondents disagree with the statements used to analyse the study's variables, a maximum score of 5.00 indicates that most respondents strongly agree with the assertions. The standard deviation also illustrates the degree of dispersion among the variables in this investigation.

Table 4.3: Summary of descriptive statistics of the study variables

Constructs	N	Minimum	Maximum	Mean	Std. Deviation
Tangibility	398	1	7	4.757	1.371
Reliability	398	1	7	5.123	1.260
Responsiveness	398	1	7	4.884	1.278
Responsiveness	398	1	7	4.884	1.278
Empathy	398	1	7	4.876	1.302
Perceived Transparency	398	1	7	4.969	1.318
Trust	398	1	7	4.987	1.375
Student Satisfaction	398	1	7	5.472	1.373

ii. Skewness and Kurtosis

Researchers frequently use two metrics to evaluate normalcy kurtosis and skewness. The researcher carefully examined each variable's skewness and kurtosis to see whether the data distribution was normally distributed. These two tools' functions verify the form of the score distribution and are also applied to data at the interval and ratio levels. When determining skewness and kurtosis values, zero denotes perfect (rarely attained) normalcy in the data distribution, ±2.58 denotes rejecting the assumption of normalcy at the 01 probability level, and ±1.96 denotes a.05 error level (Hair et al., 2024). All of the study's variables, as shown in Table 4.4, had skewness and kurtosis within the normal range (i.e., < ±2.58); however, the scores displayed showed positive and negative skewness and kurtosis values.

Table 4. 4: Skewness and kurtosis of the variables

Constructs	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Tangibility	-0.551	0.122	-0.071	0.244
Reliability	-0.988	0.122	0.766	0.244
Responsiveness	-0.665	0.122	0.247	0.244
Responsiveness	-0.665	0.122	0.247	0.244
Empathy	-0.704	0.122	0.029	0.244
Perceived Transparency	-0.842	0.122	0.307	0.244
Trust	-0.848	0.122	0.242	0.244
Student Satisfaction	-1.353	0.122	1.545	0.244

4.2.2.4 Multicollinearity

The SmartPLS 3 PLS algorithm employs variance inflation factors (VIF) to calculate multicollinearity. "1/Tolerance" is used to calculate VIF. To prevent the collinearity problem, we require a VIF of 5 or lower (i.e., a Tolerance level of 0.2 or greater) as a

rule of thumb (Hair et al., 2022).

A higher VIF value generally indicates multicollinearity. A VIF value 5 in the PLS-SEM context suggests potential high multicollinearity difficulties (Hair, Hult, Ringle, & Sarstedt, 2022). As shown in Table 4.5, the maximum VIF value in the current study was 3.188, indicating no multicollinearity among the independent variables.

Table 4. 5: PLS Algorithm Calculating Variance Inflation Factors (VIF)

	Assurance	Empathy	Perceived Transparency	Reliability Responsiveness	Student Satisfaction	Tangibility	Trust on Institution
Assurance					2.759		
Empathy					3.047		
Perceived Transparency					3.113		1.000
Reliability					2.471		
Responsive-ness					3.188		
Student Satisfaction							
Tangibility					2.375		
Trust on Institution					2.190		

4.2.3 Measurement Model Evaluation

Figure 4.1 shows the SmartPLS representation of the initial measurement model. The blue circles, referred to as 'outer models' or simply the measurement model,' represent the relationship between each 'unobserved' latent variable that must be predicted. The yellow squares, also known as the manifest variables,' are the independent 'predictors,' which are the 'indicators'or 'observed' measurement items (Wong, 2013).

Each latent construct measured by an indicator, item, or manifest variable (the measurement model) is either formative or reflective (outer model) and must be evaluated based on the indicator-latent construct link. This study's fundamental theory included all reflective outer models, as shown by the single-headed arrows from the constructions to the indicators.

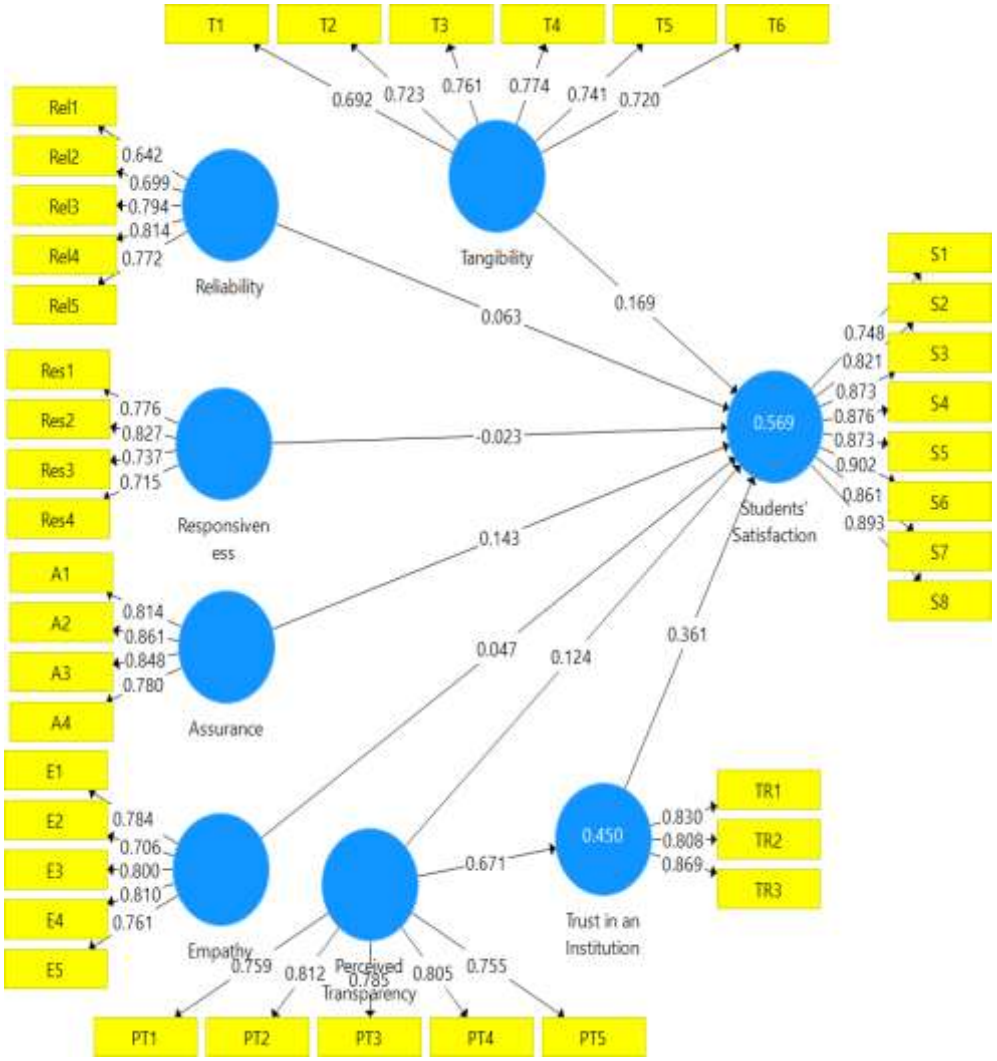

Figure 4. 1: Model 1 for Initial Measurement

The modified measurement model (Figure 4.2) was used to test reliability and validity. To ensure data quality, the researcher used indicator reliability, convergent reliability, internal consistency, and discriminant validity. As a result, SmartPLS 3 computed the following modified measurement model assessment results, which are summarized in Table 4.6:

1. As seen in Figure 4.1, the investigation had 40 indicator items, of which the researcher kept 37 and eliminated three from the measurement model. These items had low loadings, and the researcher removed them to increase model fitness by the general idea that the researcher may use 20% of the deleted items to specify models (Hair et al., 2011; Sarstedt et al., 2017). T1 from tangibility and Rel1 and Rel2 from reliability are the rejected items. Their low loadings led to their removal. Table 4.6 shows three indicator items to measure trust construct and three to measure reliability. It is also consistent with Hair et al. (2011), who maintained that three indications per construct are acceptable.

2. The reliability of the eight constructs was assessed using Cronbach's alpha and composite reliability. Compared to the traditional Cronbach's alpha, the standardized loading method of composite reliability proveda better measure of internal consistency. Therefore, Cronbach's alpha and composite dependability were viewed similarly. According to previous literature, Cronbach's alpha and composite reliability values should be higher than the 0.7 minimum tolerance level (Qaffaf, 2022).

The eight constructs were shown to have convergent validity in this study. Thus, each construct's average variance extracted (AVE) should be greater than the recommended cut-off of 0.50 (Fornell & Larker, 1981). For example, assurance received a score of 0.683, empathy a score of 0.597, perceivedtransparency a score of 0.614, reliability a score of 0.688, responsiveness a score of 0.585, student

satisfaction a score of 0.735, tangibility a score of 0.576, and trust on institution a score of 0.699. These figures demonstratedthat, on average, each construct could explain more than half of the variationsof its measuring items.

