QUALITY SERVICE DELIVERY IN TERTIARY INSTITUTIONS IN GHANA: A COMPARATIVE STUDY OF PUBLIC AND PRIVATE UNIVERSITIES

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A thesis submitted in partial fulfilment of the requirements of London Metropolitan University for the award of the degree of Doctor of Philosophy in Marketing

FEBRUARY 2023

DECLARATION

I, Clemence Alomenu, hereby declare that this thesis is my own original work and to the best of my knowledge has not been submitted for the award of a degree elsewhere, and it contains no material previously published by anyone else, except for where references are duly acknowledged.

DEDICATION

This thesis is dedicated to God Almighty for seeing me through this episode in my life who has kept, guided, and helped me and made all this possible: I am extremely grateful and thankful for your abundant mercies and love.

It is also dedicated to my adorable wife, Monica Charlotte Alomenu, (nee Akpagloh) and our dear children Elorm, Deladem and Edudzi, with much love, respect, and admiration for all your support and enduring my absence from home during my doctoral program.

ACKNOWLEDGEMENT

I am forever grateful to my Heavenly Father, the God Almighty for guiding me to the end of my doctoral journey. Without His wisdom and sustaining power, I could not survive this lengthy and challenging journey towards completion of the doctorate programme. Beyond this valuable help, I acknowledge my indebtedness to the many persons who have made this thesis possible.

First and foremost, I am immeasurably grateful to Dr Chahid Fourali, my Lead Supervisor for his scholarly feedback, genuine concern and for inspiring diligence and academic excellence for the completion of this thesis. I would also like to thank my second supervisor, Dr. Mesfin Habtom, who from day one of my research project kept an eye on the progress of my work and was always available when I needed his advice. My supervisors deserve my deepest thanks and respect for their continued support, invaluable insights, patience, and tolerance during completion of this thesis. The high degree of cooperation and ease of accessibility that characterised my interaction with my supervisors were truly commendable at all stages of this thesis's preparation. Indeed, through their support I appreciate the true essence of conducting serious professional research.

I would like to thank Professor Nana Owusu-Frimpong, my previous lead supervisor, for his guidance and support. A big thank you also goes to all the staff of Postgraduate Research Office of London Metropolitan University, for your administrative support and guidance. I am also grateful to management of Central University, who partly sponsored me on this programme. My sincere thanks are due to Prof. Justice G. Dzokoto, Dr. Ebenezer A. Effah, Dr Godson Mensah and Dr Vivian Senu-Dogbe, who provided thoughtful suggestions, feedback and encouragement during the period of my study.

I am also appreciative of Pastors Isaac Osei Nyantakyi, William Manful and Apostle Irene Kraikue for their invaluable support, prayers and encouragement at critical moments of despair and ill-health when undertaking this study. My warm thanks and appreciation also goes to Esther Oye Duodu, Desmond Kumi, Peter Anabila, and Bib Hughes, for the assistance in making this possible.

It would be remiss of me not to offer an expression of deep appreciation to my mother Anna Timpo, all my siblings, father-in-law Mr. Joseph K. Akpagloh, mother-in-law Mrs. Sophi Akpagloh and my friends who in various ways have supported my study.

Finally, I thank my understanding and caring wife, Monica Charlotte Alomenu, for her devotion and sacrifice, and my three lovely children – Emmanuella Elorm Alomenu,

Hansel Deladem Alomenu, and Jonam Edudzi Alomenu- for their continual support and encouragement to complete my doctoral studies. I regretfully cannot thank all and sundry who participated in this study. To each of you, via this veil of confidentiality, God richly bless.

ABSTRACT

The tertiary educational sector contributes significantly to the socio-economic and cultural development of Ghana and is crucial to the world economy at large. The sector is however becoming more dynamic and increasingly competitive, and has been beset with many challenges including inappropriate governance practices. Researchers have indicated that in competitive milieu, measurement of service quality using country-specific scales would speedily help identify problems, adequately improve service performance, better evaluate consumer satisfaction and enhance competitive advantage. However, there is a dearth of empirical investigations in Ghana's tertiary education context that apply country-specific measures to assess and compare perceived service quality levels provided by the Ghanaian public and private university sectors and its effect on student satisfaction via perceived value.

To address this gap based on literature reviewed, a conceptual model and ten hypotheses were proposed for this study. To test the hypotheses and conceptual model, a mixed methods research design underpinned by a pragmatist philosophy was employed that comprised two phases. The first phase involved qualitative research using four focus group discussions, whose responses were analysed by thematic analysis to develop a scale for University Governance, which was subjected to content validity assessment. The scale was then used alongside other measures to design a survey questionnaire for the second phase, this being the main cross-sectional quantitative research. Quantitative data was obtained by administering a pre-tested questionnaire on 800 undergraduate and postgraduate students selected by a four-stage process of purposive, cluster, stratified and simple random sampling methods. Confirmatory factor analysis, partial least square structural equation modelling and T-test were employed in the analysis of the quantitative data and the testing of the hypotheses.

The key findings are that five dimensions (environmental adequacy in study factor, university governance, teaching methodology, placement, and access listed in ranking order of highest first) with 22 scale items are positively and significantly related to perceived service quality. These dimensions constitute a measurement scale constructed to assess service delivery in Ghana's universities. The findings also show that there are significant differences between the Ghanaian public and private university sectors in terms of students' perceptions of teaching methodology, placement and university governance dimensions. The findings further revealed that student perceived value mediates the association between perceived service quality and overall student satisfaction. However, the direct effect of perceived service quality on overall student satisfaction is greater than the indirect effect.

The evidence from this study suggests that universities in Ghana need to consistently monitor and improve perceived service quality to enhance student satisfaction and delight. Managers of universities should be motivated to accept service quality as a major strategic tool to become market-oriented and competitive. Despite the limitations identified, which did not adversely affect the results of the study, the study makes a theoretical contribution to knowledge in conceptualisation and measurement of university service quality as it synthesises literature in a manner to build a model that introduces university governance as one new dimension of university service quality. The added value of this study emanates from comparing public and private universities based on country-specific dimensions of university service quality. This study thus contributes to the understanding of service quality in the Ghanaian university context.

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LIST OF ABBREVIATIONS

AAU	-	Association of African Universities
AC	-	Access
CIU	-	Council for Independent Universities
COTVET	-	Council for Technical Vocational Educaiton and Training
EA	-	Environmental Adequacy in Study Factor
ERP	-	Economic Recovery Programme
GAPTI	-	Ghana Association of Private Institutions
GETFund	-	Ghana Education Trust Fund
GIMPA	-	Ghana Institute of Management and Public Administration
GoG	-	Government of Ghana
GTEC	-	Ghana Tertiary Education Commission
HE	-	Higher Education
HEIs	-	Higher Education Institutions
KNUST	-	Kwame Nkrumah University of Science and Technology
NAB	-	National Accreditation Board
NABPTEX	-	National Board for Professional and Technical Examinations
NCTE	-	National Council for Tertiary Education
NPC	-	National Planning Commision
PL	-	Placement
PNDC	-	Provisonal National Defence Council
PNDCL	-	Provisonal National Defence Council Law
PSQ	-	Perceived Service Quality
PTIODP	-	Private Tertiary Institutions Offering Degree Programs
PTIs	-	Private Tertiary Institutions
RO	-	Research Objective
RQ	-	Research Question
SAP	-	Structural Adjustment Programme
SQ	-	Service Quality
SQM-HEI	-	Service Quality Measurment in Higher Eduction Institutions
TM	-	Teaching Methodology
UCC	-	University of Cape Coast
UDS	-	University for Development Studies
UG	-	University Governance
UMAT	-	University of Mines and Technology

UNESCO	-	United Nations Educational, Scientific and Cultural Organization
UPSA	-	University of Professional Studies
URC	-	University Rationalization Committee
VAF	-	Variance Accounted Factor

CHAPTER ONE
GENERAL INTRODUCTION

1.1 Introduction

This thesis attempts to examine service quality levels and its effect on student satisfaction and perceived value within Ghana's tertiary education industry, focusing on public and private university sectors. This chapter presents the general introduction to the thesis, and is structured into eight sections. The second section (1.2), after the introduction, offers an understanding of the background and justification for the study in terms of the importance of service quality and its relevance to tertiary education. It continues with a brief discussion of the state of the tertiary education sector in Ghana including unprecedented competition and difficulties that are being witnessed in the industry. As a result, provision of an outstanding service by tertiary institutions has become an imperative. The third section (1.3) provides the rationale and significance for conducting this study highlighting major issues of concern when assessing service quality, student satisfaction and student perceived value in Ghanaian universities, alongside it providing the contribution the study makes. The fourth section (1.4) outlines the aim and objectives of the study. The fifth section (1.5) highlights the research questions of the study. A brief research methodology of the current study is introduced in the sixth section (1.6) of the chapter. The seventh section (1.7) presents a structure of the thesis that describes the content of the respective chapters. The eighth section (1.8) concludes with the summary of the chapter.

1.2 Background and Justification for the Study

There has been a widespread increase in studies on measuring and improving the quality of services offered at educational institutions in line with the customer-centred quality approach (see e.g., Clewes, 2003; Kashif, Ramayah and Sarifuddin, 2016; Yilmaz, 2019*)*. Generally, it is established that achieving a level of service quality that satisfies customers and delivers value usually results in a competitive advantage in the market. Extant studies have reported that the most central factor to sustainable competitive advantage and survival for any institution operating in a keenly competitive market is to deliver the best possible service quality (e.g., Aly and Akpovi, 2001; Kondasani and Panda, 2015; Park and Yi, 2016). This approach to business has become important because delivering superior quality service is not only a foremost determinant that sets apart a favourable institution from its competition (Naidu and Derani, 2016), but it has also become an icon that guides customers in the choice of offerings to purchase (Ijax et al., 2011).

It is argued that delivering quality service will yield improved customer satisfaction (Subrahmanyam, 2017), retention (Buttle, 1996; Sureshchanda et al., 2002), and profitability (Alonso-Almeida et al., 2015). Veloutsou et al. (2005) state that the main criteria for preferring one institute over others is education quality and service offered at the institute; the quality of education determines the value of the graduate in the job market. Kondasani and Panda (2015) posit that service quality, when well-managed by an organisation, enhances efficiency and guarantee's success of the organisation. Many institutions have acknowledged that delivering quality service is a key performance measure for excellence and a major strategic tool to shape marketing strategy for service providers to increase their market share (Donaldson and Runciman, 1995; Banahene, Ahudey and Asamoah, 2017). More importantly, considering a wider view, the quality of an institution's system is not only a key driver for an institution's performance (Stimac and Simic, 2012) on a league table, but also creates a reputation for a country or region at large (Marimon, Mas-Machuca, Berbegal-Mirabent and Llach, 2019). From the foregoing, the significance of the service quality concept is driving scholars and researchers to address this issue and to investigate it further across different service sectors in the competitive environment, including the tertiary education sector.

The tertiary education sector or higher education plays a key role in producing well-trained executives and scholars for a nation's accelerated growth, and socio-economic as well as political development (Lindong, 2007; AAFAQ, 2007). Research evidence has shown that an effective tertiary education delivery system plays a significant role in the development of a nation's workforce and the economy in general (Ramachandran, Chong and Ismail, 2011; Annamdevula and Bellamkonda, 2016). Abugre (2018) reported that tertiary or higher education institutions are responsible for equipping individuals with the knowledge and skills required for vital positions in government, industry, and public and private businesses. Further, Ali et al. (2016) and Annamdevula and Bellamkonda (2016) noted that higher education plays a key role in the development of a nation, as it promotes economic and socio-cultural development along with fostering active citizenship while instilling ethical values in the citizenry. Yilmaz (2019*)* submits that, apart from their traditional roles, higher education institutions (HEIs), specifically universities, are considered as service providers. In this context, universities in Ghana are coming to terms with the need to direct more effort and commit more resources to the provision of effective and outstanding service to gain new students and retain, and adequately prepare students for the job market.

In affirming the importance of quality higher education, World Bank (2021) acknowledges that higher education is instrumental in promoting long-term growth and enhancing shared prosperity in both low- and middle- income countries. It further asserts that "people with a quality post-secondary education are more employable, earn higher wages, and cope better with economic shocks". According to the Association of African Universities (AAU) (2015), Africa can only attain integration, peace, prosperity, and peerage in the global economy, if only her human resource capital of the continent is developed. This, the AAU argued, can only be accomplished through quality higher education. Further, the key strategic orientation of the government of Ghana on ensuring successful tertiary education has been on issues concerning increasing access to, and expansion and delivery of quality and excellent educational services (NCTE Strategic Plan, 2010-2014). New research investigating Ghana's ability to attain the Sustainable Development Goal on education offers insight for tertiary education by arguing that quality higher education prepares students to be tolerant of opposing views and this aids them to appreciate and boost peaceful coexistence in societies (Osei Kwadwo and Konadu, 2020). Thus, the importance of effective and excellent service delivery by HEIs is crucial for achieving far-reaching social purposes beyond individual or economic development benefits.

However, a problematic issue for the higher education market globally has been increasing competition for local and overseas students. This is due to technological advancement, globalisation, evolving knowledge economy, growing demand for higher education, and pressure on institutions and governments to respond to the needs and aspirations of stakeholders (Backmore, 2009). Thus, higher education in today's world is being driven towards commercial competition, imposed by deregulation and economic forces resulting from the development of global education markets and reduction of government funding (Abdullah, 2006; Banahene, Kraa and Kasu, 2018). These challenges, according to Ho and Wang (2011), have led to many countries throughout the world striving to expand higher education to enhance national competitiveness and to satisfy the popular demand for universal education.

Specific to Ghana's tertiary education landscape, which is becoming more dynamic and increasingly competitive, a huge number of institutions and of diverse types have been established covering the public and private sectors in the last two decades. The reasons for this explosive growth in the competition included policy reforms such as liberalization of the higher education market that promotes private sector participation (Atuahene, 2014); the elevation of polytechnics into technical universities; and colleges of education permitted to award degrees. Other reasons include the introduction of marketing principles such as privatisation measures in terms of cost-recovery, cost-sharing in the form of paying academic user fees, and student loan schemes among others into higher education (World Bank, 2010; Varghese 2016); the setting up of new universities in the 'fallow regions' of the country; and the establishment of the Ghana Education Trust Fund (GETFund) to offer supplementary funding for infrastructure, research and development. Aside from these forces, high social demand for tertiary education to secure decent jobs; the development and introduction of distance learning programmes using technology; entry of foreign operators of higher education from America, Asia, and Europe to take advantage of the favourable demand situation in the country (NAB, 2011; Guerre, 2014); and pressure on institutions and the government to respond to the needs and aspirations of people have similarly intensified competition in the industry.

One notable success interlinked with the deregulation of Ghana's tertiary education landscape is the setting up of the National Accreditation Board (NAB) and National Council for Tertiary Education (NCTE) both in 1993 by PNDCL 317 to regulate all tertiary education institutions. However, technical, and vocational tertiary education in Ghana is regulated by the Council for Technical Vocational Education and Training (COTVET) and the National Board for Professional and Technician Examinations (NABPTEX) (Guerre, 2014). Specifically, the NAB is established to accredit public and private HEIs for specific learning programmes alongside monitoring technical aspects of the institutions' operations; while the NCTE is responsible for providing the necessary policy framework, funding allocation and administration, particularly for all public HEIs (Guerrero, 2014).

Notwithstanding the establishment of these regulatory institutions, recently acquired evidence suggests that there is no comprehensive national policy framework on tertiary education in the country that supports and encourages a coherent higher education strategy that aligns with Ghana's economic and social development priorities (National Policy Dialogue on Tertiary Education in Ghana, 2013; Guerrero, 2014; Prempeh, 2019). In a bid to resolve this challenge, the National Council for Tertiary Education (NCTE) and the National Accreditation Board (NAB) were merged in 2020 under the new Education Regulatory Bodies Act 2020 (Act 1023) to form the Ghana Tertiary Education Commission (GTEC). The objects of the Commission are to regulate tertiary education in all its forms with a view to promote principles of the provision of consistent quality service by tertiary education institutions; efficient and effective administration and accreditation of tertiary education institutions; advancement and application of knowledge through teaching, scholarly research and collaboration with industry and public sector; and the development of appropriate human capital for the sustainable advancement of the national economy (GTEC, 2021).

Arguably, the deregulation of the tertiary education landscape initiated in 1993 has been the most influential factor responsible for the growth in competition in Ghana. This has led to the mushrooming of many private universities and expansion of public universities. For instance, from 1998 to 2011, the number of public universities increased from four to six whereas accredited private universities witnessed remarkable growth from two to 45 (NAB, 2011). As of the end of 2018/2019 academic year, the number of accredited public and private universities stood at nine and 73, respectively (GTEC, 2020). This excludes other types of tertiary institutions and many unaccredited tertiary institutions, mostly universities, operating in the country. This trend has resulted in unprecedented competition that is currently witnessed in the industry.

The number of university students has likewise witnessed a huge increase over the period. For example, from the 2000/2001 to 2005/2006 academic year, student enrolment in public universities increased from 40,637 students to 83,778 students; whereas private universities witnessed relatively remarkable growth from 1, 662 students to 9, 497 students (NCTE, 2006a, b; Lugg et al., 2007). In the 2007/2008 academic year about 20,000 students were enrolled in private universities (Cloete et al., 2011). Further, at the close of 2018/2019 academic year, the number of university students in public and private universities rose to 264, 994 and 64, 870, respectively (GTEC, 2020).

While access to university education and competition in the tertiary education sector is on the ascendancy, several difficulties and challenges arise. Adu (2009) indicates that there are fears that the quality of instruction in private universities may be compromised, which is largely attributed to the lack of adequate instructors and personnel to provide the requisite teaching to students (Arthur and Arthur, 2016). Concerns have similarly been expressed about large class sizes, particularly in public universities, which do not allow for individual attention from lecturers to students (Esia-Donkoh and Antwi, 2015). Research evidence also indicates that the explosive growth in student numbers (Matthews, 2013; Guerrero, 2014), poor and or inadequate infrastructure (including physical facilities and teaching resources) (Tsevi, 2014; Esia-Donkoh and Antwi, 2015), and financial constraint have been implicated for having the potential to stifle Ghanaian higher education institutions' provision of quality service to their students. A recent study in Malawi has established that the quality education offered in private universities left a lot to be desired. This was due to insufficient finances because of their over-dependency on students' tuition fees with attendant low enrolment figure levels (Kajawo, 2019), and Ghana is not an exemption. Anabila, Kastner, Bulley and Allan (2020) report that the number of new enrolments coming particularly to private university sector in Ghana continue to drop with associated financial distress.

Anecdotal evidence suggests that many engaged in tertiary education in Ghana strongly believe that institutional governance is one of the key problems responsible for the inefficiency, ineffectiveness, and unsatisfactory service performance of tertiary institutions. Moreover, the literature reveals that public higher education institutions in Ghana, to varying degrees, have been experiencing institutional governance crises in terms of weakness in institutional policies, financial improprieties and breakdowns characterised by staff agitations and strikes, and regular students' unrests and riots sometimes leading to the closure of universities (Shattock, 2014; Abugre, 2018; Frimpong, 2018). Therefore, the role of institutional governance practices in influencing the delivery of quality university services in Ghana cannot be denied.

Recent studies conducted in 2016 in China have exemplified that the rapid expansion of private HE systems has brought about unintentional social consequences triggered by the crisis of its governance (Mok, 2016; Mok et al., 2016). For example, Liu (2020) citing Zhou (2014) states that the form of institutional governance in many private universities creates several glitches including a blurred division in responsibilities of owners and senior managers alongside random interventions of owners in the daily affairs of universities. This, according to Liu (2020), often fails to protect the interests of staff and students because the owners' dominant concern is the achievement of their economic return. Ghana's private university industry is not immune to this trend as over the past decade it has been one of the fastest-growing subsectors of the tertiary education sector in the country (NAB, 2019). However, research designed to investigate how students' experience of institutional (or university) governance affect their perception of university service quality has not hitherto been explored in Ghana to the best of the researcher's knowledge.

Additionally, there are concerns about insufficient placement opportunities for students in respect of industrial training. This has been reported as compromising the quality of programmes to national development (Bawakyillenuo et al., 2013) and overlooking of employability skills of students. By not linking tertiary institutions to industries during students' tenure of study, undermines their performance in the job market (Amu and Offei-Ansah, 2011; Avornyo, 2013; Attah, 2017). Other bottlenecks that remain to be addressed in Ghana's tertiary education landscape comprise improving existing quality assurance mechanisms and HEIs inability to develop curricula that meet the requirements of the labour market (Guerrero, 2014). Therefore, higher education's contribution to development in sub-Saharan Africa, including Ghana, is being threatened by producing relatively too many graduates of programmes of dubious quality and relevance and generating too little knowledge and direct development support (Bollag, 2003); thus, questioning the fundamental effectiveness of universities in the delivery of quality service to customers (students). Effah and Hofman (2010) state that challenges facing higher education delivery in Ghana affect quality education in a coordinated manner and are additional constraints to economic and societal development.