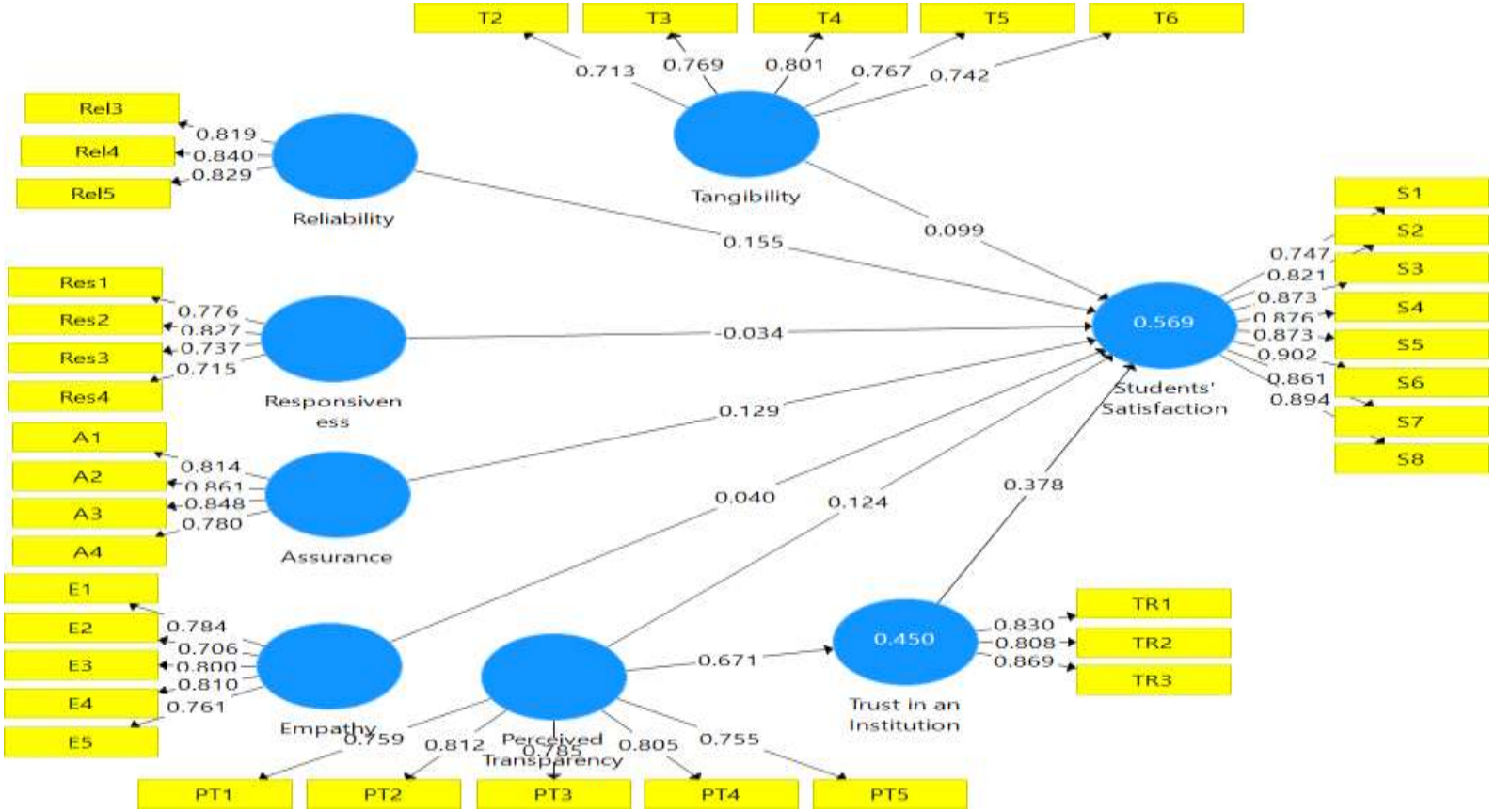

Figure 4. 2: Improved Measuring Model

Table 4.6: Results Summar of the Modified Measurement Model Evaluation

Latent Variable	Indicators	Indicator Reliability Loading (>0.70*)	Internal Consistency Reliability (Composite Reliability) (>0.70*)	Cronbach's Alpha (>0.70*)	Convergent Validity (AVE) (>0.50*)
Tangibility	Tangibility2	0.713	0.871	0.815	0.576
	Tangibility3	0.769			
	Tangibility4	0.801			
	Tangibility5	0.767			
	Tangibility6	0.742			
Reliability	Reliability3	0.819	0.869	0.774	0.688
	Reliability4	0.840			
	Reliability5	0.829			
Responsiveness	Responsiveness1	0.776			
	Responsiveness2	0.827	0.849	0.764	0.585
	Responsiveness3	0.737			
	Responsiveness4	0.715			
Assurance	Assurance1	0.814	0.896	0.844	0.683
	Assurance2	0.861			
	Assurance3	0.848			
	Assurance4	0.780			

Continue next page

Latent Variable	Indicators	Indicator Reliability Loading (>0.70*)	Internal Consistency Reliability (Composite Reliability) (>0.70*)	Cronbach's Alpha (>0.70*)	Convergent Validity (AVE) (>0.50*)
Empathy	Empathy1	0.784			
	Empathy2	0.706			
	Empathy3	0.800	0.881	0.831	0.597
	Empathy4	0.810			
	Empathy5	0.761			
Perceived Transparency	Perceived Transparency1	0.759	0.888	0.842	0.614
	Perceived Transparency2	0.812			
	Perceived Transparency3	0.785			
	Perceived Transparency4	0.805			
	Perceived Transparency5	0.755			
Trust in an Institution	Trust1	0.830	0.874	0.784	0.699
	Trust2	0.808			
	Trust3	0.869			
Student Satisfaction	Student Satisfaction1	0.747	0.957	0.948	0.735
	Student Satisfaction2	0.821			
	Student Satisfaction3	0.873			
	Student Satisfaction4	0.876			
	Student Satisfaction5	0.873			
	Student Satisfaction6	0.902			
	Student Satisfaction7	0.861			
	Student Satisfaction8	0.894			

Note: * Threshold value is 0.708 for factor loading; 0.7 for CR & CA; 0.5 for AVE

The construct validation procedure then moved on to the complementary idea of convergent validity, representing how unique a measure is, i.e., how two conceptually different conceptions should demonstrate validity. Each measuring item in the construct had more substantial discriminant validity at the item level than all its cross-loadings in the rows and columns.

The discriminant validity assessment aims to guarantee that a reflective construct in the PLS path model has the strongest associations with its indicators (e.g., in comparison to any other construct) (Hair et al., 2022). See Table 4.7.

Table 4.7: Item-level Discriminant Validity

	Assurance	Empathy	Perceived Transparency	Reliability	Responsive-ness	Students' Satisfaction	Tangibility	Trust in an Institution
Assurance1	**0.814**	0.579	0.567	0.510	0.586	0.488	0.441	0.462
Assurance2	**0.861**	0.611	0.608	0.536	0.597	0.525	0.503	0.514
Assurance3	**0.848**	0.614	0.551	0.562	0.628	0.484	0.497	0.503
Assurance4	**0.780**	0.610	0.581	0.524	0.550	0.499	0.515	0.501
Empathy1	0.639	**0.784**	0.555	0.540	0.613	0.492	0.492	0.509
Empathy2	0.498	**0.706**	0.493	0.432	0.481	0.391	0.416	0.417
Empathy3	0.598	**0.800**	0.628	0.523	0.592	0.487	0.517	0.532
Empathy4	0.537	**0.810**	0.545	0.524	0.542	0.468	0.513	0.521
Empathy5	0.543	**0.761**	0.612	0.514	0.525	0.482	0.458	0.464
Perceived Transparency1	0.555	0.577	**0.759**	0.550	0.553	0.527	0.500	0.511
Perceived Transparency2	0.525	0.564	**0.812**	0.480	0.586	0.493	0.524	0.474
Perceived Transparency3	0.494	0.563	**0.785**	0.497	0.563	0.472	0.511	0.467
Perceived Transparency4	0.595	0.638	**0.805**	0.523	0.616	0.521	0.521	0.603
Perceived Transparency5	0.557	0.529	**0.755**	0.461	0.543	0.470	0.513	0.556
Reliability3	0.466	0.478	0.481	**0.819**	0.491	0.459	0.517	0.396
Reliability4	0.556	0.599	0.567	**0.840**	0.640	0.495	0.599	0.495
Reliability5	0.577	0.555	0.547	**0.829**	0.577	0.516	0.556	0.457
Responsiveness1	0.576	0.496	0.606	0.604	**0.776**	0.514	0.527	0.486
Responsiveness2	0.538	0.577	0.588	0.499	**0.827**	0.481	0.545	0.553
Responsiveness3	0.570	0.563	0.518	0.517	**0.737**	0.422	0.469	0.431
Responsiveness4	0.500	0.568	0.518	0.478	**0.715**	0.396	0.494	0.544

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	Assurance	Empathy	Perceived Transparency	Reliability	Responsive-ness	Students' Satisfaction	Tangibility	Trust in an Institution
Satisfaction1	0.512	0.551	0.563	0.472	0.537	**0.747**	0.529	0.697
Satisfaction2	0.549	0.510	0.545	0.449	0.525	**0.821**	0.460	0.580
Satisfaction3	0.587	0.519	0.552	0.558	0.531	**0.873**	0.537	0.601
Satisfaction4	0.498	0.515	0.552	0.552	0.520	**0.876**	0.515	0.542
Satisfaction5	0.496	0.519	0.536	0.513	0.514	**0.873**	0.518	0.601
Satisfaction6	0.510	0.516	0.545	0.520	0.505	**0.902**	0.519	0.561
Satisfaction7	0.483	0.502	0.520	0.488	0.467	**0.861**	0.470	0.522
Satisfaction8	0.493	0.488	0.529	0.491	0.475	**0.894**	0.496	0.563
Tangibility2	0.400	0.442	0.477	0.451	0.443	0.450	**0.713**	0.436
Tangibility3	0.487	0.474	0.472	0.498	0.451	0.443	**0.769**	0.440
Tangibility4	0.462	0.514	0.497	0.521	0.525	0.431	**0.801**	0.442
Tangibility5	0.461	0.502	0.520	0.530	0.569	0.452	**0.767**	0.504
Tangibility6	0.437	0.428	0.519	0.549	0.534	0.468	**0.742**	0.485
Trust1	0.529	0.540	0.528	0.475	0.509	0.582	0.477	**0.830**
Trust2	0.474	0.510	0.555	0.400	0.532	0.540	0.525	**0.808**
Trust3	0.501	0.541	0.598	0.486	0.602	0.596	0.527	**0.869**

The Fornel and Larcker (1981) criterion assessed discriminant validity at the construct level. The square root of AVE was obtained for each construct, and the cross-loadings of each item were used to assess discriminate validity (Table 4.8).

Compared to the model's other constructs' cross-loadings, all components indicated higher loadings on their related construct. In addition, the correlations between that construct and other constructs were more significant than the square root of AVE for all components. Overall, discriminant validity for this measuring model was accepted and demonstrated between constructs.

Table 4. 8: Discriminant Validity at the Construct Level

	AVE	Assurance	Empathy	Perceived Transparency	Reliability	Responsive-ness	Students' Satisfaction	Tangibility	Trust in an Institution
Assurance	0.683	0.826							
Empathy	0.597	0.731	0.773						
Perceived Transparency	0.614	0.699	0.735	0.783					
Reliability	0.688	0.645	0.658	0.642	0.830				
Responsiveness	0.585	0.714	0.715	0.732	0.688	0.765			
Students' Satisfaction	0.735	0.605	0.603	0.636	0.592	0.597	0.857		
Tangibility	0.576	0.593	0.622	0.656	0.673	0.666	0.593	0.759	
Trust in an Institution	0.699	0.600	0.634	0.671	0.544	0.656	0.685	0.610	0.836

Note: The diagonals are the square roots of the AVE of the latent variables and indicate the highest values in any column or row.

The Heterotrait-Montrait Ratio (HTMT) of corrections, established by Henseler et al. (2015), is another method for determining discriminant validity. It estimates the actual correlation between two constructs. Due to fulfilling the requirements, this study can conclude that discriminant validity is well-established. The HTMT should be less than 0.85 as a factor correlation estimate (Henseler et al., 2016). The HTMT in this study ranged from 0.759 to 0.836. As a result, all constructs are distinct, demonstrating discriminant validity (see Table 4.9).

Similarly, Table 4.7 includes a cross-loadings assessment to ensure every indicator is appropriately allocated to the incorrect construct. As all indications have loaded into their appropriate predicting constructs, there are no cross-loading issues. Hence, there was no discriminant validity problem with the constructs. The outer loadings of all indicators on the related construct were more significant than those on other constructs (see Table 4.7).

Table 4. 9: Heterotrait-monotrait (HTMT) Criterion Results

	Assurance	Empathy	Perceived Transparency	Reliability	Responsive-ness	Student Satisfaction	Tangibility	Trust in an Institution
Assurance								
Empathy	0.870							
Perceived Transparency	0.825	0.874						
Reliability	0.795	0.815	0.792					
Responsiveness	0.889	0.901	0.907	0.889				
Student Satisfaction	0.673	0.675	0.708	0.688	0.694			
Tangibility	0.714	0.754	0.790	0.845	0.842	0.671		
Trust in an Institution	0.737	0.784	0.820	0.695	0.849	0.791	0.761	

4.2.3.1 Common Method Bias Assessment

Because SmartPLS does not offer a common method bias (CMB) technique, this study relied on Harman's one-factor test in SPSS. The presence of dependent and independent variables that measure the same respondent is called CMB. Common method bias is evident in your study if the overall variance recovered by one factor surpasses 50% (Meseguer-Artola et al., 2016). This data has no risk of common method bias because the total variance retrieved by one component is 43.569% (Appendix C), less than the suggested threshold of 50%. As a result, it was determined that CMB was not asignificant risk in this study.

4.2.4 Structural Model Evaluation and Hypotheses Testing

When the measurement model is satisfactory, the next stage in analyzing PLS-SEM results is to review the structural model to analyze the inter-relationships between the studied variables and, as a result, to confirm the study's hypothesis testing (see Figure 4.3).

Significant paths are indicated by bolded arrowed lines (reliability, perceived transparency, and trust) in Figure 4.3, whereas insignificant paths are indicated by thin arrowed lines (tangibility, responsiveness, assurance, and empathy). The effect size f^2 was used to assess the impact of each predictor construct on the dependent construct. Table 4.11 shows that six independent predictor constructs had a weak effect, one moderate effect, and one significant effect size, with f^2 values greater than 0.15 and less than 0.02 (De Souzabido & Da Silva, 2019). Any endogenous latent variable with a Q^2 larger than zero has predictive importance in the structural model

(Hair, Hult, Ringle & Sarstedt, 2017). The researcher discovered a strong predictive relevance in the current study since the Q^2 value for endogenous latent variables was greater than zero (0.297 and 0.382). Following the f^2 value interoperations, the Q^2 value indicated the presence of predictive significance. Hence, the indication was that the PLS structural model was predictively relevant.

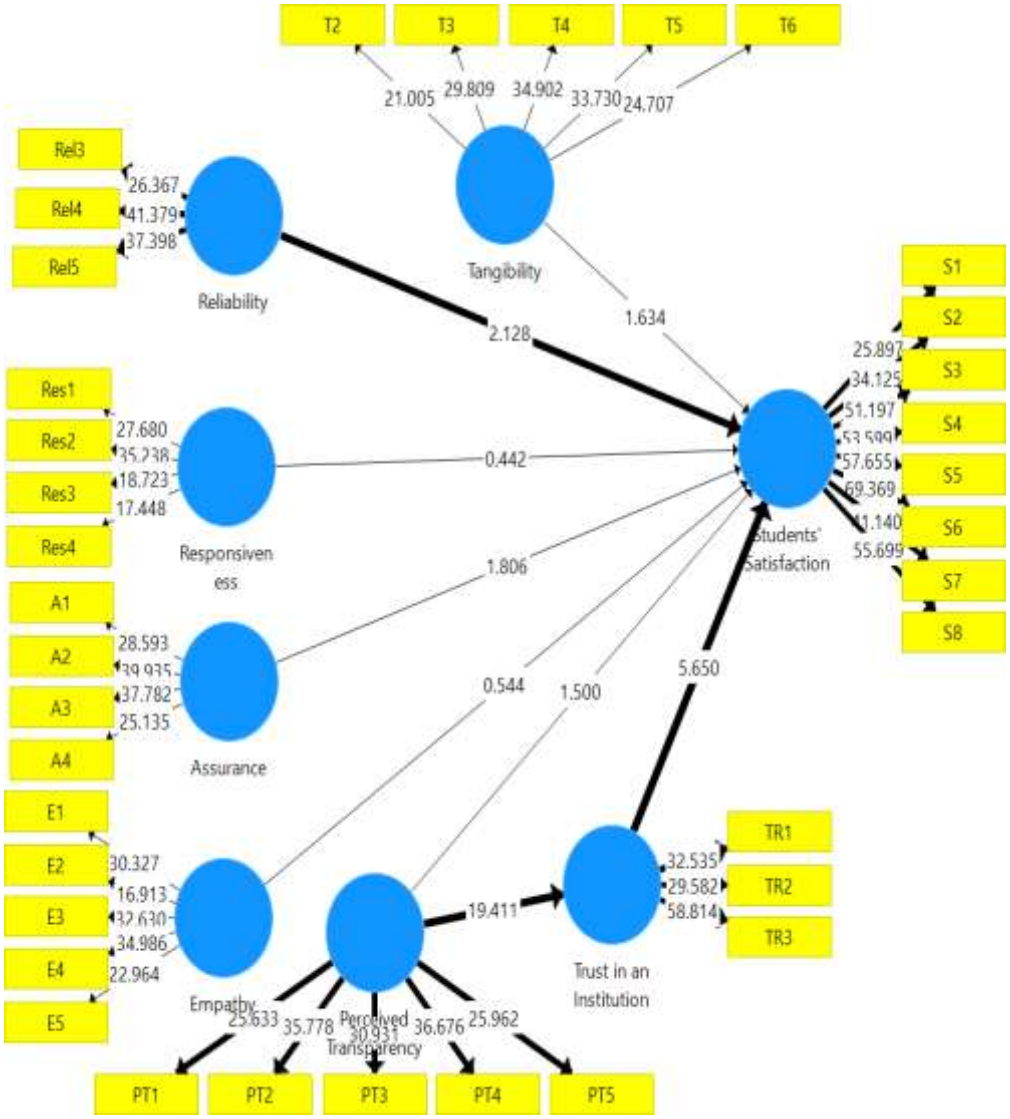

Figure 4. 3: The Structural Model - Path Coefficients

4.2.4.1 Structural Model Analysis

The structural model was evaluated after the measurement model had been validated. Therefore, the path coefficient and coefficient of determination (R^2) output from SmartPLS3 analysis are shown in this subsection.

The beta values of the path coefficients reported the importance of the tested hypotheses. The significance of the hypotheses was determined using bootstrapping procedures, which involved estimating the significance of the output results using 5,000 subsamples. Table 4.10 summarizes all thehypothesized path coefficient values and t-statistics (bootstrapping) values derived using PLS for all posited hypotheses. The supported path coefficients empirically summed up all the supported or significant hypothesis paths and compared the results to the current literature (Table 4.8). Briefly, Table 4.8 denotes that the current study's structural model supports hypotheses H2, H6a, and H6b, while hypotheses H1, H3, H4, H5, and H6 are not supported.