Addressing these problems have far-reaching implications for the survival of universities, therefore managers and practitioners should consider measuring perceived service quality as a potentially viable strategic option to create and improve their competitive leverage under conditions of increasing competition and market turbulence in their quest to compete favourably. Research evidence suggests that perceived service quality has a significant effect on student satisfaction and motivation, which ultimately drives better student performance, word of mouth behaviour and intention to return to the university (Prentice, Brady and McLaughlin, 2018). More so, delivering superior service as competition further intensifies has been reported as one of the means to strengthen ties between institutions and customers (students) (Mittal, Gera and Batra, 2015) in terms of attracting, retaining, and influencing the attitude of students towards these institutions.

In Ghana, private universities are more recent and were established to provide more opportunities for Ghanaians to pursue tertiary education inside the country alongside training more competent graduates for achieving developmental goals; however, they charge relatively higher fees and as a result student expect a commensurate service quality delivered to them. A recent study by Tavares (2017), also reported that private higher institutions are more recent, less reputed (associated with lower quality standards) and far more expensive. On the other hand, public universities supported by public funds have inadequate capacities to absorb the qualified teeming youth demanding university education, but they have a relatively positive image in terms of programmes offered, teaching, research, and knowledge transfer (Atuahene and Owusu-Ansah, 2013), which attract both parents and students with the expectation of high-quality service delivery. The question is whether the proliferation of private universities with probable profit motives and expansion of public universities without a commensurate improvement in resources offer sufficient justification for academic appraisal of the perception of students about the state of quality service delivery in these universities. Therefore, a distinction between universities will be drawn, not through a different programme mix and services they offer, but principally through the quality of service they deliver to customers (students).

Sultan and Wong (2019) submit that as higher education institutions continue to grow in numbers and become progressively globalised, increased competition and reduced funds place more substantial pressure on institutions to market their courses and programmes. Rasli and Naim (2005) suggest that educational institutions must search for ways to gain a sustainable differential advantage as the levels of domestic and international competition together with customer demands have consistently intensified because their services are identical and extremely difficult to differentiate. Researchers have argued that for higher education institutions to outperform their competitors, they must continually deliver outstanding service quality (Shekarchizadeh, Rasli and Tat, 2011; Teeroovengadum et al., 2016) to develop and maintain a competitive advantage in their respective target markets (Cubillo-Pinilla et al., 2009; Pucciarelli and Kaplan, 2016). If this is so, then, as asserted by Asubonteng and his colleagues (1996), researchers should have the means to measure service quality to improve upon it so that it becomes the cornerstone of marketing strategy.

Manhas and Tukamushaba (2015) accentuate that service quality assessment by customers help institutions to improve their service, quickly identify problems, and better assess consumer satisfaction. Thus, to measure and improve service provision in higher education, Latif et al. (2019) and Abili et al. (2011) submit that it is logical to consider the student perspective because they are both direct recipients of service and the most important stakeholders of higher education. This according to Mariman et al. (2019), they can therefore act as advocates or detractors of their university. Besides, there is also the assumption that the customer/student knows quality education when he or she sees it (Alabi, 2017; Calma and Dickson, 2020). In Ghana’s tertiary education sector, as key stakeholders, students are duly represented on all relevant standing committees of their institutions to ensure quality teaching, learning and management, including periodic appraisals of staff in assuring quality internally. These thoughts resonate with Iuliana and Cristina (2019) when they argue that for the strategic management of higher education institutions, the quality of educational services observed from the students' perspectives becomes a constituent of prime interest, even more important than the quality judged from legislative and other perspectives.

These informed the decision of this study to measure the quality of services offered by institutions from students’ perspectives in an era of ever-growing competition. Arguably, from the foregoing discussions, the significance of quality service provision provides a market-focused strategic option or student-centred approach that may contribute to the improvement of service performance and sustenance of competitive advantage. Thus, quality service delivery in Ghana's tertiary education industry is an important and justified topic to investigate, particularly comparing public and private university sectors based on country-specific factors influencing higher education quality that has seen no empirical studies so far.

1.3 Rationale/Significance of the Study

There are three major reasons that amply justify why a study on the comparison between public and private universities' quality service delivery in tertiary institutions in Ghana is significant, namely inadequacy of existing service quality instruments to address problems of service performance in Ghana's tertiary education; the dearth of studies determining the difference in service quality levels between public and private universities based on country-specific factors; and paucity of studies on the mediating role of perceived value on the link between service quality and student satisfaction in the Ghanaian tertiary education context. These reasons are in turn discussed below.

1.3.1 Inadequacy of existing instruments for measuring service quality to address of problems service performance in Ghana's tertiary education.

A plethora of studies on service quality have been conducted in the tertiary education sector about factors influencing quality tertiary education education (see e.g., Sultan and Wong, 2013a, 2013b; Matta, Kwarteng and Mensah, 2018; Dwaikat, 2021; Del Rio-Rama et al., 2021). For instance, Sultan and Wong (2013a, 2013b), Mattah et al. (2018) and Dwaikat (2021) findings indicate that information on key attributes of university setting such as academic activities, administrative services, campus facilities, study/work environment and quality of lecturers along past service experience are some factors influencing quality tertiary education in various cultural contexts. Similarly, Del Río-Rama et al. (2021) examined facilities, service staff, teachers' attitudes and behaviour, competence of teachers and career opportunity as factors influencing perceived service quality in higher education. While the importance of these studies is widely appreciated in literature in contributing to service provision and building of a competitive advantage, much of both theoretical works and empirical research is focused on measuring service quality using a different number of generic measures (e.g. SERVQUAL by Parasuraman et al., 1988; SERVPERF by Cronin and Taylor, 1992) and industry-specific research instruments (e.g. HedPERF by Abdullah, 2006; SQM-HEI by Senthilkumar and Arulraj, 2011; HESQUAL by Teeroovengadum, Kamalanabhan and Seebaluck, 2016; HiEduQual by Latif et al., 2019). The outcome of these studies is intended to address challenges related to service performance to enrich the services offered and to improve upon the quality of the educational programmes to meet the expectations of students and other stakeholders.

Ghana's university sector has been beset with challenges such as governance crises, inadequate physical facilities, insufficient placement opportunities, and large class sizes among others, thus affecting quality service provision in institutions as earlier discussed. Available literature indicates that service quality assessment in Ghana's university industry to address these challenges in a developing economy has long been based on the use of existing generic scales and an industry-specific research instrument developed for advanced economies. A study by de Jager and Gbadamosi (2010) on the specific remedy for a specific problem in measuring service quality in the South African higher education setting strongly suggests the need to employ country-specific scales to help address the higher education issues about quality.

Extant studies suggest that the factors related to perceived service quality are associated with the culture of the country and as the national culture of each country is unique and dissimilar to other countries, determinants of perceived service quality in each country may be different (Furrer et al., 2000; Dedic and Pavlovic, 2011; Sultan and Wong, 2013a). Empirical studies on university service quality from the students' perspectives (based on the factors in their country's cultural context and environment that influence their perception in evaluating service quality) remain scanty (Kashif, Ramayah and Sarifuddin, 2016). However, in Ghana, only one study by Mattah, Kwarteng and Mensah (2018) explored the indicators of service quality based on a university setting from graduating students' perspectives in one public university is a closet attempt in this respect. This fact motivated the researcher to investigate country-specific determinants of service quality as relevant literature is synthesised in a manner that identifies factors that would help improve upon the quality of services offered in Ghanaian universities.

Akintayo and Onabanjo (2008) and Shawa (2013) note that service delivery by universities in Sub-Saharan Africa is affected by governance practices. Although the impact of institutional governance practices on service delivery performance has been acknowledged in Ghana (Abugre, 2018; David, Kodua, and Ogunwemimo, 2018; Asongu and Odhiambo, 2020), to date there is no published work to the best of the researcher's knowledge that examined the link between institutional governance and students' perceived service quality in universities in Ghana. This, thus provide ample justification for exploring university governance as a probable dimension of perceived quality. Besides, there is still a paucity of research studies on models for service quality assessment that incorporated institutional (or university) governance as a dimension, except a study conducted in India by Singh, Grover and Kumar (2008). Therefore, this study responds to calls for more sophisticated measures (Martinez and Martinez, 2010; Frimpong and Wilson, 2013) by conceptualizing a service quality model that identifies country-specific dimensions including institutional governance in Ghana's university setting that affects students' perceived service quality as justifiably important for universities. The study thus makes a noteworthy contribution to knowledge in the conceptualisation of dimensions of university service quality.

1.3.2 Dearth of studies determining the difference in service quality levels between Ghanaian public and private universities based on country-specific factors.

This study is significant because it will measure and assess service quality in the Ghanaian public and private university sectors to help identify if any major differences exist between the two sectors in terms of students' perceptions of service quality. The public and private university sectors are competing against each other in a highly competitive market (Guerrero, 2014; Tetteh, 2015); hence it was considered apt to investigate the extent to which service perceptions compared among their students. The study seeks not only to identify the areas of both strengths and weakness concerning perceived service quality and provide appropriate suggestions for improvement but will also identify the most important service quality dimensions for each university sector in Ghana.

The literature indicates that empirical studies that use existing models to compare students' perceptions of service delivery in public and private universities are few in Sub-Saharan Africa (e.g., Sulaiman, 2010; Kimani et al., 2011). In Ghana, only one study was undertaken by Anim and Mensah (2015), which investigated quality service delivery in higher education, comparing one public university and one private university college using SERVQUAL model. However, there is dearth of studies in Ghana that compared the difference in service quality levels between Ghanaian public and private universities based on country-specific factors. The originality of this research therefore resides in the fact that it seeks to fill an existing scholarly gap relating to service quality parity between public and private universities in the Ghanaian context. Thus, the methodological development of a new measurement scale was used to measure, firstly, overall service quality in the general university sector and, secondly, juxtapose the public against private universities, contributing to the creation of new knowledge in the field of measurement and assessment of service quality.

1.3.3 Paucity of studies on the mediating role of perceived value on the link between service quality and student satisfaction in the Ghanaian tertiary education context.

In the contemporary Ghanaian setting, anecdotal evidence suggests that students consider the benefits they are likely to derive and sacrifices they must make, before choosing a particular university in Ghana's competitive tertiary education landscape. According to Ishaq (2012), perceived value is a consumer's global assessment of the quality based on perceptions of what is received and what is given. It is widely known that service quality and perceived value are two constructs that cannot be separated from the customer satisfaction evaluation process. Research evidence suggests that outstanding service quality plays a crucial role in adding value to the overall service experience (Shahin and Debestani, 2010 cited in Kleynhans and Zhou, 2012). Besides, researchers have proposed that delivering high-quality service and creating superior customer value can result in achieving high customer satisfaction (Hu, Kandampully and Juwaheer, 2009). Studies on the interrelationship among service quality, perceived value and customer satisfaction have been abundantly conducted in different industries and countries (e.g., Howat and Assaker, 2013; Yu et al., 2014; Hallak, Assaker and El-Haddad, 2018; Ng'ang'a, Munyoki, Kibera and Pokhariyal, 2020).

The literature on service quality linked with student perceived value and satisfaction in the university industry is dominated by studies contextualised in the UK, Australia, other western European countries, USA, and other parts of Asia (e.g., Ledden et al., 2011; Sultan and Wong, 2012; Prentice et al., 2018). However, studies in Ghana that determine the context-specific relationship between perceived service quality and overall student satisfaction mediated by student perceived value in the higher education sector is limited to the best of the researcher's knowledge. This development, therefore, makes it important to investigate the relationships between perceived service quality and student perceived value and, subsequently, overall student satisfaction within the context of the Ghanaian university sector. This study will thus make an empirical contribution to the literature on university service quality by contextualizing the study in Ghana where the work is perhaps the first of its kind in the country.

Finally, the research is important because the findings would provide valuable insights for managers and policy makers of both public and private universities in Ghana to have a clear understanding of dimensions of university service quality that are of priority to students; and which dimensions they should invest in or effectively direct resources to ensure student satisfaction and loyalty. Besides, this research would assist the management personnel of public and private universities not only to develop the student-centred institutional climate but also to develop its strategic plans and policies related to service quality that would eventually drive them to achieve sustainable competitive advantage in the tertiary education market. In addition, the Ghana Tertiary Education Commission, which is now the tertiary education regulatory body in Ghana, can benefit from this study and may utilise it as an "educational service quality measuring scale". The next section highlights the aims and objectives of the study that it intends to achieve followed by the research questions to be addressed.

1.4 Aim and Objectives of the Study

1.4.1 Research Aims

Given the background and justification of the study alongside the rationale of the study, the principal aim of this study is to examine service quality from the student's point of view in the tertiary education sector of Ghana and to determine its impact on the overall satisfaction of students. A major focus will be the development of a new measurement scale that will be used to, firstly, assess overall service quality in the university sector; and, secondly, establish service quality parity between public and private universities in Ghana.

1.4.2 Research Objectives

Specifically, this study intends to achieve the following key objectives:

- RO1: To identify and evaluate the influence each of the underlying country-specific dimensions of university service quality has on perceived service quality and the importance of the dimensions to students in Ghana;
- RO2: To determine whether students' experience of university governance affect their perception of university service quality in Ghana;
- RO3: To determine the relationships between perceived service quality and student perceived value and, subsequently, overall student satisfaction concerning university institutions in Ghana;
- RO4: To compare the public and private Ghanaian universities in terms of students' perception of service quality; and
- RO5: To develop a valid and reliable service quality measurement scale for universities in Ghana, and in conclusion make recommendations for further studies to determine if the scale can be adapted to other countries with similar environmental and cultural conditions.

1.5 Research Questions

The following research questions were formulated to empirically investigate the purpose of the study:

- RQ1: Does each of the underlying country-specific dimensions of university service quality influence perceived service quality in the Ghanaian universities, and how important is each dimension to students in Ghana?
- RQ2: Does a student's experience of university governance affect their perception of university service quality in Ghana?
- RQ3: What are the strengths of relationships between perceived service quality and student perceived value and, subsequently, overall satisfaction of students in Ghana?
- RQ4: How do Ghanaian public and private universities compare in terms of students' perception of service quality?
- RQ5: What is the appropriate measurement scale that could be used to measure students' perceptions of university service quality in Ghana?

1.6 An Overview of Research Methodology Used in this Study

A mixed methods research based on the pragmatist philosophy was adopted in this study, which comprised two phases to effectively address the research questions alongside achieving the research objectives. In brief, the first phase involved qualitative research to develop a scale to measure the university governance construct. Qualitative data was gathered from 27 undergraduate and postgraduate student participants selected by convenience sampling from public and private university sectors in Ghana. In all, four separate focus group sessions (two from each sector) were conducted at the universities. The thematic analysis approach was used to analyse the qualitative data to generate relevant items/measures of university governance that was subsequently subjected to content validity assessment.

The scale was then used together with other measures derived from the literature to design a questionnaire in the second phase, being the main quantitative research, to test the conceptual framework and hypotheses. Quantitative data was collected based on a cross-sectional survey using a four-stage multi sampling process to administer a pre-tested questionnaire to 800 undergraduate and postgraduate students drawn from ten public and private universities (five each) in Ghana using the face-to-face approach. The four-stage process comprised firstly purposive sampling to select universities, followed by cluster sampling to choose programmes on offer available in the selected institutions. Next, the stratified sampling method was employed to select students across every year group, and lastly, simple random sampling to select students from each year group made up of different sessions (e.g., morning, evening and weekend).

Confirmatory factor analysis within a structural equation modelling using the partial least square (PLS-SEM) approach in the context of SmartPLS version 3.2.6 (Ringle, Wende and Becker, 2015) was used to analyse quantitative data to confirm the reliability and validity of the measurement model. Further, the PLS-SEM method was used to test the hypothesized relationships in the study's conceptual model and the conduct of mediation analysis to examine the relationship between perceived service quality and overall student satisfaction via student perceived value. To assess whether perceived service quality level is higher in Ghanaian private universities than public universities, an independent t-statistic and means test was undertaken. In Chapter Five of this thesis, further details of the research methodology employed in this study are discussed.

1.7 Structure of the Thesis

This thesis is structured into nine chapters. Chapter One, being the introduction to the study, provides the background and justification for the study, followed by the study's rationale/significance. Additionally, the chapter then highlights research objectives and questions followed by the structure of the thesis and ends with the chapter summary. Chapter Two focuses on the context within which the study is undertaken by providing an understanding of noticeable trends and factors that are influencing quality service delivery in public and private tertiary education sectors in Ghana. Chapter Three presents an extensive review of relevant literature on major theoretical and empirical perspectives of measurement service quality, perceived value, and student satisfaction within the framework of higher education. This assisted in identifying country-specific dimensions that helped in the development of the study's conceptual model and formulation of ten testable hypotheses presented in Chapter Four.

Chapter Five describes the methodology and data collection methods of the study. Predominantly, the study is a quantitative research methodology rooted in a pragmatic paradigm informed by an initial qualitative study. The rationale for the qualitative study is to explore measures of the university governance construct to be used as scale items to inform the design of the questionnaire for the quantitative survey. In Chapter Six, the analysis of qualitative data collected, and findings of university governance measures are reported. Chapter Seven details the analysis of quantitative data and reports the findings. Chapter Eight discusses the study findings and the extent to which they align with findings of extant studies, and subsequently recommends the empirical research model. Finally, Chapter Nine presents a summary of the study comprising the thrust of the study and main findings of the study. This is followed by the contributions of the thesis, the research study's recommendations, and a discussion of the study limitations and then closes with future research direction.

1.8 Summary of the Chapter

The chapter revealed that Ghana's tertiary education industry is experiencing rapid growth in the number of private universities and considerable expansion of public universities alongside an influx of foreign higher educational operators. As the levels of competition and noticeable growing access to university education have consistently increased, the need for sustainable means of differentiation by delivering quality service to attract, retain and influence the attitude of students towards higher education institutions has become more of a strategic option. In addition, it was established that existing instruments for measuring service quality developed in other cultures and countries are inadequate in resolving problems of service performance in Ghana's tertiary education. Because of cultural and environmental influences, customers living in different geographical areas and countries perceive service quality differently. As such, it has been argued by researchers that country-specific scales should be employed to assess service quality to help address the higher education issues about quality. But this chapter has showed that there is a dearth of empirical investigations in Ghana's tertiary education context that apply country-specific measures to assess and compare perceived service quality levels provided by the public and private universities in the country.

This chapter further disclosed that despite the impact of institutional governance practices on service delivery performance having been acknowledged in Ghana, there is no published work that conceptualised a service quality model that identifies country-specific dimensions including institutional governance in Ghana's university setting that affects students' perceived service quality. In addition, the chapter revealed that there are limited studies conducted in the higher education sector of Ghana that determine the context-specific relationship between perceived service quality and overall student satisfaction mediated by students' perceived value. In line with the gap identified, the aims and objectives of the thesis were described. A brief research methodology, as well as the layout of the thesis, was also presented. The next chapter, which is Chapter Two, provides the background information on Ghana's tertiary education industry, which is the context within which the study is undertaken.

CHAPTER TWO

BACKGROUND INFORMATION: GHANA'S TERTIARY EDUCATION INDUSTRY

2.1 Introduction

The previous chapter provided a general introduction to the study including the need to deliver outstanding service that adds superior value to the overall service experience, which in turn strengthens customer satisfaction. This chapter is about the review of service delivery in Ghana's tertiary education industry in the context of developments, trends and policy reforms in the industry as well as challenges impeding quality service provision in the public and private university sectors in the country. This is to help situate the study in its proper context, where the study's findings and conceptualized model are to be applied. The chapter is organised into six main sections with the first section serving as the introduction. The second section (2.2) looks at the tertiary education in the Sub-Saharan African context. The third section (2.3) discusses Ghana and the importance of tertiary education to the country. The fourth section (2.4) examines the Ghanaian tertiary education industry detailing a vivid picture of growth, reforms and developments in both public and private university sectors including programmes on offer. The fifth section (2.5) reviewed challenges affecting service delivery by providers of higher education in Ghana; and the sixth section (2.6) provides the summary of the chapter. The next section discusses tertiary education in Sub-Saharan Africa in order to position the study within the broader African context.

2.2 Tertiary Education in the Sub-Saharan African Context

Tertiary education, according to Newman and Duwiejua (2015), comprises all post-secondary educational institutions including colleges of agriculture, nurses' colleges, colleges of education, technical universities/polytechnics, public universities, and private tertiary institutions. A tertiary education institution is defined as an institution that offers higher programmes that award students with diplomas, degrees, and postgraduate and doctoral qualifications (UNESCO, 2006). What grabs attention is that UNESCO's World Conference on Higher Education held in Paris in 1998 had declared that all post-secondary institutions must be considered as higher education. Therefore, throughout this thesis, the terms "tertiary education" and "higher education" are used interchangeably.

The tertiary education industry is an essential sector of all nations due to its contribution to long-term sustainability of a nation's competitiveness as it constantly replenishes and enhances the human resource base for sustained development of businesses in all service and manufacturing industries (Deem et al., 2008; Phusavat et al., 2012). While tertiary education institutions continue to pursue this goal in the increasingly competitive global education landscape, it is becoming ever more difficult for institutions, including universities, to develop and maintain competitive advantage (Puccciarelli and Kaplan, 2016). To overcome this challenge, Gouthier et al. (2012) suggest that universities, by concentrating on service excellence, would secure their competitive position and establish long-term customer relationships. By searching for a competitive edge, universities worldwide are waking up to the need to be concerned about their quality, their place in national and international markets, as well as their images at home and abroad.

The global tertiary education market has witnessed notable growth in student numbers due to globalization in terms of international student mobility (Aron, 2014); deregulation of the sector by respective countries, rising income levels as well as increasing youth population (Adu, 2009); and an increased desire of individuals to gain a higher qualification to secure better employment (World Bank, 2010). As a result, the number of tertiary students globally has doubled in twenty years from 40 million in 1975 to in excess of 80 million in 1995 (World Bank/UNESCO, 2000); and is projected by 2025 to grow beyond 150 million (West, 1997). Aron (2014) intimates that this development has resulted in many universities in the world competing for international students.

Considering tertiary education in Sub-Saharan Africa (SSA), evidence from recent research suggests that the sector has been beset with enormous challenges such as poor conditions and overcrowding of facilities, limited skills and capabilities of facility management department and lack of financial resources (Chikafalimeni, Kibwami and Moyo, 2021). According to World Bank (2010), inadequate access, affordability of education, provision of modern technology and over-reliance on outdated approaches of education delivery are critical issues facing higher education in Africa. Besides, extant literature discloses that a huge increase in enrollment closely linked with drastic budget cuts, inadequate infrastructure, and deteriorating teaching and research facilities in African higher education institutions have negatively impacted on the quality of teaching, learning and research (Kargbo, 2002). Furthermore, Asamoah and Mackin (2015) contended that higher education in Africa is stifled by institutional rigidities that make it problematic for colleges and universities to fine-tune their curriculum and strategies to be more receptive to the shifts in global knowledge and labour market demand. Thus, these enigmas were the main barriers that hindered capacity of universities to advance Africa’s social and economic development.

These developments worsen equity and stifled access to tertiary education in SSA countries, and as such widened the gap between conditions in tertiary education in Africa and developed countries (UNESCO, 1998). The results of these challenges were swarming numbers of the higher education-seeking youth and decline in standards and quality of tertiary education in the continent (SAPRI/Ghana, 2001). Accordingly, international donor agencies such as World Bank/IMF prescribed policy reforms for African states to widen participation in higher education to respond to increased demand for higher education by redefining their roles and creating a favourable environment for private sector participation in higher education (World Bank, 2010). In addition, African countries were urged to diversify their systems by adopting a range of types of programmes and modes of delivery (World Bank, 2000). Responding to this appeal in the face of declining resources, many African countries increased their enrolment in public universities and opened the sector to private investors supported with legislative measures (Erinosho et al., 2008). The expansion of public universities, along with the emergence of private universities in African countries, has resulted in explosive growth in student enrolments and intense competition in the industry (Erinosho et al., 2008). This is therefore compelling both public and private institutions to look at their processes and the way service offerings are delivered to their stakeholders (Varghese, 2006).

Despite these challenges, Varghese (2006) notes that expanding higher education in SSA countries contributes to improving human capital to maximise output, decrease the knowledge gap, facilitate faster technological catch-up and help the reduction of poverty in the region. Evidently, the positive role higher education plays in SSA countries in promoting economic and socio-cultural development provides the justification for provision of outstanding services to stakeholders. As competition and students’ enrolments continue to increase apace in the African tertiary education market, it is believed that institutions that deliver quality education will become the preferred choice for both continuous and potential students seeking enrolment in higher education institutions.

Considering the factors affecting the provision of quality tertiary education that drives socio-economic development of African countries, it is noted that policy space, economic, political, and historical circumstances vary greatly from one country to another. An appreciation of these differences necessitated the need to look at the tertiary education system of Ghana in subsequent sections. However, to amply appreciate trends within Ghana’s tertiary education landscape, the next section highlights a brief recent history of Ghana and the importance of tertiary education for the future success of the country.

2.3 Ghana and the Importance of Tertiary Education

The Republic of Ghana is well acknowledged as the first Sub-Saharan African country to gain independence from the British colonial rule on 6th March 1957. It is located on the west coast of Africa and shares borders with Togo to the east, Burkina Faso to the north, Cote d'Ivoire to the west and the Gulf of Guinea to the south. Ghana occupies a total land area of 238,589 square kilometres (NPC, 2011) and its capital is Accra. Governance of Ghana is structured into sixteen administrative regions. These include Ashanti, Bono, Eastern, Greater Accra, Northern, Upper-East, Upper-West, Volta and Western; with another six regions added recently to the stock of administrative regions, comprising Ahafo, Bono East, Oti, North East, Savana and Western North. English is the sole official language of communication throughout the republic.

The population of Ghana as at the mid-year of 2020 was estimated to be 31.07 million with an annual population growth rate estimated around 2.1 percent (World Bank, 2020). Ghana Statistical Service Preliminary Report on Ghana 2021 Population and Housing Census, volume one (2021) disclosed that males form 49.3 percent of the population whilst females constitute 50.7 percent, and the age structure of the Ghanaian population reflects a youthful population with an estimated 36 percent of the population under 15 years of age. This situation, together with the implementation of Ghana's recent free senior high school policy, opens a greater demand for tertiary education for the coming years.

In the past two decades, Ghana has been a major thriving democracy on the African continent under a multi-party system (World Bank, 2021) and was described as one of the fastest-growing economies in the world (World Bank, 2013). The country is a commercial oil-producing nation (Dagher, Gottschalk, and Portillo, 2010) and the world's second-largest producer of cocoa. Besides, the country is endowed with abundant and rich natural resources such as gold, diamonds, bauxite, manganese, and timber including large water bodies, thus making the nation one of the wealthier states in West Africa.

However, the industrial and service sectors of Ghana are still generally underdeveloped whilst the application of science, technology and innovation in the economy remains under-developed (Guerrero, 2014). It does not come as a surprise, therefore, that the growth in the number of higher education graduate jobseekers is outpacing the rate of growth of employment opportunities in the economy (Guerrero, 2014). One major initiative designed by the government of Ghana to address this disparity has been the pursuit of an accelerated industrial growth to boost economic development and the welfare of her citizenry. As aptly illustrated by Bingab and his colleagues (2016), a nation's economic development is contingent on the human capital produced by the education system of that nation. Specifically, an outstanding tertiary education is an important tool for training graduates with job-relevant skills to meet requirements of organisations and the major sectors of an economy.

Asamoah and Mackin (2015) reported that tertiary education in Ghana comprise educational institutions that offer training beyond secondary education. They further stated that it encompasses universities and colleges, and post-secondary specialised educational institutions such as colleges of education, nurses training colleges, agricultural training colleges, polytechnics, and technical education training centres. Ghana's tertiary education performs an important role in national development by training human capital in major areas such as health, agriculture, and engineering, thereby supporting the attainment of self-sufficiency (Arthur and Arthur, 2016). They also intimated that tertiary education has the potential to improve technological catch-up and, in doing so, maximise Ghana's potential to achieve its most probable economic growth levels.

Additionally, GPRS II (2006) discloses that tertiary education in Ghana enhances the nation's health, supports the reduction in population growth, strengthens governance, and promotes technological development. Government of Ghana (GoG) (2010) affirms that education is its leading tool for promoting economic growth. According to Cloete et al. (2011), the overarching goal of Ghana's socio-economic development agenda is to attain middle-income status with a per capita income of at least USD 1000. Therefore, the role of tertiary education, particularly universities, in achieving this dream is to provide high quality higher education to their stakeholders, particularly students. Bingab et al. (2016) maintained that the primary goal of university education is to meet the demands of the labour force and help solve a range of problems in society. However, concerns have been raised about the current condition of tertiary education in Ghana. Specifically, the tertiary education landscape is extremely vibrant and challenging in terms of provision of quality training and service to students to prepare them adequately to address societal challenges (Guerrero, 2014; Prempeh, 2019). The ensuing section therefore discusses Ghana's tertiary education industry and happenings that affect quality service provision in the industry, particularly in universities.

2.4 The Ghanaian Tertiary Education Industry

This section expatiates on the structure, size and growth of the sector, various reforms undertaken so far and the development of the public university sector alongside the private sector.

2.4.1 The Structure, Size and Growth of the Tertiary Education Sector in Ghana

Ghana's tertiary education sector consists of a variety of institutional types organised by the public and private sectors. Public tertiary institutions comprise universities (including technical universities) and non-universities (i.e., polytechnics, professional/specialized institutions, and colleges of higher education) (NCTE Strategic Plan, 2010-2014). On the other hand, private tertiary institutions consist of universities and various types of colleges (ibid). Additionally, some foreign institutions with established campuses in Ghana, such as Webster University (USA) and Lancaster University (UK), are part of Ghana's tertiary education landscape; thus, making the sector more diverse. There are over 50 unaccredited tertiary education institutions operating in the country, including three foreign institutions (NAB, 2015). Ghana Tertiary Education Commission (GTEC), established by the new Education Regulatory Bodies Act 2020 (Act 1023), is now given the mandate to regulate tertiary education in all its form in Ghana. GTEC is a merger of the National Accreditation Board (NAB) and National Council for Tertiary Education (NCTE) under the new tertiary education policy reforms (GTEC, 2021).

GTEC figures regarding accredited tertiary education institutions as of July 2021 indicate that there are 15 public universities, 10 technical universities/polytechnics located in all regional capitals (except six recently established regional capitals), 107 accredited private university colleges and seven private tertiary institutions with charter status operating as fully-fledged universities (GTEC, 2021). There are eight public specialised/professional institutions offering a variety of professional programmes in ICT, business, public administration, maritime studies, and languages leading to the award of degrees and diplomas; and Teacher Training Colleges (both public and private) have been upgraded to the level of tertiary education by the Education Act of 2008 (Act 778) and renamed Colleges of Education to produce teachers with a minimum qualification of Diploma for Basic Education (NCTE, 2012a, 2013).

Furthermore, various colleges such as for nurses and agriculture have been elevated to tertiary level to provide a platform for training people in the areas of humanities, sciences, and technology, which are the driving forces for Ghana's socio-economic development. In response to high demand for tertiary education in Ghana, diversified modes delivery such as distance learning and tutorial colleges have been granted accreditation to join the league of tertiary institutions (NCTE Strategic Plan, 2010-2014). Table 2.1 below highlights the growth in the tertiary education sector by comparing the number and types of accredited tertiary education institutions in Ghana between 2012 and 2021.

Table 2.1: Number and Types of Accredited Tertiary Education Institutions in Ghana

Type of Institution	2012	2021	% Increase
Publicly Funded Universities	6	15	150.00
Public Colleges of Education	38	46	21.05
Public Specialized Institution	9	8	-11.11
Private Tertiary Institutions Offering Degree Programs	45	107	137.78
Private Colleges of Education	3	4	33.33
Polytechnics/ Technical Universities	10	10	-
Tutorial Colleges	8	9	12.50
Distance Learning Institutions	5	2	-60.00
Public Nurses' Training Colleges	10	56	460
Private Nurses' Training Colleges	5	23	360
Colleges of Agriculture	3	4	33.33
Chartered Private Tertiary Institutions	-	7	-
Private Polytechnics	-	1	-
Registered Foreign Institutions	-	5	-
Total	**142**	**297**	**109.15**

Source: (NCTE, 2013; GTEC, 2021).

Over the last decade, the tertiary education sector has witnessed a remarkable increase in the number of institutions in the country. Specifically, from the 2011/2012 academic year where there were 142 accredited tertiary education institutions (NCTE, 2013) this number swelled up to 179 institutions by the end of 2015/2016 academic year (NAB, 2018). As of July 2021, there were 297 accredited tertiary education institutions in Ghana (GTEC, 2021). Similarly, the number of students enrolled in tertiary education institutions in Ghana has seen a substantial increase over the same period in response to the ever-growing demand. From 389,897 students in the academic year ending 2013 (NAB, 2015), the number of students rose to 432,257 for 164 institutions (largest in terms of enrolment) in the 2015/2016 academic year (NAB, 2018); and by the academic year ending 2019, the overall student population in tertiary education institutions in Ghana was 472,323 (NAB, 2020).

While tertiary education enrolment had been increasing dramatically over the last decade in Ghana, the Gross Enrolment Ratio (GER) shows that only 16.78 percent of the tertiary school going age population were enrolled in tertiary educational institutions in the

2016/2017 academic year (NCTE, 2018). This demonstrates the capacity of the Ghanaian tertiary education system to enrol students of this age group. With this situation, competition for places (particularly at public universities) is likely to be high, with demand exceeding the number of available places: a situation that is anticipated to surge as secondary school enrolment and attainment levels continue to increase in the coming years.

The NAB (2020) report on student enrolment at various types of tertiary institutions in Ghana indicate that public funded universities enrolled the largest the number of students, taking 56.1% of the total 472,323 students in the 2018/2019 academic year. This was followed by private universities and colleges or private tertiary education institutions offering degree programmes (13.7%), technical universities/polytechnics (10.7%), public colleges of education (9.91%) and the public specialized institutions (2.08%). This means that both public and private universities together enrol a large majority (69.8%) of tertiary students; however, public universities enrolled about four times that of private universities' intake for the 2018/2019 academic year. Alluding to this, Dattey and his colleagues (2014) indicated that Ghanaian public universities generally do not have difficulties attracting good student as they normally receive more applications than their capacity permits. They further noted that possibly their good reputation, established over the years, and comparatively low fees may largely account for this situation.

Although the Ghanaian public university sector has seen an incessant increase in student enrolments in the last decade, new enrolments (particularly to the private university sector) have been declining in number lately (Anabila, Kastner, Bulley and Allan, 2020). NAB figures show that 228,387 and 65,890 students, respectively, were enrolled by public and private universities in the 2012/2013 academic year (NAB, 2015), the number rose to 237,171 students for public universities whilst 68,628 students were enrolled in private universities in the 2015/2016 academic year (NAB, 2018). As at the academic year ending 2019, the enrolment figure for the public university sector was close to 265,000 students, whereas the private university sector’s total enrolment figure reduced to 64,870 students (NAB, 2020). Notwithstanding a huge increase in the number of accredited institutions in the private university sector with student enrolments rising at a decreasing rate, public universities enrolments are expanding at a much faster pace than before, and therefore represents a growing share of total tertiary students.

Ghana’s case is not a deviant situation when viewed from the context of similar enrolment trends in public and private university sectors in other West African countries including Nigeria. For example, Famutimi and Kabuoh (2021) stated that in Nigeria, the majority of public (federal and state) universities enrol a far greater number of students than their private counterparts with their courses oversubscribed. Thus, the public university sector in Nigeria garners a larger share of the higher education student market. In contrast, while the number of private universities has tremendously increased, Adedigba (2018) cited the National Universities Commission by stating that the private university sector in Nigeria enrolled less than six per cent of the student population in the Nigeria's university system. Many of the private universities, according to Famutimi and Kabuoh, are unable to fill the admission quota allotted to them by the Nigerian Joint Admissions and Matriculation Board; consequently, a number of courses/programmes suffer from low enrolments. This could be due their unaffordable costs in terms of relatively high fees may generally account for this situation Against the backdrop of the dwindling enrolment pattern in many private universities and colleges, lately they are experiencing shrinking revenue resulting in financial distress because they are largely financed via student tuition fees (Famutimi and Kabuoh, 2021).

Apparently public and private universities constitute the leading players in the Ghanaian tertiary education sector in terms of student numbers and capacity of institutions (NAB, 2020). Therefore, a study on quality service delivery in tertiary institutions in Ghana with special focus on public and private universities is vital and justified to identify, on the one hand, if any significant differences exist between the two sectors; and, on the other hand, whether problems affecting service performance in the two university sectors are impacting the nation’s socio-economic development. To situate happenings in the public and private university sectors in appropriate perspectives, the next section highlights policy reforms in the tertiary education sector in responding to many challenges faced by tertiary education institutions in the country.

2.4.2 Policy Reforms in the Tertiary Education Sector

Within the 1970’s and early 1980’s, conditions in the Ghanaian tertiary education sector, particularly public universities, suffered very serious deterioration, firstly in terms of financial provision and physical infrastructure, and secondly the polarized political atmosphere and its effects on relationships between the sector and successive civilians and military regimes (Sawyerr, 1994; Manuh et al., 2007). The deterioration of conditions quickly led to low staff recruitment and retention, poor morale, decline in academic standards, regular interruptions of the academic calendar caused by feuds involving both staff and students resulting in military intervention, suspicion, and political unease (SAPRI/Ghana, 2001). Accordingly, staff left in droves to Nigeria or elsewhere to teach (Leah et al., 2008). Thus, to worsen the situation, there was nearly a complete economic collapse with constant political upheavals leading to a sharp drop in funding allocation to the higher education institutions by the mid 1980's (SAPRI/Ghana, 2001). Extant literature unveils that financial planning became virtually impossible as the institutions run into substantial deficits; there was further deterioration of physical infrastructure; and the relationship between institutions and government were at their lowest ebb (Atuahene, 2014). Thus, teaching and particularly research work declined significantly and affected academic standards (SAPRI/Ghana, 2001).

In reaction to the crisis in the national economy, Ghana launched a series of reform initiatives including the Economic Recovery Programme (ERP) (1983-1986), which preceded the Structural Adjustment Programme (SAP), to stabilise the economy. This ultimately was to ensure sustained growth in all sectors including tertiary education. However, the adoption of SAP rather led to the reduction of state funding support to tertiary education in favour of primary education, which in turn undermined the capacity of Ghana's HEIs to realize their set goals. These measures adopted in ERP/SAP reforms did not help arrest the decline in falling standards in higher education and deplorable infrastructure conditions. This daunting situation affected Ghana's tertiary education in general, and particularly access and enrolment in the public universities.

Notable effects of impact of SAP reforms on higher education include introduction of market-led principles in the form of privatization of public universities through cost sharing, cost reductions and introduction of fee-paying programmes to absorb the excess qualified youthful population due to the expansion of senior high school places (SAPRI/Ghana, 2001). These measures were harshly criticized by both the general populace and students because of the government shifting the burden of boarding and lodging costs to parents and student beneficiaries. Unfortunately, this situation drove poorer students out of tertiary institutions. This led to agitation and protests by students against efforts to implement the reforms resulting in the closure of public universities on numerous occasions (Atuahene, 2006).

In a bid to resolve problems with the academic community, the then Provisional National Defense Council (PNDC) government set up the University Rationalization Committee (URC) in 1986 to formulate the policy framework for comprehensive tertiary education sector reform (URC, 1988; Girdwood, 1999). The tertiary education reforms in 1991 aimed at expanding access and improve the quality and relevance of degree programmes to accelerate the developmental agenda of the country (Bingab et al., 2016). One noticeable effect of the reforms was the huge increase in student enrolment in public universities. Despite the substantial increase in enrolment, SARPI (2001) indicates that there were still thousands of qualified students who were not enrolled into tertiary education due to failure to provide sustained financial resources, and lack of expansion of facilities including equipment in tertiary institutions. Others include inadequate student loans to support students' life on campus and the high unit cost of education at the tertiary level. To further address the enrolment and access challenges, Ghana liberalised its tertiary education industry supported with legislative measures. This resulted in both public and private provision of tertiary education as a part of conditions of the 1991 tertiary education reforms.

An emergent perspective on previous tertiary education reforms suggests that tertiary institutions in Ghana might be fulfilling the access component of the national developmental goals guided largely by isolated policies and haphazard piecemeal interventions to the detriment of the relevance of programmes and quality goals (Bingab et al., 2016; Prempeh, 2019). A related challenge is that although more Ghanaians are getting into tertiary education, there is a gap between the skills that graduates offer and the skills that employers need, particularly in promising sectors of the economy such as oil and gas, ICT, mining, natural resources among others (Guerrero, 2014). More worrying is the weak linkage of tertiary education institutions with industry for practical training (NCTE, 2015), and consequently leading to an insufficient supply of labour requirements to industry and high unemployment levels in the country.

Another notable issue of concern that previous tertiary education policy reforms could not sufficiently address is governance, including accountability of tertiary institutions. Thus, weak institutional policies, financial improprieties and disregard for proper university governance practices and procedures are affecting overall performance of institutions, staff, and students in Ghana (Shattock, 2014; Abugre, 2018). Moreover, some provisions regarding internal administration of tertiary institutions have been superseded by the 1992 Constitution of Ghana (Prempeh, 2019). Alongside these challenges, no comprehensive, coherent, well-articulated and holistic policy framework for the Ghanaian tertiary education system existed as of June 2019 to respond effectively and sustainably to the needs of the learning society and knowledge-driven economy that the country aspires to attain (Prempeh, 2019).

The above challenges and other issues informed the drafting of the 2020 tertiary education policy reforms. The rationale for the new reforms is to improve on the academic performance and governance of tertiary educational institutions in the country (GNA, 2019). The new policy reforms are aimed at providing clear guidelines for the ultimate structure, planning, development, regulation, operations and overall governance and accountability of the tertiary education system (GNA, 2019; Prempeh, 2019). The new reforms cover matters such as governance and management, equity and access, quality and relevance, financing, and cross-cutting issues such as gender and inclusion, ICT and the like (Prempeh, 2019).

In addition, the 2020 policy reforms entail a pronouncement of the new Public University Bill (PUB) 2020. The bill seeks to ensure effective governance and administration in terms of accountability, and the need for a university governance structure to reflect principles of corporate governance. The PUB 2020 was promulgated with the intention of harmonising Acts of Public Universities; creating a common admissions platform for undergraduate enrolment into public universities; and the establishment of Ghana Tertiary Education Commission. Further, the PUB 2020, as part of the new reforms, is intended to facilitate the setting up of the National Research and Innovation Fund, the National University of Skills and Entrepreneurial Development; and splitting of the University of Development Studies into two additional universities, namely: University of Business and Integrated Development Studies and University of Technology and Applied Science.