Table 4. 10: The Level of Path Significance for Hypotheses Supported

	Hypothesis	Significance (Critical T-Values for a Two-Tailed Test)
H2	Reliability -> Students' Satisfaction	CI 95% significance, t-value ($p \leq 0.05$)
H6a	Perceived Transparency -> Trust in an Institution	CI 95% significance, t-value($p \leq 0.05$)
H6b	Trust in an Institution -> Students' Satisfaction	CI 95% significance, t-value($p \leq 0.05$)
H7	Perceived Transparency -> Trust in an Institution -> Students' Satisfaction	CI 95% significance, t-value($p \leq 0.05$)

4.2.4.2 Statistical Testing for Present Research's Hypotheses

In this study, the following SQ dimensional variables, tangibility, reliability, assurance, responsiveness, empathy, and perceived transparency are exogenous. At the same time, the dependent variables are trust in an institution and student satisfaction. In the schematic diagram, the exogenous idea refers to variables not predicted by other model variables and has arrows pointing only to endogenous variables (Hair et al., 2019; Macha, 2018). One or more variables predict the endogenous variable and may indicate other variables in the model. The model's coefficient of determination (R^2) concludes that the study's model could account for 57% of the factors influencing student satisfaction (see Figure 4.2). Also, the perceived transparency could explain 45% (R^2) of the variance in trust in an institution (see Figure 4.2).

The direct correlations between the variables are investigated using eight hypotheses (H1, H2, H3, H4, H5, H6, H6a, and H6b) represented by causal routes (see Table 4.10). The mediation effect created by the trust construct between transparency and satisfaction variables is also investigated (H7) (see Table 4.12). The following sub-chapters explain the significant and non-significant relationship between the examined variables.

Table 4.11: **Direct Relationships-Path Coefficient and t-statistics Values and Effect Sizes**

Hypothesis Relationship	Path Coefficient Values	Path coefficient Error	t - value	P Values	Decision	Effect size	Path Coefficients Confidence Intervals	
						f^2	95% CI LL	95% CI UL
Assurance -> Students' Satisfaction (H4)	0.129	0.069	1.853	0.064	NP	0.014	-0.004	0.267
Empathy -> Students' Satisfaction (H5)	0.040	0.073	0.542	0.588	NP	0.001	-0.110	0.180
Perceived Transparency -> Students' Satisfaction (H6)	0.124	0.083	1.499	0.134	NP	0.011	-0.033	0.289
Perceived Transparency -> Trust in an Institution (H6a)	0.671	0.034	19.548	0.000	SP	0.818	0.596	0.730
Reliability -> Students' Satisfaction (H2)	0.155	0.073	2.133	0.033	SP	0.022	0.013	0.297
Responsiveness -> Students' Satisfaction (H3)	-0.034	0.079	0.435	0.663	NP	0.001	-0.194	0.120
Tangibility -> Students' Satisfaction (H1)	0.099	0.060	1.642	0.101	NP	0.010	-0.015	0.215
Trust in an Institution -> Students' Satisfaction (H6b)	0.378	0.066	5.735	0.000	SP	0.152	0.258	0.512

Footnote: SP – Supported; NP – Not Supported

4.2.4.3 The Supported Hypotheses

Overviews of the significant relationships between the examined variables are presented in the following sub-sessions.

a. Reliability and Student Satisfaction (H2)

The result for path H2 reveals that the reliability of student services is positively connected to students' satisfaction with those services ($\beta = 0.155$, $p \leq 0.05$) and significant (t-value = 2.133), confirming the path assumption's nomological validity. The positive relationship supports the results of studies carried out by Magasi, Mashenene, and Dengenesa (2022); and Darawong and Widayati (2021) that examine higher education students' satisfaction; Koay, Cheah, and Chang (2022) that examine Malaysian customer satisfaction with online food delivery (OFD); Haron, Subar and Ibrahim (2020) that examine Malaysian customers' satisfaction with Islamic banks services; Eresia-Ek, Ngcongo, and Ntsoane (2020) that examine the relationship between service quality, student satisfaction, and retention at South African Small Private Colleges; and Mwiya et al. (2017) that explore the relationship between higher education quality and student satisfaction evidence from Zambia.

Also, the significant effect created by reliability supports prior studies in Colombia (Cardona & Bravo, 2012), Jordan (Twaissi & Al-Kilani, 2015), and Portugal (Brochado, 2009). The significant effect means the SQ reliability dimensional variable validates student satisfaction even in collectivist, lower-middle-income nations like Tanzania.

b.Perceived Transparency and Trust in an Institution (H6a)

The result for path H6a ($\beta = 0.671$, $p \leq 0.05$) shows that transparency has a direct effect on trust or the perceived transparency's measuring items such as adequate disclosure of information related to student services, including library resources, sports activities, medical and counselling services, and transparently handled services like managing student appeals or complaints; contributed to the increase of student trust. The results support studies carried out by Arshad and Khurram 2020; Esmaeilzadeh, 2019; Jassem, Razzak, and Sayari, 2021; Medina & Rufin, 2015; and Schnackenberg and Tomlinson, 2016.

C. Trust in an Institution and Student Satisfaction (H6b)

The direct path H6b ($\beta = 0.378$, $p \leq 0.05$) was supported at the 0.05 level, or the growth of students' trust in university student services like extracurricular activities, internet access, and computer and printing facilities in HLIs increases students' satisfaction with the institutions' performance. Such a result is consistent with Houston and Harding's (2013) and Tolbert and Mossberger's (2006) study results; when citizens trust the government, their satisfaction with its performance increases accordingly.

Also, the positive significant relationship maps the study results by Alzahrani, Al-Karaghouli, and Weerakkody (2018) and Saleem, Zahra, and Yaseen (2017). Citizens adhering to public policies, laws, and regulations because of their increased trust in government institutions was the most influential factor in the system's flawless operation (Houston & Harding, 2013; Im, Cho, Porumbescu, & Park, 2012; Park et al., 2015).

4.2.4.4 The Non-Supported Hypotheses

Overviews of the non-significant relationships between the examined variables are presented in the following sub-sessions. Plausible reasons that explain the non-significant relationship are presented in Chapter 5.1, The accomplishment of research objectives.

a. Tangibility and Student Satisfaction (H1)

The not supported hypothetical relationship between tangibility and students' satisfaction aligns with the following past studies that examined the effect of SQ on students' satisfaction in Tanzania's higher education (Mashenene, 2019) and customer satisfaction of retail companies in Indonesia (Haming, Murdifin, Syaiful, & Putra, 2019).

b. Responsiveness and Student Satisfaction (H3)

In measuring the responsiveness construct, the student respondents were requested to rate their HLI staff's quick response and willingness to assist students. The non-supported H3 results match a previous study that found that some student respondents disagree that HLI staff's responsiveness relates to their satisfaction (Doan, 2021).

However, the H3 result contradicts the study results carried out by Ali, Gardi, Jabbar Othman, Ali Ahmed, Burhan Ismael, Abdalla Hamza, Aziz, Sabir, and Anwar, (2021); and Haming, Murdifin, Syaiful, and Putra, (2019). The above studies explain that responsiveness included service speed, fast response, and handling complaints, and captures the idea of adaptability and the ability to rework a service to meet the needs of the client influenced students' satisfaction significantly.

The contradictory results relate to how the questionnaire item statements are structured. This study requests the student respondents to evaluate their HLIs' responsiveness behaviour. Students' satisfaction increases when they haveinteracted with staff that possesses good responsiveness behaviour, and vice versa when they interact with staff that is not responsive. Different experience during the moment of truth session explains why H3 is not supported.

In studies supporting the relationship between responsiveness and satisfaction, respondents were requested to rate their 'expectation' ratherthan their 'experience.' Therefore, the hypothesis is likely to become supported when the rating for their 'expectation' of the responsiveness behaviour items is positively and consistently like their satisfaction rating.

c. Assurance and Student Satisfaction (H4)

Like the explanation for the non-significant effect created by the responsiveness, students were requested to evaluate their HLI staff's assurance. Each staff has different expertise and work capability. Therefore, some student respondents disagree that the HLI staff's willingness to assist them in solving problems relates to their satisfaction (Ali et al., 2021). The argument explains why H4 is not supported.

Similarly, past studies support the relationship between assurance and satisfaction because their respondents were asked to rate their 'expectation' of staff's assurance behaviour rather than rating the staff's 'actual' assurance behaviour. This explains why the relationship between assurance and satisfaction is supported in studies

carried out by Ali, Gardi, Jabbar Othman, Ali Ahmed, Burhan Ismael, Abdalla Hamza, Aziz, Sabir, and Anwar, 2021; Haron, Subar, and Ibrahim, 2020; Koay, Cheah, and Chang, 2022; Shah, Syed, Imam, and Raza, 2020; Sibai, Bay Jr, and Dela Rosa, 2021; Umoke, Umoke, Nwimo, Nwalieji, Onwe, Emmanuel Ifeanyi, and Samson Olaoluwa, 2020.

d. Empathy and Student Satisfaction (H5)

As not all HLI staff performed their empathy behaviour, such as providing individualized attention to specific students at a standardised level, naturally, the current respondents rated their HLI staff's 'actual' empathy behaviour differently. Such behaviour explains why H5 is not supported. The non-significant relationship between empathy and student satisfaction shows that some HLI staff are low morale, careless, or rude, as reported by preliminary study respondents.