So far, the new policy reforms commenced with the introduction of the new Public University Bill 2020, thus leading to the creation of the Ghana Tertiary Education Commission, splitting of the University of Development Studies into two additional public universities and the establishment of the University of Skills and Entrepreneurial Development. However, public universities and other civil society organisations have expressed misgivings with some of the provisions of the new bill. This is because they are perceived as potential restrictions to the smooth operation of universities (Awotwe et al., 2021), which ultimately will stifle quality service provided by institutions. To have a greater understanding of the impact of these policy reforms, particularly on the dominant players in Ghana's tertiary education industry, the following sections look at the public and private university sectors and how the past and present developments have influenced setting up of institutions alongside quality service delivery in these two sectors.

2.4.3 Ghana's Public University Sector

The past and present political developments in the Gold Coast (now Ghana) greatly influenced the development of university education in the country. Prior to 1948, there was no formal university education in the Gold Coast to assist in finding solutions to the problems facing the country. In 1943, in response to these challenges, the British colonial government set up two parallel commissions, namely the Asquith and Eliot Commissions

(Effah and Mensa-Bonsu, 2001). The Asquith Commission was tasked with the responsibility of investigating higher education and ascertaining where they could establish a university for British Colonies in West Africa (Gambia, Ghana, Nigeria, and Sierra Leone) (Bingab et al., 2016); whereas the Eliot Commission was charged with the responsibility of making recommendations solely on higher education in West Africa (Effah and Mensa-Bonsu, 2001).

The Eliot Commission proposed that one university each should be set up in the Gold Coast and Nigeria. However, a minority report approved by the British colonial administration argued for the establishment of only one university for the British colonies in West Africa to be sited at Ibadan, Nigeria (Effah and Mensa-Bonsu, 2001; Bingab et al., 2016). This, according to Effah and Mensa-Bonsu (2001), infuriated the nationalist movement in the Gold Coast who expressed their strong dissatisfaction and willingly decided to contribute financially towards the establishment of a university in the Gold Coast. The outcome of their agitation led to the setting up of the University College of Gold Coast in 1948, which was affiliated with the University of London. This was later called the University College of Ghana after Ghana gained independence from the British Colonial rule. The University College of Ghana, according to Effah (2010), was the maiden university established in Ghana by an Act of Parliament (Act 79). It was granted university status with powers to award its own degrees in 1961 and renamed University of Ghana.

The justification for the establishment of more public higher education institutions in Ghana during the post-independence period was driven by the need for skilled and trained professionals and administrators to replace the departing expatriate staff (Effah and Hoffman, 2010). As a result, Kumasi College of Technology was upgraded to university status and relabeled Kwame Nkrumah University of Science and Technology (KNUST) by an Act of Parliament in 1961 (Daniel, 1998; Effah, 2010). This was followed by the University of Cape Coast (UCC), which was established in 1962. By this time, Ghana had three public universities. Subsequently, UCC was upgraded to full university status in October 1971 (Effah, 2010) with the specific mandate of training teachers to meet the unprecedented demand brought about by the rapid expansion in secondary school places (Antwi, 1992).

The speedy growth in numbers of the qualified youth population from senior secondary schools and its equivalent, the increasing demand by the Ghanaian wider society to acquire knowledge and skills from universities, and the government's intention of using tertiary education as a tool for poverty reduction and accelerated socio-economic growth inspired the establishment of four more public universities in the period between the 1990's and 2005. University for Development Studies (UDS) was established as a fully-fledge university in 1992 to ensure equity in the spatial distribution of universities since the other public universities have been in the south and central parts of the country. Its specific mandate was to adopt a practical, action-oriented approach to education and to help address community problems (Manuh et al., 2007, p.36).

The University of Education at Winneba was set up in a special relationship with UCC as a college and started with the amalgamation of seven specialized diploma awarding colleges to form the University College of Education, Winneba in 1992; and later was granted university status by an Act of Parliament in 2003. The main rationale for its establishment was the urgent need to train professional teachers for basic education, created by the constitutional requirement for free compulsory, universal basic education (Effah, 2010). Additionally, Ghana Institute of Management and Public Administration (GIMPA) was elevated to university status by the GIMPA Act 2004 (Act 676). GIMPA's mandate is to provide training and education in leadership, management, public administration, and technology. On the other hand, University of Mines and Technology (UMAT), Tarkwa evolved as a college of KNUST after many years of tutelage before attaining fully-fledged university status in 2004. It was established by Act 2004 (Act 667) to train the required manpower for the mining, petroleum, technology, and allied disciplines in Ghana.

In 2012, the Institute of Professional Studies, the oldest Ghanaian human resource development institution in professional accountancy and management, was upgraded to university status by the UPSA Act 850, 2012. It was subsequently renamed University of Professional Studies Accra (UPSA) and charged with the responsibility of providing both academic and professional higher education. What was more, in 2012, the University of Health and Allied Science at Ho in the Volta Region, and University of Energy and Natural Resources at Sunyani in the Brong-Ahafo Region, University of Environment and Sustainable Development at Somanya in the Eastern Region were added to the stock of public universities by Acts of Parliament to cater for “fallow regions” of the country.

To improve upon the equity and access component in respect of the 2020 tertiary education policy reforms, the government has added four more public universities to existing ones. It is aimed to address policy objectives regarding the expansion of existing and creation of new institutions in response to the 1992 constitutional imperatives (Prempeh, 2019). Specifically, Ghana Communication Technology University at Tesano-Accra was granted full university status in 2020 and is charged with the responsibility of preparing graduates for the telecommunications and ICT profession. Likewise, the Wa Campus of the

University for Development Studies was elevated to full university status and relabeled S. D. Dombo University of Business and Integrated Development Studies. C. K. Tedam University of Technology and Applied Science at Navorongo, and Akenten Appiah-Menkah University of Skills Training and Entrepreneurial Development at Kumasi became operational in 2020 as fully functional and accredited public universities by Acts of Parliament, now bringing to fifteen the total number of public universities in Ghana. The setting up of these recent public universities is to help mainstream skills development and training for industrialization as well as accelerate the pace of economic development to ensure sustainable job creation in the country.

The establishment of more public universities, alongside the expansion of existing institutions, has led to the astronomical increment in student enrolments in the public university sector as earlier mentioned. For example, from 4301 public university students in 1962 (Eshun, 1998), student enrolment increased to 9,609 in the 1990/1991 academic year (UNESCO, 2005) and then to about 73,000 in 2004/05 (NCTE, 2006a; UNESCO, 2005) and further rose to 209,790 students in the 2014/2015 academic year (NAB, 2016). At the end of the 2018/2019 academic year, the total enrolment in public universities was about 265,000 students (NAB, 2020). Although student enrolments multiplied more than 27 times from 1991 to 2021 in the sector, unexpectedly these have not matched proportional expansion of physical infrastructure and provision of adequate academic resources to support teaching and learning. Results have been that public universities have been perceived as not transformational, and mass enrolment is becoming a threat to improving quality of higher education in the country (Guerrero, 2014). Other factors that impede operations and service delivery by public universities are given more attention in section 2.4.5 below. However, the next section looks at the Ghana's private university sector.

2.4.4 Ghana's Private University Sector

Before 1993, the provision of tertiary/higher education in Ghana was only undertaken by the public sector. The liberalisation of Ghana's tertiary education sector in 1993 anchored on tertiary education reforms as previously stated, led to a mixed menu of public and private provision of higher education in Ghana. Howbeit, the development of the private university sector in Ghana has been rapid since the late 1990s due to the overall liberalisation of the economy and an apparently insatiable demand for university education (Leah et al., 2008, p.32; Manuh et al., 2007). The first accredited private university was established in 1995 and was known as the Valley View University at Oyibi in Greater

Accra Region, run by the Seventh Day Adventist Church. This was followed by Central University College (now Central University) in Accra in 1997 (Manuh et al., 2007).

From just two private universities in 1997, it is important to note that by the end of January 2004, a total of 28 private tertiary institutions were granted accreditation by NAB (Effah, 2006). They are made up of nine university colleges, six theological colleges, nine tutorial colleges, two distance learning institutions and two journalism/screen arts institutions (Effah, 2006). However as of July 2013, there were 61 accredited private universities and colleges (NAB, 2015). This reflects an exponential growth in the number of accredited private universities in Ghana from 2005 to 2013 as compared to only four in the case of public universities within the same time span.

As of mid-July 2021, the proliferating private university sector in Ghana has grown to 114 accredited degree and non-degree awarding institutions, comprising 107 private university colleges and seven chartered universities (GTEC, 2021). The accredited private universities and colleges awarding degrees are described as Private Tertiary Institutions Offering Degree Programs (PTIODP), and are dispersed throughout the country (NTCE, 2013). There are also several unaccredited private tertiary institutions as earlier stated operating within the Ghanaian tertiary education landscape. Nevertheless, Manuh et al. (2007) state that there are indications that private university sector will continue to grow in terms of the range of programmes offered, and possibly the number of students enrolled.

The phenomenal rise in the number of private universities in Ghana over the last two decades propelled by the necessity to expand students' participation and access to higher education is not a deviant case when viewed from the perspective of similar developments in SSA and globally. Several factors may help explain the growth in private participation in tertiary education in Ghana, prominent among them being the inability of the public university sector to absorb the large numbers of qualified students demanding higher education; provision of job-related programmes by private institutions; and the concerns raised about the quality of education in the public system during the 1990's because of inadequate resources provided for the public university sector (Anamuah-Mensah Presidential Committee Report, 2002). Other factors include the introduction of the market-friendly reforms alongside deregulation policies initiated under the SAP; the acknowledgement of the privatization of the public sector as a tool to improve the performance of institutions; and the encouragement of the private sector to embrace the globalization process. These all created a motivating environment for the emergence of the private higher education institutions in Ghana.

The explosive growth in the number of private universities, the emergence of more public universities alongside the expansion of the existing public universities, and the entry of foreign higher education operators among others are creating a vibrant ever more competitive tertiary education landscape in Ghana. While the role of the private sector is deemed significant, there have been complaints about poor quality standards in some private institutions (Prempeh, 2019). The private sector participation in tertiary education in Ghana is more recent compared to private participation in both basic and secondary education. As noted by Daily Graphic (2013, 22nd July), private universities in Ghana are an infant knowledge industry that requires state support to grow because the sector is capital intensive and increasingly competitive.

In view of the private sector participation in tertiary education in Ghana, there was the necessity to strengthen institutional capacity to supervise and monitor university education to make sure standards are achieved and preserved (Bingab et al., 2016). As such, tertiary education was regulated by several Acts of Parliament until the recent establishment of Ghana Tertiary Education Commission in 2020. The Education Act, 1961 (Act 87; as amended in 1965) empowered the Minister of Education to approve the establishment of private tertiary institutions, close institutions, and make regulations for the establishment, management and conduct of the affairs of the institutions. As a result of educational reforms in 1987, these functions were reassigned to the National Accreditation Board (NAB), established in 1993 by PNDCL 317. Detailed regulations are given in the Legislative Instrument (L.I. 1700) of 2000, and later reviewed as NAB Act 2007, Act 744 retaining the earlier mandate; howbeit, with additional responsibilities. The specific responsibilities of the NAB based on Act 744 are as follows:

i) Accreditation of both public and private tertiary institutions regarding the contents and standards of their programmes.
ii) The determination of the equivalences of diplomas, certificates and other qualifications offered by institutions in Ghana or elsewhere.
iii) Focus on quality assurance issues and technical supervision of institutions.
iv) Publish as it considers appropriate the list of accredited public and private institutions and programmes at the beginning of each academic year.
v) Advice the President on the grant of a charter to private tertiary education.
vi) Perform any other functions determined by the Minister.

It is worth noting that among the critical elements that NAB focuses attention on in its accreditation exercises are academic programmes; minimum entry requirements for admission; staffing; physical facilities and equipment; library facilities; employment prospects for graduates; and funding levels (Dattey et al., 2014).

The NAB (now functional area of GTEC) requires new private university colleges to be mandatory affiliated with an established public university to be mentored for a minimum of 10 years before it can be granted charter status (Guerrero, 2014; Newman, 2018). A pronounced emphasis on the affiliation demands that a new private tertiary institution is compulsory affiliated with established public universities in Ghana as a pre-condition for an accreditation and gaining of a charter status. However, private university colleges together with Council for Independent Universities (CIU) have voiced concerns over huge affiliation fees charged in US dollars by their mentor institutions, which they claim have deprived them of much needed financial resources to be used to run their operations and improve their service performance (CIU, 2017; Newman, 2018). In addition, Newman (2018) argued that the affiliation process is too long, cumbersome, and ineffective, stifling innovation and making new private higher education institutions clones of older public universities.

As an alternative measure, some private university colleges are affiliated with foreign universities instead of an established Ghanaian public university (Manuh et al., 2007). An example is Quality Distance Learning Limited linked with University of Leicester in UK. However, the supervision of offerings of a growing number of international providers and ensuring that their offerings are consistent with Ghana's developmental goals are notable challenges reported by the regulator of the local-foreign mentorship arrangement (Guerrero, 2014). Leah et al. (2008) remarked that private tertiary institutions (PTIs) are gathered together under the umbrella institution called Ghana Association of Private Institutions (GAPTI).

Recounting the advantages of Ghana's private universities, Effah (2003) acknowledged that they are noted for the introduction of innovations in course design and delivery, and they respond to changes in the labour market more readily than public universities. This is due to the absence of institutional rigidities within which universities must operate as in the case of the later. He further indicated that they are perceived to be more market-led and entrepreneurial and have constructed their programmes to be responsive to the needs of their clients' work-life preferences. In response to global trends, some private universities in Ghana, such as Regent University College of Science and Technology, have established a collaboration with Girme American University (an innovative international provider of higher education) by employing information and communication (ICT) to deliver programmes to students in Ghana. Aside from these merits, Manuh et al. (2007) accentuated that several features have helped to differentiate private universities from publicly funded universities, and these include the size of student numbers, the motivations for their establishment and patterns of ownership alongside sources of funding, and the types of disciplines/programmes mounted. More information about each of the differentiating features is provided in the subsequent sub-sections below.

2.4.4.1 Student Enrolment in the Private University Sector

The remarkable increase in the number of institutions in the private university sector has resulted in the increase in student enrolment in the sector. Nonetheless, the private universities appear to have far smaller student numbers than public universities as demonstrated in section 2.4.1. From an estimated total enrolment of 783 students in 1999/2000, student enrolment in accredited private universities as of the 2003/2004 academic year rose to 2,588 (NCTE, 2006b). In the 2005/2006 academic year, the private university sector had an enrolment of 9,497 students (NCTE, 2006b), compared to the over 83,700 in public universities (NCTE, 2006a). The growth of student enrolment in the private university sector has been accelerating since 2003.

By the 2011/2012 academic year, the sector continued to record significant growth in student enrolments from about 50,000 (Daily Graphic, 2013) to 65,022 students in 2012/2013 (NAB, 2015), and to 70,085 students by 2014/2015 (NAB, 2016). However, student enrolments began to drop in the 2015/2016 academic year to 68,628 (NAB, 2018). The NCTE (2018) report further showed that student enrolment in the private sector decreased from 66,022 students in 2016/2017 to 61,493 in the 2017/2018 academic year (NAB, 2019). According to more recent figures, 64,870 students were enrolled in the private university sector in the 2018/2019 academic year (NAB, 2020). The decreasing trend in student enrolment figures in recent years represents a significant revenue challenge to institutions in this sector. The observed consequences of this decline in student numbers in private university universities and colleges reflects a possible decrease in their funding to support their service operations and overall performance, because institutions in this sector are mainly financed from student fees.

2.4.4.2 Ownership Patterns in Ghana's Private University Sector and Sources of Funding

Ownership of private tertiary institutions in Ghana is broadly classified into two groups, namely profit-oriented and not-for-profit. The profit-oriented institutions consist of corporate entities, international bodies and tutorial colleges that offer courses leading to the award of professional certificates, international diplomas and sometimes degrees. Thus, in many instances they are linked to foreign operators of higher education. A typical example is NIIT franchise in Accra, which was established to offer training in information technology forming part of the education network of NIIT around the world to deliver fee-paying short courses and two-year professional diplomas. Likewise, Ghana School of Marketing is offering marketing programmes that leads to the award of a certificate from the Chartered Institute of Marketing in the United Kingdom. These institutions derive their revenues mostly from students' tuition fees, which often tend to be high, and they are currently required to pay corporate tax under the Amended Tax Law. The justification for payment of tax by this group of private institutions is embedded in recent public discourse that the motive of their establishment is profit.

The not-for-profit tertiary institutions are mainly owned by faith-based institutions, and they teach courses in religion and theology (regarded as the core), business, and ICT related courses. Most of the private universities and colleges in Ghana have been set up by Christian and Muslim religious bodies. They derive their revenues predominantly from tuition fees and other sources such as grants from sponsors, support from abroad and charitable donations that are sourced both internally and externally. Examples of not-for-profit institutions in Ghana include Valley View University, Central University, All Nations University College, Methodist University College, Pentecost University, Presbyterian University College, Catholic University College, Evangelical Presbyterian University College, and Islamic University College.

2.4.4.3 Categories of Courses on Offer

One key distinction between the private and public higher education in Ghana is the inclination of the former towards provision of largely business and theological related courses to their students. Specifically, private universities offer courses in business management, information technology, computing, and theological studies. The reasons for offering business related courses by private universities include: i) they are career-oriented and job-related programmes that prepare students directly for the labour market; and ii) huge capital outlay and high operational expenses involved in mounting science and technology related programmes.

According to Effah (2003), focusing on courses that guarantee career-oriented and job-related opportunities is justified in an era in which graduate unemployment is increasingly becoming the subject matter for concern. Notwithstanding the huge cost involved in mounting courses in the natural and applied sciences, some private universities such as Central University and Ashesi University are offering courses in disciplines like Architecture, Civil & Electrical Engineering, Information Communications Technology, Physician Assistantship and Nursing. To add, All Nations University, which is a private entity, has mounted a course in Oil and Gas Engineering.

For private universities established by religious bodies, the reasons of their concentration on theological oriented studies are not difficult to discern. This is because they pioneered both basic and secondary education in Ghana and appear to be determined to complete the cycle by moving into the tertiary education sector. This is to ensure that moral training and ethical values are inculcated into students at the tertiary level. Arguably, even though private universities in Ghana may be perceived as offering more popular academic programmes, Leah et al. (2008) citing Gadzekpo (2007) contends that private tertiary institutions are more creative in their academic programmes. Their setting up in Ghana has made a variety of choices available to students and introduced healthy competition with the public institutions, while also freeing government resources to be targeted at the poor and needy. However, Manuh et al. (2007) contend private institutions offering courses mostly in more popular business-related areas (as opposed to the sciences) defeats national policy statements that are biased in favour of science and technology courses. This raises questions about the validity of expressed policy goals to ensure a 60:40 ratio in enrolments in science and arts/social studies, respectively (NCTE, 2018 p.6).

Private universities had, over the years, been denied access to the Ghana Education Trust Fund, state scholarships, bursaries for staff capacity building, and state funding for research even where courses and/or programmes for which facilities were meant were considered key in the nation’s scheme of priorities (Daily Graphic, 22nd July 2013). There are, moreover, pressures to extend to them the benefits of the GETFund. The GETFund is the government fund introduced in 2000 to fund education, which became operational in 2001. Private higher education is therefore largely confined to the wealthier members of Ghanaian society who can afford the relatively high fees, as compared to public universities, even though student loans are now available to students in private institutions. Other critical issues that invariably affect private institutions’ ability to deliver the anticipated service standards in the tertiary education industry are discussed in the ensuing section below.

2.5 Service Delivery by Higher Education Providers and Challenges in Ghana

Regardless of the significant progress made so far in Ghana's tertiary education industry, several challenges remain in Ghana's higher education landscape (NCTE, 2014, 2015). The widespread critical issues of the tertiary education sector that invariably affect delivery of the desired service standards relate to lack of adequate teaching and learning processes in institutions; insufficient and poor state of institutional infrastructure and physical learning resources; and inadequate placement opportunities and graduate employability (Guerrero, 2014; NCTE, 2014, 2015; Arthur and Arthur, 2016). Others include unsatisfactory access and high enrolment; and improper governance of universities including weak quality assurance mechanisms (Guerrero, 2014; Prempeh, 2019).

Arguably, inadequate funding support remains one of the main triggers of these impeding factors (NCTE, 2014, 2015). For instance, insufficient budgetary allocation alongside irregular release of funds is hindering effective operations of public universities (NCTE, 2015). These critical issues have resulted in ineffective, inefficient, and poor service delivery by both public and private HEIs, thus leading to employers and students' complaints of dissatisfaction. The following sections expatiate on each of these constraining factors affecting service provision in Ghana's higher education landscape with special emphasis on public and private universities.

2.5.1 Inadequate Teaching and Learning Processes

The teaching and learning process simply involves cooperation and a personal relationship between faculty and students. Regarding teaching and learning, a major challenge facing tertiary institutions (both public and private) in Ghana is how to attract, recruit and retain qualified and experienced staff to teach, research and engage in wider community service (Anamuah-Mensah Presidential Committee Report, 2002). Arthur and Arthur (2016) states that there is the shortage of adequate faculty and personnel to provide the requisite teaching to students in both public and private universities in Ghana. NCTE's (2015) annual report indicates that public institutions' inability to recruit and replace staff due to the human resource audit of the public service affected the availability of faculty to teach and, consequently, the quality of service. As of now, many private universities rely heavily on adjunct faculty taken mostly from public universities. Arthur and Arthur (2016) argued that this has major consequences both for the quality of delivery at private universities and for effective performance in public universities. They further stated that for private universities and colleges, the adjunct faculty rarely devotes adequate attention and sufficient time to create a learning environment of the desired quality.

It is worth noting that what makes teaching in tertiary institutions (particularly universities) in Ghana ineffective is that research and publication by these institutions have not been satisfactory due to inadequate funding (NCTE, 2015) and overloading of the few lecturers available with teaching and marking duties. This has a negative effect on quality of tertiary education delivery (NCTE, 2012a). However, quality and quantity of research output is relatively better in public universities than private universities because public universities have far more professors and senior lecturers than their private counterparts (NAB, 2019) and they receive some financial support from GETFund and international donors. This trend has been mirrored in most universities in Kenya and other SSA countries (Gudo et al., 2011). Admittedly, research and teaching are interconnected activities such that the outcome of research informs and improves teaching as well as serves as the vehicle through which new knowledge and facts are generated. Therefore, Ghanaian universities without adequate capacity to generate relevant theoretical and practical knowledge creates a situation whereby the country to be left behind in the race to enhance economic growth and development (NCTE, 2012a).

Another worrying development that affects quality of the teaching and learning process in tertiary institutions in Ghana is the low percentage of postgraduate enrolment in universities, which is more noticeable in private universities than public universities (NAB, 2019). Postgraduate education by research (particularly PhD apex of professional development), which produces individuals with expert knowledge and specialized skills at most African institutions including Ghana, is an ordeal (Atuahene, 2006) and is at its lowest ebb. The reason ascribed to this situation is inadequate financial and other resources to promote postgraduate education in these institutions (NCTE, 2015). This, therefore, raises concern as to how higher education institutions (HEIs) in Ghana can augment the stock and quality of academic staff for teaching and research activities.

Another critical issue impeding teaching and learning at tertiary institutions in Ghana is related to the academic curriculum. Arthur and Arthur (2016, p. 398) intimated that “the subject contents of curricula are often too theoretical and are not problem based. Lectures are normally content driven, emphasising abstract concepts over concrete examples and application”. This challenge does not only adversely affect graduates entering the job market without skills that employers need but also worsen the graduate unemployment situation that has devilled the country over three decades. This situation is reportedly worse in public universities due institutional rigidities that make it difficult to adjust their curriculum to be more responsive to both the local and global labour market demands (Asamoah and Mackin, 2015).

It is important to note that the interplay of ideas, information, and practices among HEIs (locally and internationally) that promotes the healthy development of higher education and research has not been well developed in Ghana (Anamuah-Mensah Presidential Committee Report, 2002). This fact stifles formalized interaction among institutions for the broadest exchange of faculty between institutions both locally and internationally including the organization of symposiums, seminars, and collaborative projects. The outcome of this situation is that exchange of educational and scholarly information that promotes quality teaching that will help enrich programmes and management of the institutions may be deficient. Therefore, to ensure effective and efficient teaching and learning in Ghanaian universities and other HEIs adequate funding should be made available to address these challenges.

2.5.2 Insufficient and Poor State of Institutional Infrastructure and Physical Learning Resources

Effective and efficient teaching and learning thrives on the availability and functionality of physical facilities and learning resources together with the creation of a conducive environment. It is also widely acknowledged that academic activities like workshops, conferences, overseas collaboration, and seminars enrich the learning ambience in HEIs (Senthilkumar and Arulraj, 2011). Ministry of Education (2011) reports that good infrastructure remains a critical issue that promotes learning and is important for the provision of quality education. The quality of education in Ghana remains a matter of national concern of which inadequate educational infrastructure is perceived as a critical issue (Badu et al., 2018). Universities and other HEIs' effective curricular delivery depends on these facilities, resources, and activities, which reflect the level of quality teaching and learning processes provided in these institutions.

In Ghana, inadequate academic facilities and inconducive learning environment are critical issues facing tertiary education institutions. For instance, it has been observed that the public university sector does not have adequate lecture theatres, well-equipped library facilities and workshops, science laboratories, lighting system, internet facilities, consumables for practical work and audio-visual technology for teaching and learning as required by NAB (Anamuah-Mensah Presidential Committee Report, 2002; Seniwoliba, 2014). Besides, the slow rate of providing these facilities by the government to universities and others has led to limited teaching and learning facilities for training the nation's much needed human resources (Badu et al., 2018).

An empirical study by the International Growth Centre (2013) cited in Guerrero (2014, p. 8) investigated the adequacy of infrastructure among 40 education departments in public and private tertiary institutions in Ghana. The findings revealed that 47.5% of institutions were challenged by serious infrastructure issues. Of the 19 departments that report problems, 89.5% report a lack of office space for lecturers, 73.7% a lack of reading rooms, 68.4% a lack of IT infrastructure, 57.9% low library stocks, 52.6% inadequate lecture halls and 42.1% a lack of availability of research centres. The findings further disclosed that these challenges are more pronounced in public institutions than in private institutions. A recent study in Ghana by Mattah et al. (2018) finds that graduating students in a public university were not satisfied with the quality of physical facilities. In addition, Anim and Mensah (2015) affirms that students rate their perception of physical facilities and equipment among others in both public and private university sectors in the country as very low, but perceived quality of students in the public university is lower than their counterparts in the private university.

A more daunting situation prevailing in the Ghanaian tertiary education milieu is that student intake at various institutions, particularly public universities, was not possible because the existing infrastructure could not accommodate students despite them qualifying (Dattey et al., 2014). This mismatch between existing capacity of academic facilities and the huge increase in the number of students enrolled into HEIs is creating congestion in lecture halls and causing the deterioration of infrastructure (Badu et al., 2018). Thus, the failure of physical capacity of institutions to keep pace with growing demand is causing a sharp decline in the quality of teaching and research. These difficulties have not only adversely affected the quality of the teaching and learning environment at these institutions but have also threatened their very existence. This situation is attributed to inadequate funding to support infrastructure development (NCTE, 2014, 2015). Therefore, more demands are made for the expansion of infrastructure to cope with the increasing student population (Auditor General, 2013).

Another constraint on higher education service operations is inadequate information and communications technology (ICT) facilities, particularly in rural areas of Ghana (Guerrero, 2014). Low levels of participation of teaching staff of universities in workshops, seminars, and local and international conferences due to lack of funding support, pose a serious threat to delivering quality education. To conclude, the overall shortage of physical facilities together with poor academic activities in HEIs is partly responsible for production of university graduates who have certificates without requisite academic, technical, and psychological competence; consequently, they cannot compete for limited specialized and high paying jobs in the global labour market.

2.5.3 Inadequate Placement Opportunities and Graduate Employability

Job placement is propelling a strong desire in students and parents to demand for higher education, thereby partly contributing to explosive tertiary enrolments in Ghana. The massive growth in enrolment in the tertiary education sector, particularly in public universities, is not closely linked to the requirements of the labour market; and, as a result, there are progressively more unemployed graduates in Ghana (NCTE, 2012a; Guerrero, 2014), some of whom eventually look for job opportunities abroad. As noted, escalating enrolments into tertiary institutions in the country are not informed by human resource requirements of the country, indicating looming challenges. However, private universities such as Ashesi University are tailoring their programme offerings to the labour market demand more effectively than public universities (Guerrero, 2014). It is also distressing that there is under provision of comprehensive entrepreneurial training by tertiary institutions in the country to prepare students for self-employment, because no national policy framework on tertiary education exists that support and encourage graduates capable of becoming self-employed (National Policy Dialogue on Tertiary Education in Ghana, 2013; Prempeh, 2019).

Another major feature prevailing in Ghana’s tertiary educational landscape is the weak linkage with industry for practical training (NCTE, 2015). Regrettably, worries over the inadequacy of linkages between industry and tertiary education have become more pronounced with the recent emergence of Ghana as a lower middle-income country (Guerrero, 2014). In addition, Arthur and Arthur (2016) state that there is poor positive feedback between and among institutions, including the tertiary education and research institutes and the private sector. They further intimated that many tertiary educational institutions in Ghana are not training enough graduates with the requisite skills to spur technological innovation for economic growth. This is because industry-institute interactions and collaborations are not given the utmost priority from the design of programmes to the final recruitment stage (Anamuah-Mensah Presidential Committee Report, 2002). This, therefore, poses a serious challenge to employment prospects of graduates (NCTE, 2012a). To resolve the graduate unemployment situation in the country, NCTE (2014) and the 2020 policy reforms (see Prempeh, 2019) suggest that tertiary institutions in the country should redirect their programme delivery to national development priorities and the labour market demand to bridge the gap between industry/employers and academia.

It has also been observed that some universities have diverted from their original missions, resulting in "mission creep" and this has contributed to the production of university graduates whose skills do not meet the needs of the labour market. This has resulted in a graduate unemployment crisis in the country (National Policy Dialogue on Tertiary Education in Ghana, 2013 p.2). The emerging academic drift in the Ghanaian higher education sector is evidenced by a growing number of public universities such as Kwame Nkrumah University of Science and Technology (originally established to train technical people) who now enrolled 18,807 arts and humanities students as compared to 24,752 science and technology students (NAB, 2020). This defeats the purpose of establishing more applied science and technology-oriented programmes as against their present increasing concentration on humanities including business programmes; and this is considered a threat to diversity in tertiary education. As the NCTE (2012a, p.19) puts it "the large proportion of students enrolled in the arts and humanities relative to that in science and technology is worrying because the employment prospects of graduates in the former are weak while there are significant shortages of graduates in the latter". This is an indication that "admission policies have also failed to address the imbalance between science and technology programmes and the humanities" (National Policy Dialogue on Tertiary Education in Ghana, 2013, p.2).

Inadequate placement opportunities in Ghana could also be attributed to the recent shift from an industrial economy to a knowledge-based economy. This is because a knowledge-based economy requires the workforce (graduates) to be equipped with not only requisite skills and competencies, but also be able to adapt, learn, and deal with sources of knowledge to provide complex services and devise creative solutions using computer application in a technology driven environment (Ghaith, 2010). The World Bank Project Report on Ghana states that preparing human resources for today's labour markets may not be the wisest thing in the long-run due to the volatile nature of the labour markets (World Bank, 2011). Thus, the need for both job-specific and broad liberal arts education accompanied with the development of universal skills and aptitudes (commonly referred to as 21st century skills) is what will make the graduate adaptable to fluctuations in the global labour market (World Bank, 2011).

Consequently, as far as choice of HEIs by prospective students and parents are concerned, public and private universities that train appropriate knowledge workers to deal with the socio-economic challenges confronting countries coupled with 21st century skills may become preferred institutions for both students and parents. Accordingly, they may be noted for the provision of quality education and labelled as institutions of excellence. Admittedly, students nowadays compete for admissions at elite institutions and employers vie for their graduates, given the status and quality attached to the degrees awarded (Geiger, 2004).

2.5.4 Access and High Enrolment

Access to tertiary education is defined as places and facilities available for potential applicants (Anamuah-Mensah Presidential Committee Report, 2002 p.112). Access determines the adequate number of potential applicants that could be enrolled to ensure quality education provision; therefore, access and enrolment are closely linked. On the other hand, Abdulla (2006a) states that access signifies approachability, ease of contact, availability of faculty and staff, and convenience in terms of operating hours and location of institutions. He further intimates that access is not only a prime factor that influences the overall education quality perception, but it is a crucial attribute that provides the foundation for the measurement of service quality in HEIs.

Public universities in Ghana are unable to meet the high demand for tertiary education by applicants as a result of the rapid growth in population and the expansion in pre-tertiary education via the introduction of the free senior high school policy in 2017. While the public university sector in the country continues to experience a rapid increase in student enrolment as stated previously, facilities and other resources including budgetary allocation to the sector were not adequately provided. This mismatch, affect institutions' overall capacity to recruit more instructors, and therefore could not enrol more students. Also, the disparity leads to congestion of and deterioration of facilities, consequently overall decline in quality service delivery in these institutions. Relatedly, Seniwoliba (2014) states that lack of tables and chairs in lecture halls in some public universities have compelled students to stand in windows to take lecture notes: a practice that encourages non-participation in classroom discussions and debates, and absenteeism during lectures.

Another major concern regarding tertiary education provision in Ghana is space limitations manifested in student-teacher ratios in universities that fall short of recommended NCTE standards (Guerrero, 2014). For certain programmes mounted by public universities the ratio is as high as 100:1, compared with a desirable 27:1. NCTE (2015) notes that high student/staff ratios lead to deterioration of physical facilities, which in turn result in declining quality in public universities. Again, large class size suggests that the desired level of interaction between instructors and students as well as paying attention to student needs cannot be achieved (Arthur and Arthur, 2016). This has adverse implications for instructors who spread their time among numerous students, and this will eventually affect the quality of services provided. This may consequently impact the human capacity development of the country (Arthur and Arthur, 2016). Howbeit, declining and or low enrolments in private universities affect their level of funding, which subsequently will impact on quality of their service operations.

Additionally, literature reveals that access to tertiary education in Ghana is not yet available to all parts of society, particularly the needy; and geographic location is a barrier to participation in certain programmes (e.g., medicine, engineering) mounted by public universities with regards to some students from rural senior high schools (Guerrero, 2014). He further states that unreliable internet access, particularly in rural communities, serves as a barrier to the sustained development of tertiary education. This tends to explain the inability of some students to gain access to online library learning resources. It is worth noting that challenges regarding management and supervision of students in terms of lecturers' availability for guidance as well as allocating sufficient and convenient time for student consultations in institutions undeniably affect their overall capacity to enrol more students.

2.5.5 Institutional Governance of Universities in Ghana

Gayle et al. (2003) defined university governance as the structure and process of authoritative decision-making across issues that are significant for external as well as internal stakeholders within a university. However, Edwards (2003) points out that university governance is concerned with the determination of values inside universities, their systems of decision making and resource allocation, their mission and purposes, the patterns of hierarchy and authorities, the relationship of the university as institutions to the different academic worlds within and the worlds of government, business, and community without. In Ghana, university education and its governance has been greatly influenced by patterns and trends in the west, especially from the UK and USA and other commonwealth nations (Effah and Mensah Bonsu, 2001).

The tertiary education system in Ghana adopts three kinds of governance models, namely traditional (stakeholders) model, the business model, and the trusteeship model (Tetteh and Ofori, 2009). The traditional stakeholder model gives voice to all with an interest in the university. Membership of the governing body is usually large since there is representation from a broad spectrum of stakeholders. It is also referred to as the collegial model of governance or parliamentary model (Cutting and Kouzim, 2001; Young, 2004). The business model, on the other hand, places premium on effective financial management and outcomes for shareholders (AVCC, 2003). It has smaller councils and no internal stakeholders. It is also referred to as the managerial model (Marginson and Considine, 2000), or the market-oriented model (Kouzim and Cutting, 2001). AVCC (2003) explains trusteeship as governance in not-for-profit organizations that explicitly recognizes the fact that non-financial goals are among the core objectives of the universities, but also endeavours to provide an effective governance and management structure to achieve a multiple bottom line for complex institutions of learning, research, and community service.

Specifically, Ghanaian universities employ a mixed bag of the traditional stakeholder and the business model. However, private universities are more tilted towards the business model while the public universities are more tilted towards the stakeholder model than the other models (Tetteh and Ofori, 2009), even though the difference is marginal. According to Daniels (1998), the governance structures in the Ghanaian public universities consist of arrangements for the internal organs of each university comprising an affiliate that provide for a chancellor, a vice chancellor or rector as the executive head, a governing council including both academic and lay persons, and an academic board or senate including ex-officio members and elected members to advise council on academic matters. Daniels further indicated that Ghana's universities are committee-run.

It must be noted that public universities in Ghana have relatively well laid down governing structures with well-defined hierarchies while very little is known about the governing structures of private universities in Ghana (Tetteh and Ofori, 2009). This, according Tetteh and Ofori, is because private universities are still emerging and taking shape. According to Tetteh and Ofori (2009), both public and private universities in Ghana operate a bicameral system of decision making. The Governing Council and the Academic Board or Senate are the two major decision-making bodies. The Governing Council, however, is superior to the Academic Board; hence, they have the ultimate power over all decisions in the university. The Senate exercises power on all academic issues including finance, resource allocation, appointments, and physical developments whereas the Governing Council has the final authority.

Most administrative decisions are deliberated by committees formed from within the Senate. The VC, management, and other principal officers can make the final decisions on issues, but it depends on the magnitude of the issue. Internal stakeholders are also involved in decision making in both public and private universities, but the degree is much higher in public universities than private universities (Tetteh and Ofori, 2009). In Ghana, decision making arrangements are more effective in public universities than private universities.

There are no specific reasons why this is so, but one assumes that since public universities are much older than private universities, they have more established and embedded decision-making bodies (ibid).

Both public and private universities in Ghana achieve coordination through supervision from higher bodies. Supervision is more effective and dominant as compared to standardization and mutual adjustments in universities in Ghana. If one wants to use standardization and mutual adjustments as coordinating mechanisms, public universities use it more than the private ones. This may be because public universities are larger and more complicated in the former than the latter. Although there might be a few problems with checks and balances in Ghana's universities, nevertheless, they exist in both university types. They include hierarchy of authority, the committee system, periodic audit of activities, statutes that specify what one can and cannot do, counter signatories to cheques and other documents, as well as external evaluation. These measures apply to both public and private universities even though they are in different proportions. These checks and balances, although effective in the two types of universities, have room for improvement. Therefore, ensuring flexibility, autonomy, accountability, and transparency in institutions would serve as the founding pillars of good governance that promotes academic creativity and innovation (AAFAQ, 2007), thus enhancing tertiary education provision.

An issue of grave concern in the delivery of quality service in tertiary institutions in Sub-Saharan Africa including Ghana is governance of universities (Akintayo, 2008). Again, Banjo (1999) and Akinkugbe (2001) state that leadership indiscipline and subversion of autonomy, which lead to erosion of academic freedom, are causing the decline to the university education system. It is argued that the private sector presents serious problems such as low standards, lack of transparency, and a financial strategy that places institutional profits above quality or standards; however, not all private institutions exhibit these characteristics (Altbach, 2012).

Public universities have come under increasing regulations in recent times as the Ghanaian Government continues to fund them. Various areas the new regulations focus on include governance and accountability, internal administration, disclosure, finances, and academic freedom of public universities (Awotwe et al., 2021). Arguably, Awotwe et al. opined that the new regulations have constrained autonomy of institutions, innovations in operations and flexibility in searching for alternative funding sources to augment declining state funding. They further stated that recent regulations have imposed more rigidity within which universities must operate. As indicated earlier in section 2.4.2, other critical governance issues affecting overall service delivery in tertiary institutions in the country comprise neglect of proper governance practices and procedures, weak institutional policies, and financial improprieties (Shattock, 2014; Abugre, 2018).

Programmes offered at tertiary institutions in the country are subject to regulations and quality assurance processes within the Ghanaian tertiary education context. However, it is on record that quality assurance mechanism, being part of governance measures of Ghana's tertiary education sector to ensure educational quality, have some challenges (Guerrero, 2014). These are due to the increased number of HEIs' programmes becoming more diverse and continual escalation of student enrolment figures (Guerrero, 2014). He notes that these challenges continue to worsen because of insufficient authority granted to supervisory bodies such as NAB and NCTE. Evidence from research shows that quality assurance culture has not been strictly adhered to, particularly in the public university sector (Seniwoliba, 2014). However, nothing has been reported on the private university sector to the best of the researcher's knowledge. Based on these situations, NCTE (2014) suggested that it is important to build capacity of university councils, senior management and union leaders on governance and management of tertiary education institutions in the country to ensure effective and efficient service delivery to stakeholders including students.

2.6 Summary of the Chapter

This chapter has provided an understanding of issues of concern that have affected quality service delivery in Ghana's tertiary education industry. The chapter revealed that the tertiary education industry, particularly the university sector, is playing a positive and significant role in contributing to economic and socio-cultural development of African countries including Ghana. However, a myriad of challenges, such as a huge number of qualified youthful population seeking university education, inadequate infrastructure, lack of proper technology for teaching and learning, among others, continue to stifle quality service provision in African tertiary institutions. Underpinning all these challenges, financial inadequacy remains a peril at the pinnacle of tertiary education in Sub-Saharan Africa. In Ghana, the narrative is no different.

In addressing challenges of service delivery in Ghana's tertiary education sector, various policy reforms were initiated by successive past governments to resolve the problems through expanding access, improving quality and relevance of programmes, and enhancing governance of institutions in order to accelerate national development. The chapter, however, revealed that the reforms introduced to address the issue of access in the sector rather led to additional enrolments in public universities without corresponding financial support. The mismatch between enrolments into public institutions and existing facilities resulted in the deterioration of physical facilities and ultimately poor service delivery to students and other stakeholders. The chapter also established that the initial reforms introduced in 1993 led to the private sector participation in the higher education in Ghana. It was evident that although the number of private universities and colleges in Ghana had increased substantially over the years, they accounted for less than 13.7% of total enrolment of the tertiary institutions in 2018/2019 academic year.