Past studies support the relationship between empathy and student satisfaction because researchers asked respondents to rate any unit that measures empathy. Past researchers argued that any unit raised in empathy would increase students' satisfaction, rather than using the units used in the current study to state how strongly they agree or disagree with the unit of measurement. These reasons explain why the relationship between empathy and satisfaction instudies carried out by Darawong and Widayati (2021), Gregory (2019), Magasi, Mashenene, and Dengenesa (2022), Mashenene (2019), and Yılmaz and Temizkan's (2022) is supported.

e. Perceived Transparency and Student Satisfaction (H6)

In this study, students were requested to evaluate whether their HLI has been transparent in implementing student services, such as providing clear information about internship; or student exchange, appeals, or complaints. However, as mentioned above, students who have experienced student services may relate the transparency level differently to those who have yet to experience student services. Also, not all student services are disclosing their standard operating procedures. As a result, H6 is not supported.

4.2.4.5 Mediation Analysis

The mediation effect was investigated using the bootstrapping method following direct connection testing. By observing the variation accounted for (VAF), as suggested by Hair et al. (2022), the magnitude of the indirect effect of the mediating variable (trust in an institution) on the relationship between the exogenous latent construct (perceived transparency) and the endogenous latent construct (student satisfaction) was revealed as in Table 4.12. There wasno mediation if the VAF was less than 0.20, partial mediation if the VAF was between 0.20 and 0.80, and complete mediation if the VAF was more significant than 0.80. Figure 4.4 and Table 4.12 show that an indirect effect accounted for 40% of the total effects of the exogenous variable (perceived transparency) on students' satisfaction. As a result, trust in the institutionpartially mitigated the influence of perceived transparency on student satisfaction. In addition, the t-value in Table 4.13 suggested this only one mediation path was supported.

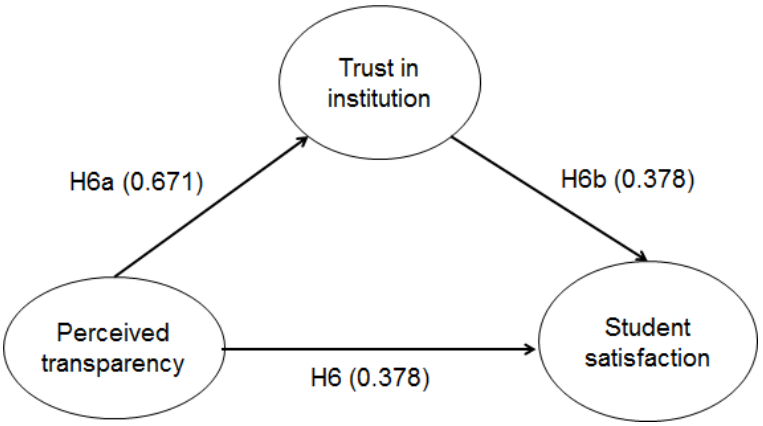

Figure 4.4: Mediation analysis using the bootstrapping approach.

Table 4.12: Mediation analysis with trust in an institution as the mediator

Exogenous Variable	DirectEffect	Indirect Effect (H6a*H6)	Total Effect [Direct effect + Indirect Effect]	VAF Range
Trust in institution	0.378	0.254	0.632	0.402

Table 4.13: Indirect relationship assessment

	Hypothesized Relationship	Path Coefficient value	Path Coefficient Error	T Statistics	P Values	Confidence interval 5%	Confidence interval 95%	Decision
H6	Perceived Transparency -> Trust in an Institution ->Students' Satisfaction	0.254	0.043	5.858	0.000	0.177	0.345	Supported

a. The Mediation Effect of Trust Between Perceived Transparency and Student Satisfaction (H7)

The bootstrapping result (see Table 4.13) demonstrates that the indirect effect of perceived transparency on students' satisfaction via trust in an institution is statistically significant at the confidence interval of 95%. The study confirms the studies done by Uzi, Al Halbusi, Thurasamy, Hock, Aljaberi, Hasan, and Hamid (2021); Usman, Pitchay, and Zahra (2021); Singh and Jasial (2021); Haron, Subar, and Ibrahim (2020); Yıldız and Şimşek (2016).

The development of such a significant indirect effect could be attributable to the fact that trust may influence students' decisions to create long-term relationships with institutions. This means trust can increase customer satisfaction with an institution and enhance the long-term connection even more. In conclusion, policymakers did an excellent job of promoting quality services to institutions, with the perceived transparency indirectly affecting students' satisfaction.

4.2.4.6 Assessing Goodness of Fit

The difference between the observed correlation and the model-implied correlation matrix was used to assess the goodness of fit, measured using standardized root mean square residual (SRMR). As an old-fashioned measure (model) fit criterion, this assessment looked at the average magnitude of the differences between observed and expected correlations. Two models fit the criteria: standardized root means square residual and normed fit index (NFI), summarized in Table 4.14. A decent fit was found based on the SRMR value of 0.063. Furthermore, the NFI was closer to 1, indicating a satisfactory fit.

Table 4. 13: Model Fit Results

Model fit criteria	Author	Criteria	Results
SRMR (Standardized root mean square residual)	Carless (1998); Hooper et al. (2008) Hu and Bentler, 1999	The value should be less than 0.10 (or 0.08 in a more conservative version) for a good fit	0.063
NFI (Normed fit index)	Bentler & Bonett, (1980); Hooper et al. (2008)	The value should be closer to 1	0.793

4.2.4.7 Data Analysis Summary

The collection of quantitative data via self-administered questionnaires is detailed in this section. Data refinement and measurement reliability and validity were established after piloting the questionnaire. Then, SmartPLS3 path modelling and hypothesis testing findings were given. The early results supported the research model used in this study through adequate measurement reliability and model validity. In addition, although the study's main goal was to highlight all variables of students' satisfaction with HLI services in Tanzania, some hypotheses were supported.

Furthermore, a mediation analysis was performed to understand the mediating influence of institutional trust. The model was able to explain the partial mediation effect as a result. First, although the direct impact of perceived transparency on student satisfaction is small (37 per cent), the total effect (direct and indirect combined) is significant (63 per cent), demonstrating that perceived transparency is vital in explaining student satisfaction. This outcome shows that trust in the institution mediates the direct association betweenperceived transparency and student satisfaction.

Second, indirect path analysis revealed that only the pathway was supported. These findings suggest that, in the Tanzanian HLI environment, not all the tangibility, responsiveness, assurance, and empathy factors influence students' satisfaction. Thus, it made more sense than physical facilities, equipment, staff appearance, communication materials, "willingness to assist clients and give fast service," and "caring and attention to a customer" are not big priorities for students studying in HLIs in Tanzania.

Third, in this study, perceived transparency and trust were included as new factors to the SERVQUAL model, based on indirect hypothesis testing that indicated that the mediation effect influenced students' satisfaction; they do play a part in determining their satisfaction.

CHAPTER FIVE

DISCUSSION, IMPLICATIONS, AND CONCLUSION

5.1 The Accomplishment of Research Objectives

To achieve the first objective, the researcher developed five hypotheses (H1, H2, H3, H4, and H5) to examine how the SQ dimensional variables (tangibility, reliability, responsiveness, assurance, empathy, perceived transparency, and trust) relate to satisfaction. The primary data result shows that H2 is supported, and H1, H3, H4, and H5 are not.

The support of H2 shows that the items used to measure the reliability dimensional variable are essential in evaluating their SQ and satisfaction. Generally, most respondents tolerate the ability of the HLI to perform the promised service dependably and accurately. This is likely because HLIs are paying attention to academic services. As students interact with their teaching lecturers frequently, they may complain when failures frequently disrupt their academic learning progress. Therefore, lecturers are informed to refrain from cancelling classes or replacing each cancelled class and to solve students' problems. The result is consistent with studies by Magasi, Mashenene, and Dengenesa (2022) and Darawong and Widayati (2021).

The non-support of H1 is likely due to the inconsistent perception of the availability of tangible facilitations in HLIs, such as computers, projectors, classrooms, buildings, and libraries. For example, students from social science disciplines are

satisfied with the availability of library resources. Contradictory science discipline students may need more than their HLI'slibrary resources.

The non-support of H3, H4, and H5 is likely related to the university personnel's work professionalism and ethics. Compared to H2, which is supported, the reliability variable's measuring items focus on the evaluation of academic staff's service performance and the university's operation system. Meanwhile, for H3, H4, and H5, the measuring items focus on evaluating non-academic or administrative staff. The result shows that some of the student respondents may have contacted a team with low work professionalism and ethics, which eventually caused the students to form negative perceptions of the academic staff's responsiveness, assurance, and empathy. On the other hand, positive perceptions about the administrative staff's responsiveness, assurance, and empathy were formed by another group of respondents who interacted with staff with higher work professionalism and ethics. Such inconsistent behaviour explains why H3, H4, and H5 are unsupported.

In accomplishing the second objective, the research develops four hypotheses to test the structural relationship between perceived transparency, trust, and student satisfaction. The researcher formulated three hypotheses to evaluate the direct relationships between perceived transparency, trust, and student satisfaction: H6, H6a, and H6b. The non-support of H6 (that predicts the direct effect of perceived transparency on satisfaction) implies that a group of the respondents was questioning if there is transparency in handling students' appeals or complaints, assessment process, and service status. For example, some respondents are

dissatisfied that the examination result reviewing process is not transparent as the applicants were only informed of the review results, but the whole process is not known. The transparency issue, meanwhile, does not apply to students who have yet to appeal for the review of examination results.

Contradictory, H6a, and H6b predict that perceived transparency could directly influence trust in an institution, and the trust construct could directly impact students' satisfaction. In other words, transparency does not create a significant direct effect on satisfaction, but the transparency variable creates a significant indirect effect on satisfaction through trust. The indirect effect is represented by H7, which aims to test the mediation effect created by the trust construct between perceived transparency and student satisfaction.

The support of H7 shows that trust in an institution partially mediates the relationship between perceived transparency and student satisfaction. The support of the hypothesis means that when student services are transparently organised and managed by HLIs, the trust feeling that their HLI is playing its role well increases, which in turn increases student satisfaction.

Given the preceding explanation, it is evident that the researcher examined all the research objectives and produced awareness material to assist academics and policymakers in improving the quality of services in Tanzania HLIs. See Table 5.1, which visually represents the current study's key findings.

Table 5. 1: Summary of the Key Findings of the Current Study

Research Objective	Hypothesis	Results
RO1: To examine the direct effect generated by SQ dimensional variable (tangibility, reliability, responsiveness, assurance and empathy) on students' satisfaction towards the student services provided by the HLI.	H1: The tangibility of student services is positively related to students' satisfaction with student services.	Not Supported
	H2: The reliability of student services is positively related to students' satisfaction with student services.	Supported
	H3: The responsiveness of student services is positively related to students' satisfaction with student services.	Not Supported
	H4: The assurance of student services is positively related to students' satisfaction with student services.	Not Supported
	H5: The empathy for student services is positively related to students' satisfaction with student services.	Not Supported
RO2: To examine the direct and indirect effects created by the perceived transparency of student services and trust in the institution on students' satisfaction towards the student services provided by the HLI.	H6: The perceived transparency of student services is positively related to students' satisfaction.	Not Supported
	H6a: The perceived transparency of student services is positively related to trust in the institution.	Supported
	H6b: Trust in an institution is directly and positively related to students' satisfaction.	Supported
	H7: Trust mediates the relationship between perceived transparency and students' satisfaction.	Supported

5.2 Implications

5.2.1 Implications for Policymakers

In response to the SmartPLS 3 statistical result, reliability concern is a significant SQ dimensional variable that motivates student satisfaction. Therefore, to encourage Tanzanian students to enrol in local HLIs instead of searching for HLIs outside the country's borders, the government and regulatory bodies are strongly encouraged to collaborate in educating potential candidates on how reliable the HLIs are, and the students can see their bright future through them, by eliminating cancelling of classes, keeping time, having proficient lecturers, who can show their concern in solving student problems, thereby significantly reducing the reliability problem. In brief, reliability promotes commitment in students and parents who inject their money and time as investments.

Although the perceived transparency does not create a significant direct effect on satisfaction, the transparency creates an indirect significant effect on satisfaction through the trust variable. Therefore, policymakers still need to plan and implement policies related to transparency. The following arguments explain the rationale for doing so.

Public agencies like the Ministry of Education, Science and Technology and regulatory bodies such as accreditation agencies must encourage and monitor HLI's transparency practice in implementing student services. The HLIs need constant feedback from students and other stakeholders for improvement. For example, HLIs can collaborate with institution partners and industries in arranging inbound and outbound internship and study trips, setting up a particular unit to facilitate students to voice their dissatisfaction and get the required information about specific student services. The unit's handling staff needs to be trained to become an expert. Besides, the standard operatingprocess for each student service, like an appeal to review exam marks, must beestablished and displayed for the student's view.

When the student services are transparently and well organised, students trust their HLI more and eventually increase their satisfaction. The current study result supports such a chain of behaviour: trust mediates the relationship between perceived transparency and students' satisfaction.

Also, in response to the significant effect created by the trust variable on student satisfaction, HLIs need to educate students on how to utilise students' services in co-

curricular activities and provide valuable services to students, like internet access. In this way, student satisfaction increases.

It is inappropriate for the researcher to recommend strategies or policies related to other SQ dimensional variables: tangibility, responsiveness, assurance, and empathy to the government, regulatory bodies, and HLIs, when the hypothetical relationship between the variables and the satisfaction is not supported.

5.2.2 Implications for Academia

The SERVQUAL framework has been applied frequently in SQ studies. Similarly, this study develops the conceptual model by modifying the SERVQUAL framework, which is still rare in studies related to HLIs' SQ. Also, based on the preliminary study's result, the current study's conceptual model enriches the SERVQUAL with two additional SQ dimensional variables: perceived transparency and trust.

Although only one of the five SERVQUAL dimensional variables, reliability, is significantly related to satisfaction, it does not mean that SERVQUAL is not an appropriate basic model that should be applied in this study. The researcher focuses on measuring student satisfaction based on their evaluation of the SQ performed by their HLIs' academic and administrative staff. When staff cannot perform their SQ consistently or at a standardised level, it is difficult to get a consensus reply from students. Such behaviour explains why most SERVQUAL dimensional variables negatively affect satisfaction.

On the other hand, in past studies, respondents were asked to evaluate the SERVQUAL dimensional variables based on respondents' 'expectations' or what they hope the service providers should perform. Naturally, consumers or users hope the service providers perform their SQs that benefit the consumers or users. As a result, getting a consensus response from the respondents is relatively easy. This explains why the SERVQUAL dimensional variables significantly relate to satisfaction in past studies.

Therefore, future researchers must be cautious in deciding how to measure the SQ dimensional variables – based on the service provider's 'actual' performance or respondent's 'expectation.' Indeed, as explained in the SERVQUAL original model, Gap 5 exists when a customer's experience does not map their expectation. Measuring customer expectation is helpful if the studied organisations have data that measures their staff's SQ performance; the study intends to Gap 5. First, researchers determine respondents' expectations about the five SQ dimensional variables. Then, compare the result with the service provider's actual performance. This way, the service providers are alertto the discrepancy and improve the underperforming SQ. In addition, future researchers should collect more data, especially interviews, to develop a model aiming to improve transparency since transparency is an important predictor. It might be useful to conduct qualitative research and identify potential determinants of transparency.

Measuring the customer's reaction to the actual SQ performed by serviceproviders is helpful if the studied organisations still need data that shows their staff's SQ

performance. Such results indicate to policymakers whether the respondents consensually or partially accept the performed services. When the hypothetical relationship is not supported, the researchers need to find plausible reasons that explain the discrepancy behaviour among the respondents. Also, the respondents should be the ones who have experienced the service.

Why is the reliability dimensional variable supported while the other four SERVQUAL dimensions are not supported in this study? The items used to measure the reliability refer to academic staff or lecturers and HLI's service policy. As lecturers are the most essential frontline staff interacting with students, their SQ becomes the prime concern to their HLIs and public educational agencies. Most lecturers perform their work duties reliably toavoid getting negative comments from students or the working HLI or public agency. As a result, the reliability dimensional variable is significant.

Meanwhile, the measuring items for other SERVQUAL dimensional variables focus on administrative staff. Although administrative staff are performing routine work, not all staff in an administrative department have similar knowledge or intellectual capacity to handle the same task. As a result, different students may have different experiences when dealing with different handling staff, which explains why other SERVQUAL dimensional variables are not significant variables that relate to satisfaction.

5.3 Research Limitations

The main limitation of this study is not selecting student respondents who have experienced the service provider's SQ in their HLI. As the student services cover academic teaching and learning resources and administrative services for co-curriculum services, it is challenging to select respondents who have experienced all the student services.

Secondly, there are significant constraints in assessing the demographic characteristics of responders. Males made up about 61 per cent of the responses. In addition, males contributed more data than females. As a result, it is still being determined if the conceptual framework used in this study could accurately predict the demographics of the respondents. As a result, future research should include the same percentage of male and female responders or aim to balance the two genders.

Thirdly, although the global COVID-19 pandemic was also a challenge in Tanzania, and conducting an online survey using some e-social media platforms would have been appropriate, it still needs to be done due to poor information telecommunication infrastructure. Therefore, the current researcher distributed the questionnaire to respondents using a physical meeting approach. However, the physical meeting approach has its challenges during these times.

Furthermore, some respondents were scared to meet physically (because of the pandemic) only after long persuasion, and some were asked to fill out the

questionnaires in their spare time. Some students responded appropriately, but others could not be reached because they had asked others to give over the completed form. Consequently, respondents may have given their answers based on their thinking, which may lead to difficulty in generating a consensusabout whether the respondents are satisfied or dissatisfied with HLI services.

5.4 Recommendations for Future Research

In responding to the first limitation, future researchers should narrowly scope the investigative service, for example, measuring the academic or specific administrative service that deserves more or future attention. Future researchers should search potential student respondents at the venue where the examined service is provided, such as classrooms, libraries, sports complexes, or extension study centres. Alternatively, future researchers can request the respective service department to recommend students who have used their services. In this way, getting a consensual and consistent reply from therespondents is more feasible.

Secondly, in keeping with the present research limitations, this study has a gender issue, with males accounting for around 61% of the responses. Female respondents hesitated to reply to the researcher's questionnaire, which could be attributed to cultural concerns in Tanzania. Future researchers should prioritise recruiting participants from minority groups (female) in the beginning phase toachieve a more equitable distribution of demographic features acrossrespondents (such as male and female). These early respondents will likely distribute the questionnaire to people in their social networks with similar demographic profiles. In the future,

researchers could use multi-level sampling to ensure that researchers draw respondents from varied groups within the intended population. Data gathering can be more evenly dispersed by selecting an equal number of individuals who possess specified traits and qualities.