The chapter also revealed that Ghana has a diverse and competitive tertiary education landscape, with public and private universities as the two dominant players in the industry. The keen competition in the country's tertiary education space was largely due to a liberalised tertiary education environment characterized by market-led reforms and private sector initiatives. Despite the intense competition in the industry, there is no established mechanism for ranking of tertiary institutions to guide students and other stakeholders in identifying leading institutions in the industry, except reliance on international ranking operators. However, with international ranking of universities, Ghana's tertiary institutions rank near the bottom of the league table. Activities in the tertiary education sector in the country were streamlined via various institutional and regulatory bodies. This notwithstanding, this chapter showed that service provision by both public and private providers of tertiary education continued to be bedevilled with several challenges that impact on education quality to stakeholders including students, and that, if not adequately resolved, could derail some of the achievement made so far. This, therefore, offered sufficient justification for academic assessment of the perception of students about the state of quality service delivery in tertiary institution in the country.

In doing this review, the researcher, as a faculty member of a private university and a former adjunct faculty at a public university, was fair and objective in the assessment of the two research contexts. It is believed that this study will make a significant contribution towards the implementation of the 2020 tertiary education policy reforms and could provide useful suggestions about quality and the relevance of programmes to guide the procedure for preparing the league table for universities in the country that, until now, has been non-existent. This may benefit researchers, institutions, policy makers and other stakeholders. As such, this chapter has provided a good basis for the subsequent chapters of the study. The next chapter of the study reviews relevant literature on service quality and its effect on perceived value and customer satisfaction as espoused in theoretical and empirical extant literature.

CHAPTER THREE

LITERATURE REVIEW OF SERVICE QUALITY AND ITS EFFECT ON PERCEIVED VALUE AND CUSTOMER SATISFACTION

3.1 Introduction

This chapter reviews previous studies relevant to the study guided largely by the objectives and research questions. The focus of the chapter is to provide a comprehensive review of the past theories and empirical works on service quality, perceived value and customer satisfaction in order to conceptualise a measurement model. A major purpose of the chapter is to discover the most relevant dimensions to measure service quality in Ghanaian universities. This chapter is divided into 10 main sections. The chapter starts with the introduction section, then reviews different definitions of the service quality concept in section 3.2. This is followed by highlighting, in general, extant perspectives on service quality, its antecedents and performance-related outcomes of customer perception in section 3.3. From the general to the specific, the review of literature is narrowed down to service quality in the higher education sector in section 3.4, followed by the role of students in higher education institutions.

The chapter continues with a review on how customers (or students) perceive value in services delivered to them in section 3.5, whilst customer (student) satisfaction is discussed in section 3.6. Later, interrelationships between perceived service quality, perceived value and student satisfaction are discussed in section 3.7. Next, a critical evaluation of service quality models and their corresponding measurement issues in reference to existing theoretical and empirical works for measuring service quality in higher education are reviewed to help conceptualize and build an effective model to measure university service quality in Ghana in section 3.8. At the end of the chapter, the gaps in the literature to be filled by this study are discussed in section 3.9, followed by the summary of the chapter in section 3.10.

Related literature was retrieved from electronic databases including Multiple EBSCOhost (e.g. Business Source Complete), ProQuest, Science Direct, Google Scholar, PsycINFO, JSTOR, and country-specific online databases, among others. Reference list search approach was also undertaken. In the search procedures, key terms were combined in most cases in order to restrict the search results to only articles that were relevant to the study. The major search terms used for this review include: (1) service quality and student satisfaction, (2) service quality in higher education and student perceived value, (3) university governance and service quality, (4) service quality, perceived value and student satisfaction. When undertaking the search for the university governance concept, the terms 'university', 'corporate', and 'institutional' were used interchangeably; likewise with 'tertiary education' and 'higher education'.

3.2 Defining Service Quality

Increasing attention is being paid to the service quality concept by researchers and practitioners and to its impact on the various performance-related outcomes of customers' perceptions across several disciplines including higher education. Several scholars and practitioners have investigated the service quality (SQ) concept in different contexts and developed diverse types of measures to assist in defining and measuring the construct. However, definitions of service quality are disparate, and a consensus on its meaning is arguably lacking. There is ongoing debate as to how to best measure the construct (Seth, Deshmukh and Vrat, 2005). Kassim and Zain (2010) contend that the elusive nature of the service quality concept renders it extremely difficult to define and measure. This, therefore, has led to wide-ranging views on how service quality is defined and explicated both in theory and practice.

Starting with some ground-breaking definitions, Gronroos (1984, p.37) defines service quality as "the outcome of an evaluation process, where consumers compare their expectations with the service they have received". His model highlights that customers' perceived service quality results from a combination of three dimensions, namely: the quality of the consumption process itself (functional quality); the quality of outcomes of the process (technical quality); and the image of the provider of the service. Thus, in the context of service marketing literature the SQ construct is mostly conceptualised as perceived SQ, and it deals with the concept of what service customers have experienced and or received.

Parasuraman and his colleagues (1988) corroborate the idea that service quality results from comparing customers' expectations and perceptions of performance, which is based on the disconfirmation theory. The disconfirmation theory suggests that customers have a series of expectations that they either confirm or disconfirm during the service experience (Torres, 2014). Researchers refer to expectations as what the customers feel that institutions 'should' provide and not 'would' provide (Parasuraman et al., 1988; Torres, 2014; Johnson, Shulver, Slack and Clark, 2021). Parasuraman et al. (1988) intimated that the degree and direction of discrepancy or the gap between consumers' perceptions and expectations is viewed as perceived service quality. Parasuraman et al. affirm that perceived SQ is a form of attitude, or global judgement about the superiority of a service.

Perceived SQ has also been explicated as a consumer's satisfaction with how well a service meets their expectations (Munteanu et al., 2010; Mark, 2013). The perception-expectation oriented definition has become particularly pronounced in the last three decades and has gained significant importance as an area of academic inquiry (Brady and Cronin, 2001). The literature swarming with examples of perception-expectation oriented definition of SQ illustrate the dominance of SQ conceptualisation founded on this approach (see e.g., Zeithaml, Parasuraman and Berry, 1990; Shekarchizadeh et al., 2011; Zaibaf, Taherikia and Fakharion, 2012; Calvo-Porral et al., 2013; Son, Ha and Khuyen, 2018).

Aside from the elevated use of the perception-expectation oriented definition of SQ, researchers still widely contest its use in practice (e.g., Cronin and Taylor, 1992; Brady et al., 2002). Many argue that not only may there often be discrepancies between the consumer's expectations and what constitutes perception of quality service, but also the provider may be working hard to deliver some aspect of service to which the consumer is indifferent. For example, Cronin and Taylor (1992) contend that it is inappropriate to conceptualise service quality as a gap between expectations and performance because though expectations might have their place in understanding the customer experience, they are not an adequate basis to assess SQ. The challenge with the perception-expectation oriented definition is that service experiences are indeed perceptions of reality and inherent in these perceptions are the prior expectations (Sultan and Wong, 2014). They argued that recalling expectation while experiencing a particular service creates repetition of expectation and hence it is biased. It is therefore evident that defining SQ grounded on perception-expectation oriented definition is problematic (See further discussions in sections 3.2.1 and 3.4.5 below).

Other studies attempted to define SQ as an overall judgment similar to attitude towards the service (e.g., Cronin and Taylor, 1992; Zeithaml and Bitner, 1996). For instance, Zeithaml and Bitner (1996) define service quality as an overall judgment, like attitude towards the service, and is generally accepted as an antecedent of overall customer satisfaction. SQ has also been defined by Zeithaml (1988) as superiority or excellence in service delivery. Ganguli and Roy (2013) state that service quality assists in achieving business excellence. A fundamental problem, however, with these definitions relates to the construct's conceptual domain and exact nature of this attitude, which is still hazy (Abdullah, 2006). Some suggest that it stems from a comparison of performance with ideal standards (Teas, 1993) while others argue that it is derived from perceptions of performance alone (Cronin and Taylor, 1992).

Hossain, Dwivedi and Naseem (2015) defined SQ as the customer's subjective judgment about a service's 'overall excellence' This, according to Onditi and Wechuli (2017), refers to how the consumers or users of the service judge the service grounded on what they may have experienced. This is consistent with Chiao, Chiu and Guan's (2008, p.651) claim that perceived SQ is a customer's personal evaluation of the service provided to him or her by the service-providing organization. However, these definitions also fail to indicate what specific things customers do evaluate. Overcoming these challenges, some past studies have considered customer needs and value perspectives in their definition of SQ. For example, Ennew and Waite (2007, p.315) maintain that SQ is subjective and is based on customers' perceptions of how well the service matches their needs and expectations. In turn, Brysland and Curry (2001, p. 391) accentuate that SQ is providing something intangible in a way that pleases the consumer and that preferably gives some value to that consumer. Sultan and Wong (2019) submit that service quality is an overall evaluation of tangible and intangible service attributes from a consumer's standpoint.

Apart from several definitions of SQ discussed above, Petridou et al. (2007) defined SQ as a route to competitive advantage accompanied by corporate profitability for the service organisation involved. Aligning with this view, Sultan and Wong (2014) defined SQ as a set of market driven and dominant features of an offered service that have a lasting performance effect on sustained service provider–consumer relationship. They further assert that perceived SQ is a cognitive process of quality assessment, suggesting that SQ assessment is a psychological result of perception, learning, reasoning and understanding of the service attributes. Furthermore, extant studies show that SQ definitions also consider customers' cognitive judgment about the perceptions of attributes of service process, output and environment. For instance, Gallarza and colleagues (2011) contend that SQ is predominantly a cognitive assessment of customers' perceptions of how well an array of service attributes perform. Likewise, Rust and Oliver (1994, pp.2-3) state that "SQ is by nature a subjective concept, which means that understanding how the customer thinks about SQ is essential to effective management. They further suggested that managing SQ involves three distinct aspects: designing the service product, designing the service environment, and delivering the service. This implies SQ construct comprises multiple dimensions or determinants.

Extant SQ literature reveals that SQ is a multidimensional and higher level of abstraction construct based on perceptions of the quality attributes making the service. Many notable scholars (e.g., Rust and Oliver, 1994; Dabholkar, Thorpe and Renz, 1996; Brady and Cronin, 2001; Nunkoo, Teeroovengadum, Thomas and Leonard, 2017) are of the view that perceived service quality is a complex and multi-multidimensional construct. Darawong and Sandmaung (2019) among others concur that the multi-dimensional nature of service quality is unanimously recognised for services in general and higher education in particular (e.g., Teeroovengadum et al., 2016; Latif et al., 2019) while there is considerable debate on what constitutes dimensions of service quality (Wilkins et al., 2007).

Available literature indicates that SQ definitions formulated over the past years follow either the difference between perceived performance of services and customers' prior consumption expectations or definitions that agree to the performance-only measures (Park and Yi, 2016). But marketing literature appears to offer considerable support for the superiority of performance-only measures of service quality as previously discussed (see e.g. Cronin and Taylor; Abdullah, 2006; Mwiya et al., 2017). It is also observed that in adopting any of these definitions, consumers sometimes consider attributes of the dimensions of service quality to make cognitive judgement (Rust and Oliver, 1994; Brady and Cronin, 2001). However, in defining SQ as an overall or global judgement, it has been observed that many authors fail to specify the nature of the construct's conceptual domain and the conceptual theme of the construct (Mackenzie, Podsakoff and Podsakoff, 2011). Therefore, it is important when investigating an elusive construct such as SQ to explicitly determine how the customers perceived SQ in terms of type of property it represents, entity to which it applies, and dimensionality of the construct.

This study, therefore, operationalises perceived SQ as customers' (students') global subjective judgement of the multidimensional construct based on perception of attributes of service components or dimensions within a framework of what they consider as important to create superior value that ensures their overall satisfaction. By conceptualizing SQ as the overall perceptions regarding the experience or attitude towards services, practices and operations, this study focuses on attributes of components of service entities, particularly universities in Ghana, and how they influence customers' (students') perception of their services.

Furthermore, the study seeks to establish that customers aggregate their assessments of attributes to form their perceptions of a university's performance on each of the dimensions. Consequently, perceptions of these dimensions lead to perceived service quality, which ultimately results in overall student satisfaction with value as the mediating variable between perceived SQ and overall customer satisfaction. The intention of this study, therefore, is to identify the dimensions that influence customers' (students') perceptions of SQ in the higher education sector in Ghana and its impact on overall student satisfaction via perceived value in order to advance knowledge in the area of academic and managerial understanding. To further help understand how to conceptualise and measure SQ in the higher education context, the next section sheds more light on the extant perspectives of SQ.

3.3 Extant Perspectives on Service Quality

To date, to provide better service, researchers and practitioners have sought to understand and improve the quality of service through the study of concepts of service quality and customer satisfaction (Torres, 2014). Among the burgeoning number of studies that have investigated service quality, two distinct research streams can be identified (Ifie, 2010). The first research stream in the literature consists of prior studies that widely investigated customers' perception service quality and the different performance-related outcomes of customers' perceptions. The second research stream focuses on the factors within an organization that affect quality service delivery (Lewis and Gabrielsen, 1998; Dean, 2004; Martins et al., 2020). However, these streams (principally the first research stream) share some critical issues that have limited their ability to address the inconsistent findings present in the service quality literature.

3.3.1 The First Stream of Research on Service Quality

According to Ifie (2010), this research stream focuses on conceptualisation and measurement of customer-perceived service quality and its impact on customer satisfaction, among others. Initial research works in this first stream focused primarily on measurement of customers perceived service quality as the gap or comparison of expected and perceived performance of service (Gronroos, 1984; Parasuraman et al., 1985, 1988), with their theoretical foundations based on the disconfirmation theories. However, Carman (1990) and Cronin and Taylor (1992) state that the debate over inclusion of expectations in the measurement of service quality stress their preference for performance-based paradigm suggesting that it removes: intercorrelation of dimensions; use of gap scores; possibility for manipulation of expectations upwards or downwards; and difficulty of generalizing SERVQUAL's five dimensions across different service contexts.

SERVQUAL's weaknesses led Cronin and Taylor in 1992 to propose a performance-only measure of a service quality, the SERVPERF model (Martinez and Martinez, 2010, p. 32). Arguably, other important scholars (see Dabholkar et al., 1996; Brady and Cronin, 2001; Hossain et al., 2015; Blut, 2016) suggest that service quality should be conceptualised as a multidimensional and hierarchical (or multilevel) construct in order to overcome challenges associated with the maiden service quality models. MacKenzie et al. (2005)

state that hierarchical constructs have been identified as allowing for less model complexity and more theoretical parsimony.

Besides, many previous studies have investigated the influence of perceived service quality on customer satisfaction (Parasuraman et al., 1988; Caruana et al., 2000; Mwiva et al., 2017; Gupta and Kaushik, 2018; Sultan and Wong, 2014, 2019), perceived value (see Ledden et al., 2011; Howat and Assak, 2013; Zhang et al., 2016), behavioural intentions (Parasuraman et al., 1996; Cronin et al., 2000; Twaissi and Al-Kilani, 2015; Mestrovic, 2017), loyalty (e.g. Zeithaml, 2000; Perin et al., 2012; Ivanauskiene and Volungenaite, 2014; Diallo et al., 2018; Noor, 2020) and organisational performance (Caruana and Pitt, 1997; Chang and Chen, 1998; Ramayah et al., 2011; Cheng and Lin, 2014; Lebdaoui and Chetioui, 2020).

Results from these studies have revealed that when service quality is perceived by customers to be high, they rate their satisfaction with the organizations' offerings as high, and it is probable that they engage in positive word of mouth and remain loyal to the organisation through continual patronage of more services of the organizations (Carrillat, Jaramillo, and Mulki, 2009; Black, Childers and Vincent, 2014; Sultan and Wong, 2014). The ultimate outcome for the organisation is improved financial performance in terms of creating superior profits and a greater market share (Black et al., 2014, Armstrong and Kotler, 2017).

Martinez and Martinez (2010) states that while the past studies have contributed to a better understanding of the service quality concept and its impact on the various performance-related consequences of customers' perceptions, a consensus on the philosophical framework and measurement methodologies for assessing service quality is arguably lacking. The relationship between the service quality construct and its dimensions is increasingly becoming a vital factor due to the philosophical aspects of formative-reflective debate regarding service quality measurement and validating procedures. There is a considerable amount of literature on many past studies conducted on service quality that failed to properly specify the measurement model that relates the latent construct to its indicators, and these led to various limitations that characterise the most widely used service quality models in practice.

In tandem, when considering prior conceptualization approaches and measurement methodologies of service quality in aggregate, some studies (as earlier stated) have taken a performance-expectation perspective having its theoretical foundations in the disconfirmation theories (e.g. Parasuraman et al., 1988), while others have taken a perception only perspective on measurement of service quality (Cronin & Taylor, 1992; Banahene et al., 2018). Cronin and Taylor (1994) suggest that the performance-minus-expectations is an inappropriate basis for use in the measurement of service quality notwithstanding the unique effect that expectations may have on consumers' perceptions of service quality. Recent evidence by Park and Yi (2016) also accentuate that because "performance-only method is superior to performance-expectation measures does not imply that expectation plays no role in the customer satisfaction formation process" (p. 749). These issues have raised major concerns in service quality measurement and inconsistencies in service quality research.

Martinez and Martinez (2010, pp. 38-40), in a bid to resolve the challenges associated with the methodological problems derived from the multidimensional conceptualisation of service quality, have recommended a more creative model of service quality that bridges both philosophy and measurement errors and allows investigation of mediating and moderating variables, as well as consequences. Martinez and Martinez suggested three best options that researchers and practitioners may adopt when measuring service quality:

- Option1: To consider the service quality construct as a distinct entity from dimensions without specifying any causal relationships between them because customers may think differently when evaluating specific attributes than when making an overall judgement;
- Option 2: To consider the service quality construct as a composite of several elicited variables because service quality may be deemed as an algebraic construction derived from what customers think about the meaning of quality for them. This approach defines service quality in terms of its measures and is consistent with formative models; and
- Option 3: To consider service quality as a composite of various generated dimensions in a spurious model. This involves re-specification of the formative model where the service quality construct is a composite of several latent dimensions that are measured in a reflective manner.

Considering these issues, this thesis endorses the Option 3 proposition and thus argues that customers' (students') perceived service quality is formed by its dimensions, which jointly define it, and the perceived service quality does not exist separately from its dimensions (MacKenzie et al., 2011). Adopting this approach, the study takes the position that students' perception of university service quality will first be based on how students evaluate the performance of the services delivered by the university based on a set of independent dimensions that are to be treated as a first order reflective latent variable. The justification for choosing Option 3 is grounded on the suggestion by Martinez and Martinez (2010) that this option permits accounting for the measurement error in the observable indicators of each dimension.

3.3.2 The Second Stream of Research on Service Quality

Evidence from past studies shows that the steady growth in competitiveness of both local and global businesses is driving organizations to focus business activities largely on increasing effectiveness in order to deliver consistently high levels of service quality to customers. Accordingly, the second research stream focusses on identifying and understanding the organisational attributes that promote needed service behaviours, and in turn better customer perceptions of an organization's service (Lewis and Gabrielsen, 1998; Dean, 2004). This growing research stream encompasses past studies that investigated the implementation of management systems and their impact on customers' perception of service quality (e.g. Muhsin et al., 2020). A related meta-analysis and systematic review conducted in 2004 concluded that organizational characteristics and practices are linked to employee attitudes that are mirrored in service quality outcomes, such as customer satisfaction and loyalty, and then profit (Dean, 2004).

Notwithstanding the strength of results from these reviews, Dean (2004) advocates that further conceptual and empirical work is required to strengthen knowledge of these links to customer experiences and financial outcomes. Based on these considerations, the influence of intra-organizational variables such as organizational culture, job satisfaction, leadership and governance, among others, have been largely studied to determine their effect on customer experiences and organizational performance. Remarkably, governance has emerged of late as a major concern in an organization and plays an important role in ensuring effectiveness and the success of any organization including the higher education institutions (De Silva and Armstrong, 2012; Shattock, 2014). Past studies have found a positive association between governing board performance and institutional success (e.g., Holland et al., 1989; Chait et al., 1996; Garwe and Tirivanhu-Gwatidzo, 2016). The significance of institutional governance and its association with SQ increased after a link was found between good university governance and quality of teaching of lecturer, which in turn impacts on student satisfaction, and ultimately institutional performance (Budu and Quashigah, 2016; Muhsin et al., 2020).

Despite good university governance is a major internal factor for strengthening a higher education system to drive delivery of consistent high-quality service, yet it has been somewhat neglected in building service quality model. Acknowledging this gap, an empirical study needs to be undertaken to explore students' experiences of governance practices of their institutions and their effect on their perceived service quality. This aspect, particularly university governance linked with service quality, has received relatively little attention in the higher education literature.

3.3.3 Linking University Governance and Service Quality

Recent studies have revealed that university governance is becoming a global challenge, particularly in Sub-Saharan Africa (Menon, 2005; Shawa, 2013; Shattock, 2014; Budu and Quashigah, 2016; Abugre, 2018; Costandi et al., 2018; Muhsin et al., 2020). Shibru, Bibiso and Ousman (2017) described educational (or university) governance as "the formal and informal processes by which policies are formulated, priorities identified, resources allocated, and reforms implemented and monitored" (p.55). According to Gayle et al. (2003), and supported by Middlehurst (2013), university governance is concerned about an institutional structure of relationships and processes that create optimal conditions for stakeholders' (including students') performance. However, breakdowns and or weaknesses in the structures and processes of governance of universities of late have led to a reduction of effectiveness of universities in the conduct of their core business (Shattock, 2014).

In Sub-Saharan Africa, including Ghana, the amount of student unrest along with alleged financial improprieties and breakdowns due to irregularities by university administrators and governing bodies are increasing significantly (Shawa, 2013; Shattock, 2014; Frimpong, 2018). Abugre (2018) argues that weakness in institutional policies of higher education in Ghana significantly affects the efficiency of delivery of academic teaching and research. Similarly, Muthoni, Njagi, and Wambugu (2018) have intimated that public universities in Kenya are characterized by regular student unrest and riots occasioned by perceived unresponsiveness by university management and the Governing Boards to the needs and requirements of students. This often leads to destruction of property and closure of institutions. Frimpong (2018) reported that the insistence of the University Council of Kwame Nkrumah University of Science and Technology in Ghana to convert remaining males-only halls into unisex halls alongside alleged systematic maltreatment of students by university authorities led to violence and extensive destruction of property resulting in the closing down of the university and the dissolution of the governing council. Besides, Nyame and Abedi-Boafo (2020) assert that labour unrest prevailing in most West African countries causes the frequent closure of higher education institutions.

Anecdotal evidence from Ghana suggests that the unclear division in responsibilities of owners and senior administrators in various private universities, alongside random interventions of owners in the daily affairs of the institutions for their economic gain, are stifling effective service delivery to students and a failure to protect the staff interests. Corroborating this standpoint, Liu (2020) quoting Zhou's (2014) work and supported by Mok et al. (2016) reported that rapid expansion of most private universities in China resulted in an institutional governance crisis. To them, this has not only resulted in blurred division in responsibilities of shareholders and senior managers, but also an arbitrary interventions of shareholders in the daily affairs of the university with intent of harnessing their economic gain. They further intimated that this probably leads to failure to protect the interests of staff and students, thereby affecting effective service delivery.

Shattock (2014) also notes that inappropriate university practices such as disregard for proper organisational procedures and breakdowns in structures along with student unrest and violence are affecting students, other stakeholders and overall institutional performance. Accordingly, the need to preclude the eruption of unrest among students in colleges and universities continues to engage the attention of higher education managers and policy makers (Muthoni et al., 2018) to more fully understand the governance mechanisms that foster undesirable student behaviours. Muhsin et al. (2020) have suggested that good university governance practices that promote desirable student behaviour is one of the most important determinants of the effectiveness of higher education service delivery, which in turn enhances student satisfaction. They further intimated that good university governance creates better university management.

Budu and Quashigah (2016) found that the benefits of good university governance reform significantly boost both academic quality and student experience at the university and help to improve admission and operations strategies. They further asserted that the manner a country's HEIs are governed can affect the quality of education delivery. Previous research has suggested that students' perceptions of service quality are relevant to the continuous improvement of the HEIs (Kara et al., 2016). Therefore, it has become imperative to capture students' perception of governance practices of their university in order to respond effectively and sustainably to challenges of governance that may affect service delivery at the institutional level. The foregoing discussions provide a literature-based justification for attempting a study that conceptualised university governance as a probable dimension of service quality in the higher education sector. The next section reviews service quality in higher education.

3.4 Service Quality in Higher Education

Higher (or tertiary) education as a service largely consists of teaching and learning, research and community services. It is a pure service with activities such as registration and admissions, teaching, internship, collaborative projects, and research, among others, that entail a tremendous interpersonal contact inside and outside the HEI campuses (Sultan and Wong, 2012; Dwaikat, 2021). The principal focus of HEIs is to provide quality teaching and learning experiences to numerous stakeholders, including students (Yeo, 2008). A study by Sultan and Wong (2010) intimates that the two core service functions of HEIs are general service and education service, which are the distinct differentiation strategies. In this regards, SQ could be employed to highlight competitive differences between them in HEIs' offerings.

There is a vast amount of literature on the importance of SQ in both local and global HE markets. Pham and Starkey (2016) assert that the concept of SQ is moving the universities closer to their market needs by preparing graduates for employment. Sultan and Wong (2012) maintain that perceptions of SQ may lead to improved service functions and attract and retain customers (students). There is considerable pressure on HEIs operating in a competitive HE milieu (Wilkins, 2020) to provide quality service to students and other stakeholders so that the market share can be retained or improved. Apart from these, as stated in the Chapter One, providing superior SQ has also been associated with increased profitability.

A growing body of literature has studied service quality in higher education, particularly from the viewpoint of students (see e.g. Quin et al., 2009; Sultan and Wong, 2010; Calvo-Porral et al., 2013; Ali et al., 2016; Teeroovengadum et al., 2016; Marimon et al., 2019). These studies contend that increased competition within the sector due to internationalization of higher education, the rise in the number of private universities, the decrease in state funding for public universities and ongoing restructuring processes have led to higher education becoming market oriented with the classification of education as a marketable service. These recent developments have driven researchers and managers of higher education institutions (HEIs) to devote more attention in evaluating students' overall perceived SQ. Furthermore, proliferation of various higher education arrangements including online, distance and open universities, profit, and not for profit have also prompted the need to assess HEIs for quality of output (Alabi, 2017). With these significant changes taking place in the education sector over the last two decades, HEIs are increasingly being called to account for the quality of education that they provide in order to meet the modern-day requirements (Ushantha and Kumara, 2016).

To account for the quality of education, the focus of concern has been on the assessment of SQ in the sector to determine customers' (students') satisfaction alongside their delight, and in turn their impact on behavioural intentions. Numerous studies on SQ revealed that customer satisfaction is one of the keys for success in a competitive business environment and for achieving customer loyalty (e.g. Kashif et al., 2016; Annamdevula and Bellamkonda, 2016) so as to gain a higher market share. As the higher education environment has become dynamic and keenly competitive (Dehghan et al., 2014; Wilkins, 2020), students have become discriminating in their selection, want more choices and are very demanding of their institutions. To live up to this challenge and achieve their mission it is imperative that HEIs assess and monitor the quality of their services and commit to continuous improvements in an effort to respond to the needs of the institutional constituencies. This, according to Kwek et al. (2010), requires education institutions to identify what are the determinants for the students' overall perceived SQ. However, there is a lack of a generally accepted framework that allows a precise assessment of determinants of SQ in education. The disagreement stems from the best way to define service quality in the higher education context (Cheng and Tam, 1997; Becket and Brooks, 2006, Ali et al., 2016).

Elassy (2015) argues that the two dominant reasons for not achieving a single agreed definition of education quality are: quality is a relative concept because everyone has his/her own perception; and quality means different things in various contexts. Studies by Harvey and Green (1993), Cheng and Tam (1997), Kwek et al. (2010), Jain et al. (2013) and Teeroovengadum et al. (2016) have similarly demonstrated that the concept quality in the higher education context can be operationalized and interpreted in a number of ways. This makes it is imperative for HEIs to think about what students, in given context, have considered important to their teaching and learning experience in order to enhance their competitiveness in both local and global markets.

Yeo (2008) states that the education sector's service quality is concerned with the physical, institutional and psychological aspects of higher education. He further opined that quality in education encompasses linking teacher-student participation with professionalism-intimacy to positively affect intermediate and lifelong learning. Ashrat et al. (2016) cite World Bank (1995, p. 46) and intimates that quality in education is difficult to define and measure, however an adequate definition must include student outcomes. In supporting this stance, Pham and Starkey (2016) conceptualised quality of higher education as meeting societal needs underpinned by the belief that the purpose of higher education is to prepare graduates for employment. Most educators included in the definition of education quality the nature of the educational experiences that help to produce the outcomes and “the learning environment” that support the delivery such outcomes (Senthilkumar and Arulraj, 2011; Stukalina, 2012; Teeroovengadum et al., 2016). Prior studies have revealed that a better physical learning environment (or facilitating services) supports quality teaching and learning processes in institutions without which the essential service cannot be provided (Pencareli, Spendiani and Cini, 2013; Barrett et al., 2019; Marimon et al., 2019).

Zhang et al. (2016) opined that education quality, as perceived by students in higher education, mainly involves curriculum quality and educational service quality. Zhang and colleagues, who cite Dennis (2000), further intimated that instructional content, curriculum provision, instructional methods, and course evaluation are the dimensions appropriate to assess curriculum quality, and this in turn has indirect influence on student satisfaction via perceived value. As regards educational service quality, O’Neil and Palmer (2004) define it as the difference between what a student expects to receive and his/her perceptions of actual delivery. However, Holdford and Patkar (2003) state that educational service quality is a student’s overall evaluation of services received as part of their educational experience.

Earlier, Chen and Tam (1997), in a bid to resolve the difficulty in defining quality regarding ongoing educational reforms in both local and international contexts, proposed seven models that provide comprehensive frameworks for understanding and conceptualizing quality in education from different perspectives. These multi-models illustrate the diverse conceptions that can be adopted to enhance understanding of education quality and to develop management strategies. Table 3.1 summarises Chen and Tam’s (1997) multi-models and what they represent.

Table 3.1: Chen and Tam' (1997) Multi-models

Types of multi-models	What each model represents
Goal and specification model	Education quality is attainment of stated institutional goals and conformance to given specifications. The goals and specifications used for judging education quality ought to be clear and accepted by all stakeholders, and there should exist relevant indicators to evaluate whether the institution has attained the prescribed education standards.
Resource-input model	Education quality is the natural result of achievement of quality resources and inputs for the institution. The education input quality indicators may include high quality student intake, more qualified staff recruited, better facilities and equipment, better staff student ratio, and more financial support procured from the central education authority, alumni, parents, sponsoring body or any outside agents.
Process model	Assumes that an educational institution is of high education quality if its internal functioning is smooth and "healthy". A smooth internal institutional process permits the faculty to perform the teaching task efficiently and effectively, this then will enable students to achieve fruitful learning experiences easily. Important internal activities or practices such as leadership, decision making, social interactions, social climate, work procedures including rules & regulations, teaching methods, classroom management, and alike in the educational institution are often taken as the important indicators of quality education.
Satisfaction model	Education quality is the degree to which the performance of an educational institution can satisfy the needs and expectations of its influential stakeholders comprising students, teachers, management board, members, parents, alumni, and officers of various departments.
Legitimacy model	Education quality is the achievement of an education institution's legitimate position or reputation.
Absence of problems model	Education quality is the absence of problems or troubles. It focuses on identifying strategies for the improvement of an educational institution by analysing problems and defects and to work on solving the problems
Organisational learning model	Considers education quality as continuous development and enhancement. Model acknowledges the educational environment is dynamic, thus educational institutions have to deal with the environmental impacts and the internal process problems as these are the key issues in assessing whether the educational institutions can deliver continuous service quality.

Source: Summary of Chen and Tam's (1997) Multi-models by the Researcher

It is clear from the Chen and Tam multi-models that to achieve education quality in a dynamic environment requires quality resource and input indicators such as better infrastructure together with a smooth internal functional process (including good governance) that supports more qualified faculty and staff to perform their tasks effectively and efficiently. This approach to education quality may produce quality outputs in the form of enlightened students that come out of the system satisfied; thus, enhancing the image of the institution. Output-related attributes of HE quality comprise outcomes such as graduate skills, abilities, competencies and employability (Dwaikat, 2021). Therefore, HEIs adopting these multi-models to conceptualise education quality could help develop a long-term sustainable strategy for achieving consistent quality education. To add, the complexity of HE as a service sector has led to varied perspectives on how to measure SQ in the sector.

Several studies on SQ in higher education have been conceptualised to assess the quality of process performance of services provided at HEIs in different countries and cultural contexts (Sultan and Wong, 2012). These theoretical works, alongside empirical research, assessed SQ based on the use of a different number of generic measures (e.g. SERVQUAL by Parasuraman et al., 1988; SERVPERF by Cronin and Taylor, 1992) and industry-specific research instruments (e.g. HedPERF by Abdullah, 2006; SQM-HEI by Senthilkumar and Arulraj, 2011; HESQUAL by Teeroovengadum et al., 2016; HiEduQual by Latif et al., 2019). (See detail discussion of these scales in section 3.8.). Nonetheless the use of these existing scales in different contexts to assess quality of services offered often fail to address specific challenges associated with service performance to enrich the services offered and then improve upon the quality of the educational programmes. This deficiency is attributed to three main reasons. First, as earlier stated, quality is a relative concept and means different things in varied contexts (Elassy, 2015). Second, SQ in HEIs has been assessed usually focusing on measuring process performance (Dwaikat, 2021). Third, factors in a country's cultural context and environment influence individuals' perceptions in evaluating service quality (e.g., Furrer et al., 2000; Dedic and Pavlovic, 2011). To overcome these challenges, de Jager and Gbadamosi (2010) argue for the use of measurement scales based on a country-specific determinants of SQ to address specific higher education issues about quality.

Literature submits that different cultural backgrounds of customers (students) influence the perception of SQ in the higher education context (e.g., Sultan and Wong, 2013a, 2014; Kashif et al., 2016). Culture is defined as the values, ideas or beliefs and symbols that enable people to communicate, interpret, and evaluate as members of society (Solomon et al., 1999). This suggests that people with different cultural backgrounds may have different values and beliefs that affect their perception of SQ. In this regards, students' cultural background is an essential factor in determining service standards from the HE providers' perspective and influencing perceived service standards from their perspective as receivers (Sultan and Wong, 2013a). Therefore, the clarion calls by scholars (e.g., Dedic and

Pavlovic, 2011) to consider the potential impact of cultural influences on SQ evaluations justify the development of a SQ measurement instrument for varied cultural settings, including Ghana.

Available literature also indicates that different techniques and methods for measuring and managing quality in the manufacturing sector are now being adopted or adapted to assess service quality within colleges and universities with the purpose of improving service delivery operations. An extensive review of past studies by Quinn, Lemay, Larsen and Johnson (2009) uncovers that the Total Quality Management (TQM) approach, Quality Function Deployment (QFD), Six Sigma, ISO 9001, Malcolm Baldrige National Quality Award, and Academic Quality Improvement Program (AQIP), among others, are additional methods and standards used to assess quality of service in higher education.

Amid these techniques, evidence suggests that the TQM approach is the most widely used in practice (Ali, Mahat, and Zairi, 2010; Dwaikat, 2021), while both QFD and ISO 9001 certification are gaining acceptance, with the latter being lately implemented in education in the United States (Quinn et al., 2009). However, Six Sigma used for quality improvement in higher education is underrepresented in extant studies (LeMahieu, Nordstrum and Cudney, 2017). What grabs attention is that despite the use of the aforesaid methods and tools in assessing SQ in HEIs, researchers (e.g., Meirovich and Romar, 2006; Antony, Krishan, Cullen and Kumar, 2012) have argued that these methods and tools have proved more difficult to adopt for the improvement of instructional processes. This is not only as a consequence of lack of clarity of the concept of quality but also the nature of culture of the higher education context (e.g., Meirovich and Romar, 2006; Antony et al., 2012; Elassy, 2015).

More recent research reports that quality assessment in higher education is based either on global university rankings or processes of quality assurance in HE (Komotar, 2020). In adopting the global university rankings approach to measure quality of HEIs, Dwaikat (2021) states that ranking organisations employ varied methodologies and criteria to measure the performance of institutions. Typical examples of global university rankings include Academic Ranking of World Universities [ARWU], Quacquarelli Symonds University Rankings [QS], Times Higher Education and the like. According to Dwaikat, the ARWU uses the number of prestigious academic awards including prizes such as the Nobel Prize and the number of published research to determine the quality of a HEI. Contrarily, the QS methodology uses indicators including number of PhD holders among faculty members, number of international faculty members, number of published research per faculty member and citations per faculty member, staff to student ratio, and number of international students, among others, to measure quality of HEIs. Correspondingly, the Times Higher Education rankings methodology employs comparable indicators to QS, including additional indicators such as the income of the university from trade and research.

Despite the relevance of university ranking methodologies, Dwaikat (2021) contends that these approaches assess the performance (considering input-output attributes) instead of doing so from a holistic perspective (focusing input-process-output determinants of quality in HEIs). It is also argued that assessing the institutional SQ using university ranking methodologies is problematic because the various ranking approaches do not really resolve the difficulty in defining educational quality (Komotor, 2020). Regarding quality assurance approach, Calvo-Porral et al. (2013) suggest that it is a broad framework established to ensure the quality of degree awarded by institutions. However, Soutar and McNeil (1996) argue that the performance indicators employed by the quality assurance bodies to assess the quality of higher education tend to measure activities rather than true measures of the quality of students' educational experience.

Taking a cue from the foregoing discussions, the focus of research should ensure measurement of SQ comprehensively based on country-specific determinants to capture continuously provided services by HEIs in competitive HE milieu. The reasons are that the generic measures and industry-born SQ models constructed for different contexts and the university ranking methodologies do not adequately capture determinants of SQ in another HE context (Houston, 2008). Thus, these SQ models and tools do not amply help to resolve SQ challenges in higher education in a different context. This is not only due to the difficulty of defining quality in HE, but also the measurement of quality has proved to be contentious.

Accordingly, the intention of this thesis to evaluate SQ in public and private universities in the emerging, Sub-Saharan African country of Ghana from students' perception of the educational institution's performance using a country-specific measure. This study considers capturing input-process-output determinants of SQ to have a wide understanding of issues affecting perceived SQ and its effect on student satisfaction via perceived value. This is a departure from previous studies conducted in the country. In order to have a better understanding of students' perceived SQ in a competitive higher education environment, it is crucial to review models used to assess SQ in the HE sector. Before delving into the substantive area of models for measuring SQ in the HE sector**,** it is important to look at the role of students in educational institutions, followed by student perceived value and then student satisfaction. The next section reviews the role of students in HEIs.

3.4.1 The Role of Students in Higher Education Institutions

The role students play in HEIs, is crucial to understanding how they perceive the services provided by their institutions, as well as the measurement of their levels of satisfaction with these services. A review of recent literature on the role of students in educational institutions reveals five metaphors used to describe the role of students in HEIs. The five metaphors include students as consumers or customers, producers, co-creators, partners, and change agents (Dollinger and Mercer-Mapstone, 2019). These different roles help to shape students' actions in the higher education settings. Researchers (Tilak, 2015; Dollinger and Mercer-Mapstone, 2019) suggest that students are consumers when HEIs regard them as actors who take on customer-like behaviours and are seen as sources of revenue as they pay fees while in exchange they consume educational experiences towards their degree.

Ironically, Wilkins and Balakrishnan (2013, p.144 cite Douglas et al., 2006) state that even in situations where students do not pay tuition fees, they should generally be treated as customers of the university to be served and to provide feedback to the university in case they are dissatisfied. In subscribing to this thought, Bassi (2019) finds support in Zabaleta (2007) and maintains that an evaluation of teaching and learning process by students based on their opinion is the main method for gathering information regarding the quality of education delivery. Gallifa and Batalle's (2010) study on SQ in HE system offers a useful example of how the opinion of customers on the services and products of an institution contributes largely to determine the sustainable long-term position of that institution. It is therefore suggested that HEIs should give special attention to students as customers because they look forward to receiving quality services that will drive their satisfaction (Sadeh and Garkaz, 2015).

Apart from students, different customer groups (such as parents, faculty & non-faculty members, employers, the government, alumni, and society at large) also exist in the HE sector (Kara and DeShields, 2004 cited in Zafiropoulos and Vrana, 2008). Among the various customer groups, researchers agree that students are primary customers because they are the major group affected by SQ and are decision makers in choosing and using higher education services (Hill, 1995; Stodnick and Rogers, 2008; Bhuian, 2016; Kara et al., 2016; Darawong and Sandmaung, 2019). Correspondingly, Kimani et al. (2011) state that students are primary customers and without students to teach there is no business for HEIs to provide; therefore, students have the right to obtain the best quality education. However, Harrison and Risler (2015) argue that when students are understood as consumers to be appeased, educational quality is likely to be compromised rather than learners to be challenged. According to Harrison and Risler (2015) and Brambilla (2016), teaching and selling are inherently contradictory processes, and perception of students of being mere consumers does not offer apposite conditions for learning and desired experiences.

A different perspective voiced by Neary and Saunders (2016), Neary and Winn (2017) and Hubbard et al. (2017) argues that students are not passive consumers of knowledge. The authors rather contend that students, through their shift from consuming teaching resources to producers of teaching resources working alongside with their instructors, are actually "co-producers" of their education. In so doing, students are empowered to design and critique texts, including course materials, and deliver aspects of the course in their learning process. Dollinger and Mercer-Mapstone (2019) state that the "students as producers" role can be considered from two perspectives, namely: an individual as a producer of his/her own knowledge and group process (co-producers). But Blair, Griggs, and Mackillop (2018) assert that "students as co-producer" models of learning are inherently problematic in a competitive higher education system.