Thirdly, the current study found distributing the questionnaires using an onlinesurvey by capitalising on some of the e-social media platforms impossible due to Tanzania's poor information telecommunication infrastructure. Future researchers should aim to meet respondents face-to-face to boost respondent authenticity and obtain accurate data. The researcher can then observe the respondent's traits and behaviour and provide clarification as needed. The researchers can also describe step by step what each item statement wants to measure so that respondents think carefully before responding.

5.5 Conclusion

Higher education is the basis of a knowledge-driven economy and the development of human resources. Knowledgeable human capital develops the economic sectors, which reduce the nation's poverty and improve social status.However, the Tanzanian HLIs cannot provide sufficient tangible andintangible resources to accommodate the tremendous increase in student enrolment. In addition, the lack of public financial aid has been causing the students to feel unsatisfied with the local HLI's student services. A preliminarystudy was carried out to fill the literature gap, and the result shows that the SERVQUAL five-dimensional variable and another two variables explain student's dissatisfaction. Furthermore, the developed conceptual model fills the

literature gap as the published articles related to HLIs SQ rarely enrich the SERVQUAL with other possible predictor variables.

The questionnaire item statements were pre-tested by academic and industry experts and respondents' representatives in the pilot project to guarantee that the collected data accurately reflects the HLI students' perceptions of SQ and satisfaction. The finalised questionnaires were then distributed to the final-year students of selected HLIs in the Coastal zone in Tanzania using the multistage cluster sampling method. Finally, the researcher undertook a series of statistical tests to ensure the collected data were reliable and valid before confirming the current study's hypotheses.

Three hundred ninety-eight answered questionnaires were collected and analysed using the PLS-SEM. The result shows that reliability and trust are significant predictors, and perceived tra nsparency is an essential external variable to trust. On the other hand, tangibility, responsiveness, assurance, andempathy are not significant variables. Based on the study's findings, recommendations are suggested to the academics and practitioners to enrich the SQ literature and public and private policymakers in planning tactical strategies.

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APPENDICES

Appendix A: The List of Tanzanian HLIs: Universities; University Colleges; University Campus, Centre, and Institute; and Tertiary Institutes (which offer degree courses)

Name ofHLIs	Coastal Zone	Northern Zone
University	• University of Dar es salaam • Mzumbe University • Sokoine University of Agriculture • Open University of Tanzania • The Muhimbili University ofHealth and Allied Sciences • Ardhi University • Hubert Kairuki MemorialUniversity • International Medical andTechnological University • Aga Khan University • St. Joseph University in Tanzania • Muslim University of Morogoro • Kampala International Universityin Tanzania • University of Bagamoyo • United African University ofTanzania	• Nelson Mandela African Institution ofScience and Technology • Moshi Cooperative University • Tumaini University Makumira • Mount MeruUniversity • University of Arusha • Sebastian Kolowa Memorial University • Mwenge Catholic University • Eckernforde Tanga University
University College	• Dar es Salaam University Collegeof Education • Tumaini University Dar esSalaam College • Jordan University College • St. Francis University College ofHealth and Allied Sciences • Stella Maris Mtwara UniversityCollege • Marian University College • St. Joseph University College ofHealth and Allied Sciences	• Kilimanjaro Christian Medical University College • Stefano Moshi Memorial UniversityCollege
University campus, centre, andinstitute	• Mzumbe University Dar esSalaam Campus • St. John's University of Tanzania - St. Mark's Centre • Teofilo Kisanji University Dar esSalaam Centre • St. Augustine University of Tanzania Dar es Salaam Centre	• Jomo Kenyatta University of Agriculture and Technology (JKUAT) Arusha Centre • St. Augustine University of Tanzania Arusha

		Centre • Stefano Moshi Memorial UniversityCollege, Mwika Centre
Tertiary Institutes which offer degree courses	• Institute of Adult Education -Dar-es-salaam • Dar Es Salaam Maritime Institute • Tanzania Institute of Accountancy (TIA) - Dar EsSalaam • Institute of Social Work - Dar EsSalaam • Eastern Africa Statistical TrainingCentre - Dar-es-salaam • Tanzania Public Service College -Dar Es Salaam • Centre for Foreign Relations(CFR) - Dar-es-salaam • Dar Es Salaam Institute ofTechnology • The Mwalimu Nyerere MemorialAcademy - Dar Es Salaam • Institute of Tax AdministrationDar-es-salaam • Institute of Procurement and Supply (IPS) - Dar Es Salaam • College of Business Education -Dar Es Salaam • Institute of Lands Dar Es Salaam • Institute of Finance Management - Dar Es Salaam • National Defence College (Tanzania) - Dar-es-salaam • National Institute of Transport(NIT) • Water Institute (WI)	• Institute of Accountancy Arusha(IAA) - Arusha • Eastern and Southern African ManagementInstitute • Institute of Accountancy Arusha(IAA) - Babati Campus • Arusha TechnicalCollege - Arusha • College of African Wildlife Management, Mweka – Moshi • Tanzania Public Service College -Tanga

Appendix B: The Finalized or Main Study Questionnaire

REF: SERVICE QUALITY PERCEPTION AND STUDENTS' SATISFACTION IN HIGHER LEARNING INSTITUTIONS IN TANZANIA: THE SERVQUAL MODEL

Dear Sir/ Madam,

I am researching **"Service Quality Perception and Students' Satisfaction in Higher Learning Institutions in Tanzania: The SERVQUAL model."** This study is part of my PhD studies at Universiti Tunku Abdul Rahman, Malaysia.

I would greatly appreciate it if you could complete this questionnaire based on your honest opinion. There is no right or wrong answer. Please make a total effort to answer each question.
I assure you that all answers will be kept strictly **confidential** and used only for this research. Please get in touch with the researcher's name below if you have any questions or problems in answering the questionnaire.

Thank you very much for your kind assistance.Yours sincerely,

Victor William Bwachele (Researcher)

PhD Student
Mobile number: +255762199784 or +255737826873

Email:bwachele@gmail.com or bwachele@1utar.my

Screening Question:

Are you a final-year student of the program you are currently pursuing at ahigher learning institution in Tanzania?

 Yes

 No

(If, No. Thank you. The survey is for final-year students only. Have a niceday).

PART A: Respondent's Demographics

Instructions: Please tick ONE appropriate answer.

1. Gender. Male Female

2. The age range for respondents: (years) 18 to 24, 25 to 34

 35 to 44 above 45

3. How long have you been at this university? (years) 3-4 5-6

 > 6

4. Which of the following best describes your current residence?

 Residence hall (Dormitory) Off-campus

 Other (please specify_____)

PART B: THE PERCEPTIONS AND SATISFACTION OF THE INSTITUTION'S SERVICE QUALITY

For each of the statements, please circle ONLY ONE (1) number using the agreement-disagreement scale which you feel best describes your
satisfaction.

No.	Items	Responses						
		[1] Strongly Disagree	[2] Disagree	[3] Somewhat Disagree	[4] Neither Agree nor Disagree	[5] Somewhat Agree	[6] Agree	[7] Strongly Agree
	Tangibility (T)							
T1	My university has the latest/current teaching and learning equipment, like computers, projectors, classrooms, and labs.	1	2	3	4	5	6	7
T2	My university has up-to-date and enough library resources.	1	2	3	4	5	6	7
T3	My university has physical facilities (e.g., buildings and furniture) that are safe to use.	1	2	3	4	5	6	7
T4	My university has enough printing materials.	1	2	3	4	5	6	7
T5	My university has up-to-date and accessible internet connections.	1	2	3	4	5	6	7
T6	The materials at my university (e.g., pamphlets and study material) suit the university's image.	1	2	3	4	5	6	7
	Reliability (Rel)							
Rel1	When my university says it will complete a task by a deadline, it follows through.	1	2	3	4	5	6	7
Rel2	Lecturers are generally reliable: Keep time / don't cancel classes.	1	2	3	4	5	6	7

Rel3	Dependable teaching capability/proficiency of lecturers.	1	2	3	4	5	6	
Rel4	Lecturers show their concern in solving student problems.	1	2	3	4	5	6	7
Rel5	My university maintains detailed records (e.g., accounts, academic reports, student results, and so on).	1	2	3	4	5	6	7
	Responsiveness (Res)							
Res1	My university tells students when the requested services will be rendered.	1	2	3	4	5	6	7
Res2	Students receive fast (prompt) service delivery from the university personnel.	1	2	3	4	5	6	7
Res3	Lecturers at my university are willing to assist students.	1	2	3	4	5	6	7
Res4	University personnel are not too busy with other stuff when they are asked to reply too quickly students' demands.	1	2	3	4	5	6	7
	Assurance (A)							
A1	Students can trust the personnel of the university.	1	2	3	4	5	6	7
A2	Personnel at my university inspire confidence in students.	1	2	3	4	5	6	7
A3	personnel at my university are considerate	1	2	3	4	5	6	7
A4	Personnel at my university receive adequate support from university management to improve the services rendered.	1	2	3	4	5	6	7
	Empathy (E)							
E1	Students receive individualized attention from administrative personnel (e.g., doing something extra for students).	1	2	3	4	5	6	7
E2	Lecturers give students individual attention.	1	2	3	4	5	6	7
E3	My university's personnel know their students' needs (e.g., recognizing students as clients).	1	2	3	4	5	6	7

E4	The university personnel have the students' best interests at heart.	1	2	3	4	5	6	7
E5	The university personnel are easily accessible to students (e.g., available to see or contact by phone, email, WhatsApp, etc.)	1	2	3	4	5	6	7
	Perceived Transparency (PT)							
PT1	The institution's subjects are implemented transparently	1	2	3	4	5	6	7
PT2	The *process* of specific student services like internships, student exchange, or accessing the library's e-reading materials are transparent.	1	2	3	4	5	6	7
PT3	The students can see the *progress and situations* of specific student services like the arrangement for internship/ student's exchange or application to change tutorial class/ leave of absence.	1	2	3	4	5	6	7
PT4	The university transparently handles services like handling student appeals or complaints.	1	2	3	4	5	6	7
PT5	There is sufficient disclosure of the Information related to student services like library resources/ sports activity/ medical services/counselling services	1	2	3	4	5	6	7
	Trust (T)							
T1	The student services provided by the university can meet my interest.	1	2	3	4	5	6	7
T2	The university allows students to use/utilize the student services like co-curricular activities/ internet access/ computer and printing facilities.	1	2	3	4	5	6	7
T3	The university performs its role of providing student services very well.	1	2	3	4	5	6	7
	Student Satisfaction (S)							
S1	I am satisfied with the student services provided by the institution.	1	2	3	4	5	6	7
S2	My choice to enrol at my university was a wise one	1	2	3	4	5	6	7

S3	I am satisfied with my decision to attend this institution.	1	2	3	4	5	6	7
S4	I will recommend my relatives and friends to attend this institution in the future.	1	2	3	4	5	6	7
S5	If I choose to do it all over again, I will still enrol in this institute.	1	2	3	4	5	6	7
S6	I am happy with my decision to enrol in this institute.	1	2	3	4	5	6	7
S7	I am happy with my experience as a student at my university	1	2	3	4	5	6	7
S8	I did the right thing by choosing my university	1	2	3	4	5	6	7

Thank you so much for your time and assistance.

Appendix C: Descriptive Analysis

Items	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	Rank
Tangibility1	4.3%	4.5%	6.5%	3.3%	17.6%	40.2%	23.6%	5.40	1
Tangibility2	6.0%	12.1%	5.5%	8.0%	17.8%	30.4%	20.1%	4.91	3
Tangibility3	6.3%	7.5%	7.0%	3.8%	19.6%	33.9%	21.9%	5.12	2
Tangibility4	9.0%	11.6%	7.3%	11.1%	19.3%	26.4%	15.3%	4.61	5
Tangibility5	19.3%	18.8%	8.8%	7.5%	17.1%	17.3%	11.1%	3.80	6
Tangibility6	9.3%	9.8%	6.3%	13.6%	15.8%	28.4%	16.8%	4.69	4
Reliability1	9.3%	9.5%	6.3%	8.5%	17.6%	29.6%	19.1%	4.81	5
Reliability2	8.5%	8.0%	6.8%	7.5%	20.1%	29.6%	19.3%	4.89	4
Reliability3	3.5%	3.0%	3.5%	7.3%	19.3%	56.8%	6.5%	5.32	2
Reliability4	4.5%	5.3%	5.8%	7.8%	21.9%	38.2%	16.6%	5.18	3
Reliability5	5.3%	5.5%	5.0%	5.3%	14.1%	35.7%	29.1%	5.41	1
Responsiveness1	5.0%	5.5%	3.3%	11.8%	20.1%	38.7%	15.6%	5.15	1
Responsiveness2	6.5%	9.3%	9.0%	11.6%	21.6%	33.4%	8.5%	4.67	3
Responsiveness3	4.5%	5.0%	5.0%	7.8%	19.8%	38.2%	19.6%	5.26	2
Responsiveness4	8.5%	9.5%	10.8%	13.8%	22.4%	25.9%	9.0%	4.46	4
Assurance1	4.5%	5.0%	5.3%	11.1%	22.4%	36.9%	14.8%	5.12	2
Assurance2	3.5%	4.5%	3.3%	8.5%	24.1%	38.9%	17.1%	5.30	1
Assurance3	4.3%	6.0%	3.0%	12.8%	22.9%	39.4%	11.6%	5.09	3

Items	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	Rank
Empathy1	8.3%	9.5%	6.0%	11.3%	24.4%	30.9%	9.5%	4.65	5
Empathy2	5.5%	5.8%	4.3%	11.3%	19.1%	40.5%	13.6%	5.08	1
Empathy3	6.3%	8.5%	5.5%	12.6%	21.9%	34.2%	11.1%	4.82	3
Empathy4	4.3%	10.3%	7.3%	13.8%	23.9%	28.9%	11.6%	4.76	4
Empathy5	4.8%	7.0%	6.8%	9.8%	17.8%	35.9%	17.8%	5.08	2
Perceived Transparency1	2.8%	7.0%	3.0%	12.8%	19.1%	38.2%	17.1%	5.21	1
Perceived Transparency2	6.3%	7.3%	5.0%	11.8%	15.8%	38.7%	15.1%	5.00	3
Perceived Transparency3	6.3%	9.8%	6.0%	12.8%	23.6%	31.2%	10.3%	4.72	5
Perceived Transparency4	6.3%	9.8%	7.3%	11.3%	18.6%	32.2%	14.6%	4.81	4
Perceived Transparency5	5.5%	6.5%	5.3%	7.8%	19.8%	40.5%	14.6%	5.10	2
Trust1	6.0%	6.0%	4.5%	9.3%	23.9%	35.7%	14.6%	5.04	2
Trust2	5.8%	9.5%	7.8%	8.8%	21.1%	32.4%	14.6%	4.85	3
Trust3	3.8%	5.3%	7.8%	8.8%	25.6%	35.7%	13.1%	5.07	1

Items	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	Rank
Student Satisfaction1	5.0%	7.3%	6.5%	8.3%	24.1%	34.4%	14.3%	5.00	8
Student Satisfaction2	2.0%	5.3%	4.0%	7.0%	15.3%	38.4%	27.9%	5.55	4
Student Satisfaction3	4.0%	2.3%	3.5%	7.0%	13.3%	39.2%	30.7%	5.64	3
Student Satisfaction4	4.3%	5.0%	3.5%	11.6%	14.8%	33.4%	27.4%	5.37	6
Student Satisfaction5	6.8%	6.3%	3.3%	8.8%	14.6%	33.7%	26.6%	5.26	7
Student Satisfaction6	5.5%	3.3%	1.5%	6.8%	15.6%	37.7%	29.6%	5.55	5
Student Satisfaction7	3.8%	4.0%	2.5%	4.8%	12.1%	38.4%	34.4%	5.70	1
Student Satisfaction8	4.5%	4.0%	2.0%	4.5%	13.1%	34.9%	36.9%	5.70	2

Appendix D: Common Method Bias Assessment

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.428	43.569	43.569	17.428	43.569	43.569
2	2.511	6.277	49.846			
3	1.536	3.840	53.687			
4	1.252	3.130	56.817			
5	1.137	2.841	59.658			
6	1.027	2.567	62.225			
7	.944	2.359	64.584			
8	.852	2.129	66.713			
9	.823	2.057	68.770			
10	.781	1.952	70.723			
11	.755	1.886	72.609			
12	.698	1.746	74.355			
13	.658	1.646	76.001			
14	.631	1.577	77.578			
15	.581	1.453	79.031			
16	.576	1.441	80.472			
17	.564	1.409	81.881			
18	.525	1.313	83.194			
19	.486	1.215	84.409			
20	.470	1.174	85.584			
21	.445	1.111	86.695			
22	.436	1.089	87.784			
23	.415	1.037	88.821			
24	.413	1.032	89.853			
25	.390	.975	90.828			
26	.368	.920	91.748			
27	.321	.803	92.551			
28	.314	.785	93.336			
29	.300	.750	94.086			
30	.293	.732	94.818			
31	.280	.699	95.517			
32	.272	.680	96.197			
33	.254	.635	96.832			
34	.241	.602	97.433			
35	.216	.541	97.974			
36	.212	.529	98.503			
37	.183	.458	98.961			
38	.159	.398	99.359			
39	.137	.342	99.701			
40	.120	.299	100.000			

Extraction Method: Principal Component Analysis.

BIODATA OF THE CANDIDATE

Victor William Bwachele is a lecturer at the Tanzania Institute of Accountancy (TIA), Tanzania. He is a PhD candidate at the Universiti Tunku Abdul Rahman (UTAR), Malaysia, conducting research titled: "Service Quality Perception and Students' Satisfaction in Higher Learning Institutions in Tanzania: The SERVQUAL Model". He received his Master of Business Administration from the University of Dar es Salaam, Tanzania in 2010, Bachelor of Business Administration (SAUT, Tanzania), Full Technician Certificate in Civil Engineering (DIT, Tanzania). He also attended a Certificate Course in Operations Management (IMI, New Delhi, India).

His teaching experience includes Strategic Management, Operations Management, Management Principles, Entrepreneurship, and many business-related subjects. He has been an active researcher since 2011. From 2011 to date, he has organized and conducted several workshops, seminars, training, and consultancies in management studies. Victor has authored two journal articles, one conference paper, and many other manuscripts are underway.

Victor's research interest lies in Service quality in different industries, Total Quality Management, and other topics, particularly operations management.

During his PhD studies, he has published one conference paper and two journal articles (one being Ranked in Q1 Journals) as follows:

Conference paper:

1. The Role of Service Quality Influence on Students' Satisfaction in Tanzanian Higher Learning Institutions: A Preliminary Investigation - Published

The Journal articles:

1. Perceived service quality and student satisfaction in higher learning institutions in Tanzania - Published.

2. Service Quality of the Technical Education Service at the Tanzania Institute of Accountancy: Gaps and Recommendations - Published.