On the contrary, students as co-creators is another perspective proposed by scholars (such as Bovill, Cook-Satter and Felten, 2011; Seale, Gibson, Haynes and Potter, 2015) as the role of students in HE. To them, this means empowering students to have the right and responsibility to co-create their own studies through group endeavours often with explicit outcomes in focus, instead of considering them as consumers who pay fees (Brambilla, 2016). However, in the opinion of Obermiller and Atwood (2011), an idea of a customer as a value co-creator might be an appropriate basis for describing students as customers.

Other authors, such as Cook-Sather et al. (2014), argue that students should not be treated as mere customers, suggesting that a student's role should be more of a "collaborative partner" who has been empowered to participate in a mutual reciprocal learning process. In this sense, students and staff have the opportunity to contribute equally to pedagogy, decision making, implementation, investigation or analysis. This may not be necessary in the same ways but must be within the context of mutual respect, reciprocity and shared responsibility. Students as partners role is mainly considered as a mindset rather than an exclusive mode of practice.

Other academic scholars (Thorogood and his colleagues, 2018) suggest that students play the role of change agents in HEIs. This, according to Thorogood et al., involves engaging students in an experiential learning as collaborative partners in pedagogic knowledge acquisition and professional development, with the objective of exploring issues in their departments and addressing them directly so as to effect change. This approach to student participation, according to Healey et al. (2014), ensures that decisions for action tend to be promoted by students and engaged generally at a subject and or an institutional level.

Despite the dissenting voices on student's role in educational institutions, lately the marketization of HE alongside the global increase in the demand for higher education (Chapleo and O'Sullivan, 2017) has led to the acknowledgement of the fact that students are customers to be satisfied, and they have the right to engage in giving feedback. The researcher also believes evidence on the ground suggests that students who sponsor their education tend to be more sensitive to the quality of services they receive and experience. As such, occurrences of service failure and quality deficiencies resulting in students' dissatisfaction may prompt negative reactions. Bok (2003) maintains that students consider universities as service providers from whom they make a purchase of an educational experience to obtain degrees and they would therefore expect value for their monies.

In Ghana, HEIs operate in a vibrant and keenly competitive education market, and to remain relevant in this commercial competition era, recognising students as customers to be satisfied is a justified imperative for HEIs to adopt as an appropriate strategy in order to be successful. This is because HEIs have to pursue aggressive marketing strategies to satisfy their students and project the quality of their institution to the society and increase their market share. Based on the above discussions, this thesis considers students as customers of HEIs to determine the institutional features that are most valued by them. The researcher will then measure their perceptions of the institution performance against these valued attributes (Athiyainan and O'Donnell, 1994) to determine their level of satisfaction. The next section accordingly looks at the issue of customer (or student) value.

3.5 Customer (or Student) Value

The relevance of customer value in understanding consumer behaviour and purchase decisions has been of interest in several past studies (e.g., Zeithaml, 1988; Cronin et al., 2000; Bruce and Edgington, 2008; Ledden et al., 2011; Hallak et al., 2018; Marcos and Coelho, 2021). Nonetheless, increasing research about customer value including its related service constructs, the value construct, has been variously defined and given different names in previous studies. Some of the names include customer value, consumer value, perceived value, customer perceived value and service value. These terms may be used interchangeably in this thesis as well.

An early and common definition is provided by Zeithaml (1988, p14), who states that customer value is "the customer's overall assessment of the utility of a product based on the perception of what is received and what is given". Ishaq (2012) describes perceived value as consumer's overall assessment of the quality based on perceptions of what is received and what is given. Marcos and Coelho (2021), who cite Dodds et al. (1991) and find support in Boksberger and Melsen (2011), contend that customer's perception of value correspond to a tradeoff between customer's evaluation of the benefits perceived in an offering relative to the sacrifice made to use the service by paying the price. Woodruff (1997, p.140) suggests that customer value is customer perceived preference for and evaluation of those product attributes, attribute performances and consequences arising from use that facilitate achieving the customer's goals and purposes in use situations.

Based on the above definitions, the customer value is something that is perceived or experienced by a customer arising from use of a particular good or service. Pencarelli et al. (2013) notes that value is subjectively perceived by the customer instead of objectively determined by the service provider or seller. To this extent, researchers (Zeithaml, 1988; Bolton and Drew; 1991) suggest that factors influencing the benefits customers receive and sacrifices customers have to make affect evaluation of customer value, notwithstanding that different customers may form varied opinions over time. Extant literature indicates that perceived value is a multifaceted and complex (Gallarza and Saura, 2006) higher order construct, which is more stable in judgement than customer satisfaction (Bolton and Drew, 1991). Researchers (Oliver, 1997; Gallarza, Gil-Saura and Holbrook, 2011) argue that value perception takes both cognitive and affective processes, but Duman and Mattila (2005) posit that the cognitive process is largely emphasised in literature.

Extant studies suggest that perceived SQ and monetary price are the two main antecedents of perceived value (Oh, 2000; Duman and Mattila, 2005) and, in turn, perceived value is a significant antecedent to customer satisfaction and behavioural intention (Cronin et al., 2000; Tran and Le, 2020; Marcos and Coelho, 2021). Gallarza et al. (2011) maintain that perceived value is an encounter specific input to satisfaction. There is also considerable empirical evidence that perceived quality plays an important role in adding value to students' overall educational experience (e.g., Ledden et al., 2011; Dlacic´ et al., 2014; Prentice et al., 2018; Teeroovengadum et al., 2019), and a value-oriented education in turn enhances students' satisfaction (Moosmayer and Siems, 2012; Mansori et al., 2014; Zhang et al., 2016; Teeroovengadum et al., 2019). Unni (2005) also intimated students' perception of value influence their evaluative assessment of the education provision received. Besides, Bruce and Edgington (2008) posit that students' value perception drive their intention to provide positive word of mouth recommendation to others. Accordingly, delivering superior consumer value offers organisations a valuable strategic direction from which to gain sustainable competitive advantage (Hu et al., 2009).

Although perceived value remains strategically relevant in the provision of services, there is much controversy in its conceptualisation (Boksberger and Melsen, 2011; Gallarza et al., 2011). It is conceptualised in the literature as either a unidimensional scale or a multidimensional scale. The unidimensional scale evaluates perceived value based on one global measure for overall customer value perceptions (Zeithaml, 1988). However, this method has been criticized in literature for lacking validity and it is too simplistic because it may not be able to capture different attributes that shape customers perception of value prior to, during and after consumption (Gale, 1994 cited in Boksberger and Melsen, 2011). Marcos and Coelho (2021), however, state that the multidimensional methodology evaluates perceived value employing various variables, particularly get (benefits) and give (sacrifice) dimensions. Boksberger and Melsen (2011) emphasised that perceived value is assessed based consumers' perception of benefits and sacrifices, including quality and price. Likewise, Chang (2008) proposed that SQ component affects customer perception of value, and the quality dimension is treated as the get component of value (Gallarza and Saura, 2006; Gallarza et al., 2011).

Marcos and Coelho (2021) intimate that multidimensional scales use to evaluate perceived value usually capture functional and affective attributes of the service product. They stated that functional attributes comprise valuations of the establishment, the contact personnel, the quality of the service and the price. Regarding affective dimension, Marcos and Coelho indicated that it is separated into an emotional dimension (describing feelings or internal emotions) and a social dimension (describing the social impact of the purchase made). In a similar manner, Sanchez et al. (2006) suggest that perceived value can be measured based on functional value, emotional value and social value dimensions. Academic scholars assert that the multidimensional scale is most often used and appropriate to evaluate value compared to unidimensional measure, because a multidimensional scale explains perceived value of services better, both qualitatively and statistically (Boksberger and Melsen, 2011; Gallarza et al., 2011).

A number of multidimensional scales for value assessment have been developed having functional value, emotional value and social value dimensions (see e.g., Sheth et al., 1991; Sweeney, Soutar and Johnson, 1999; Sweeney and Soutar, 2001). For instance, Sweeney et al.'s (1999) scale features dimensions including social value, emotional value, functional value (price/value for money), functional value (performance/quality), and functional value (versatility). Sweeney and Soutar (2001) developed the PERVAL model grounded on

Sheth et al.’s model. The PERVAL model dimensions comprise quality/performance, social, price/value for money and emotional attribute. Sheth and his peers (1991) proposed a five-dimensional construct comprising functional, emotional, social, epistemic and conditional response, which represents the perceived value’s get component.

According to Sheth et al., functional value refers to the value associated with the benefits of owning a specific product or patronising a specific service; social value relates to the value derived from being associated with specific social groups; emotional value describes the capacity of a product or service to stimulate feelings or affective states toward the product or service to provide novelty or satisfy a desire for knowledge; epistemic value refers to benefits derived through a product’s ability to arouse curiosity, provide novelty or satisfy a desire for knowledge; and, finally, the conditional value that derives from the specific contexts of each situation. However, it has been suggested by the authors that the conditional value may be excluded in the customer value assessment. The elimination of the conditional value is based on suggestion by the authors and supported by Sweeney and Soutar (2001) that that conditional value is obtained from temporary functional or social value and therefore is not special case of the other four dimensions. On the other hand, the give component refers to the sacrifices that consumers are willing to make so as to acquire the desired service product (Sheth et al., 1991; Ledden et al., 2011; Marcos and Coelho, 2021). It is operationalized as monetary (costs such as tuition fees, accommodation and textbooks) and non-monetary considerations including investment of time dedicated to study, which results in a lack of time to spend on other pursuits such as hobbies/interests and social events (Ledden et al., 2011).

Research evidence in the literature suggests that the scale proposed by Sheth and his peers in 1991 sets the foundations for the multidimensional approach (Boksberger and Melsen, 2011; Marcos and Coelho, 2021). In addition, extant literature indicates that many of the studies on perceived value appear to adopt the Sheth and his colleagues’ model to evaluate customers’ perception value in different disciplines including the higher education context (see e.g., Pura (2005) in mobile services; Roig et al. (2006) in banking; LeBlanc and Nguyen (1999), Ledden et al. (2007), and Ledden et al. (2011) in education). Arguments put forward in Ledden and his peers’ work for the adoption of Sheth et al.’s model amongst others, suggest that the multidimensional scale has strong theoretical grounding across various fields of disciplines such as economics, sociology, psychology and consumer behaviour; cross sector stability (over 200 applications); and empirical evidence of importance to the educational sector.

Based on the above arguments, the researcher is inspired to adopt existing multidimensional value model by Ledden et al. (2011) which is an adaptation of the conceptualisation of Sheth et al.'s model to measure students' perceived value in Ghana's higher education context. However, in using this model as suggested by Ledden et al. (2011), the image value attribute would be added to account for the benefits of consumption derived from studying at a well impressed HEI. As stated by Ledden et al. (2011) cited in Nguyen and LeBlanc (2001), this is specially to ensure that the status and reputation of the HEI influences perceptions of the value of the qualifications gained. The appraisal of student perceived value in this study is focused on a cross section of students comprising current students in public and private universities. In an apparent acceptance that perceived value strengthens student satisfaction, the next section examines the concept of customer (or student) satisfaction to determine measures that drive student fulfilment.

3.6 Customer (or Student) Satisfaction

The concept of customer satisfaction is one of great interest in services literature and is regarded as the fundamental component that makes a business successful and sustains competitiveness (Darawong and Sandmaung, 2019). Customer satisfaction refers to a consumer's overall assessment based on their overall experience of an organisation's offering(s) (Özkan et al., 2020). Other different definitions have been proposed throughout the years. Zeithaml and Bitner (2003) defined customer satisfaction as the customer's evaluation of a product or service in terms of whether that product or service has met their needs and expectations. On the other hand, Armstrong and Kotler (2017) indicated that satisfaction is a feeling that results from a process of evaluating what has been received against what was expected, including the purchase decision itself and the needs and wants associated with the purchase. Therefore, failure to meet needs and expectations of customers is assumed to mean dissatisfaction with the product or service.

Gallarza et al. (2011) makes reference to Oliver (1997) indicating that customer satisfaction is a customer's judgement of service or product attributes that is always post-consumption and experience based. Similarly, Sultan and Wong (2014) maintain that student satisfaction is an emotional state of happiness resulting from performance evaluation (or judgement) of the service attributes in the context of higher education. An early description states that student satisfaction is a short-term attitude based on an evaluation of their experience with the education service delivered (Elliot and Healy, 2001). In light of these definitions, it is emphasised that satisfaction is more experiential in nature (Iacobucci et al., 1995 cited in Torres, 2014).

Researchers (e.g., Oliver, 1997; Gallarza et al., 2011; Özkan et al., 2020) have viewed customer satisfaction as a summary of cognitive and emotional responses that pertain to an evaluation of service experience that occurs after consumption or after accumulative experiences. Howbeit, evidence in the literature suggests customer satisfaction is largely an affective (or emotional) reaction to the overall service experienced (Lee et al., 2007; Carrillat et al., 2009) because it results from an appraisal of service performance that include all aspects of a person's working relationship with another.

Research evidence in the literature indicates that customer satisfaction can be conceptualised at micro and global levels (Oliver, 1999; Marcos and Coelho, 2021). The micro level refers to customer's evaluation of the service experience based on a transaction-specific experience with the provider. On the contrary, the global level is in consequence of the customer's cumulative experiences with a specific service or summation of all prior transaction-specific evaluations (Jones and Suh, 2000). Thakur (2016) argues that customer satisfaction should rather be considered from an overall evaluation of all the aspects that make up the service experience including customer relationship instead of only an outcome of a specific transaction with the provider. In this respect, Marcos and Coelho (2021) posit that overall customer satisfaction represents the customer's cumulative opinion of an institution's service performance. Shankar et al. (2003) submit that an overall customer satisfaction is an evaluation of aggregate impact of discrete service encounters or transactions with the provider over a given duration. The researcher therefore argues in favour of the global approach to measuring students' satisfaction, which considers the overall measure as an aggregation of all previous transaction-specific experience that considers affective reaction to the service experience.

Several dimensions have been identified in literature to impact on customer (or student) satisfaction in the higher education context. For instance, a systematic review and meta-analysis of 83 studies across the world published from 1986 to 2016 relating to student satisfaction in higher education reported six dimensions as antecedents of student satisfaction (Santini, Ladeira, Sampaio and Costa, 2017). These six dimensions include SQ perception, perceived value of educational services, resources provided to the student, marketing orientation, identity of the higher education institution, and university environment. Similarly, a meta-analysis study by Carrillat et al. (2009) relating to the development of service quality theory suggests that superior service quality plays a significant role in increasing overall customer satisfaction. In fact, evidence from services literature indicates that both SQ and perceived value are major inputs into customer satisfaction (Gallarza et al., 2011), and customer satisfaction, in turn, contributes positively and significantly to loyalty (e.g., Annamdevula and Bellamkonda, 2016; Kashif et al., 2016; Özkan et al., 2020) as a positive form of behavioural intention yielding higher profits through beneficial customer retention (Cronin et al., 2000). From the above, it is apparent that the level of quality and value that consumers experience with services has an impact on their overall satisfaction, and their satisfaction in turn encourages repeat business and favourable word-of-mouth communication.

Although many studies increasingly recognize a significant impact of SQ on customer/student satisfaction across many different disciplines and contexts (e.g., Cronin et al., 2000; Carrillat et al., 2009; Sultan Wong, 2014; Hapsari et al., 2016; Gupta and Kaushik, 2018; Özkan et al., 2020; Marcos and Coelho, 2021), other studies argue that student satisfaction ought to be considered as an antecedent of SQ (Bitner, 1990; Bolton and Drew, 1991; Osman and Ashraf, 2019). It is apparent that results of these studies continue to be diverse in terms of statistical significance, direction and even magnitude (Santini et al., 2017). In this regard, there have been calls from academic scholars to further investigate the links between customer satisfaction and its related constructs in other contexts (Gallarza et al., 2011; Santini et al., 2017). The next section therefore analyses the interrelationship between SQ, perceived value and customer (student) satisfaction.

3.7 The Interrelationship between Service Quality, Perceived Value and Student Satisfaction

A large number of empirical studies in services management literature have investigated the relationship between service quality, perceived value, customer satisfaction and their impact on behavioural intentions in a wide variety of services and in different country contexts (e.g., Cronin et al., 2000; Lin et al., 2012; Hallak et al., 2018; Konuk, 2019; Lee, 2020; Marcos and Coelho, 2021). Although the interplay between the constructs is germane in service delivery management (Brady et al., 2001), their interrelationship is contentious. One dominant debate in literature has been theoretical order of the constructs in services management research, particularly the links between SQ, perceived value and customer satisfaction.

In fact, previous studies have proposed that SQ and customer satisfaction exert a direct positive influence on perceived value (Bolton and Drew, 1991; Zeithamal et al., 1988, Ozkan et al., 2020) and customers' satisfaction predict their level of perception of SQ. Contrarily, other researchers have suggested that SQ has a direct relationship with perceived value and satisfaction, and in turn perceived value has a direct relationship with satisfaction (e.g., Cronin et al., 2000; Yu et al., 2014; Prentice et al., 2018). However, the commonly cited theoretical order in services management research is the SQ-value-satisfaction sequence (see e.g., Brady et al., 2002; Zabkar et al., 2010; Ledden et al., 2011; Gallarza et al., 2011). This is because, as posited by Gallarza and her colleagues (2011), SQ evaluation (alongside perception of value) is predominantly a cognitive process whereas customer satisfaction is largely an affective outcome from service experience (Lee et al., 2007). Therefore, since cognition leads emotions in the causal chain of psychological processes (Oliver 1997), it is strongly justifiable in the context of theory that SQ-value-satisfaction sequence is more appropriate.

Moreover, the theoretical justification for the investigation of the interplay between SQ, perceived value and customer satisfaction constructs appear vitally important in the light of the recently emerging consensus of research findings that delivery of outstanding SQ results in improved customer satisfaction and favourable perceived value, and that, in turn, positive perceived value directly strengthens customer satisfaction. For example, Cronin and his colleagues (2000) conducted a study in which they empirically examined the effects of SQ, satisfaction, and value on consumers' behavioural intentions across multiple service industries. The findings revealed that there are direct links between service quality, value, satisfaction, and Behavioural intentions when all these construct are considered collectively. In addition, the results further suggest that the indirect effects of the SQ and value constructs enhanced their impact on behavioural intentions. Hu et al. (2009) studied the relationship between SQ and other relevant constructs; and their proposed model established that delivering high levels of quality service and creating superior customer value have a strong impact on customer satisfaction.

Researchers (Yu et al., 2014) have also suggested that providing high-quality services to consumers in a sport and fitness centre elevated their perceived value, enhanced their satisfaction, and thus reduced their complaint behaviour. The authors further stated that this ultimately increased consumers' likelihood to renew their membership and continued use of the centre facilities. Ng'ang'a et al. (2020) studied the mediating effect of perceived value on the relationship between service encounter quality and customer satisfaction in the hotel industry in Kenya. They found that the influence of service encounter quality on customer satisfaction was partially mediated by perceived value, and that there was a direct relationship between service encounter quality and customer satisfaction. A more recent study by Marcos and Coelho (2021) conducted in the insurance industry has also established that SQ has a direct relationship with perceived value and satisfaction, and perceived value in turn has a direct relationship with customer satisfaction.

Likewise a critical examination of literature shows that some past studies have explored the relationship of SQ with its consequences such as perceived value, student satisfaction, attitudinal loyalty and behavioural intention in the higher education context (e.g., Clemes et al., 2007; Ledden et al., 2011; Prentice et al., 2018; Sultan and Wong, 2019; Teeroovengadum et al., 2019). A typical example is Ledden et al. (2011) who conducted a study to examine relationship behaviour among SQ, value, satisfaction and intention to recommend at a UK business school among 232 postgraduate students at master's level. The findings showed that SQ is an antecedent of value, which in turn is a driver of satisfaction, the ultimate outcome of which is word-of-mouth recommendation. Other researchers such as Prentice and his colleagues (2018) investigated the interrelationship between education SQ, value and satisfaction on student customer intentions and behaviour in a private university in Ireland using 260 undergraduate students. The findings revealed that students' perceptions of good service quality leads to their valuing the service more, and valuing the service more drives a greater satisfaction level in them. The results further showed that greater student satisfaction leads to more word of mouth recommendations and a greater likelihood of the student intending to return to the university to study other courses.

Despite substantial research attention on linkages between service quality, perceived value and student satisfaction in various industries (including higher education), the bulk of existing studies have been undertaken in western European contexts including UK, Australia, USA, and other parts of Asia (e.g., Ledden et al., 2011; Sultan and Wong, 2012; Prentice et al., 2018), with limited research originating from Sub-Saharan Africa. Specifically, studies in Ghana that establish the context-specific relationship between perceived service quality and overall student satisfaction mediated by student perceived value in the higher education sector is scarce to the best of the researcher's knowledge. Regardless of evidence as to the significant impact of perceived SQ on perceived value or overall customer satisfaction, the question as to whether this relationship is direct or mediated by perceived value remains unresolved. The researcher therefore envisions a gap in the Ghanaian context that is acknowledged and must be addressed in the pursuit of this thesis.

The analysis of the gap becomes more important because anecdotal evidence suggests that the Ghanaian university students expect quality services from institutions as they are continually considering the benefits they are likely to derive and sacrifices they have to make that will enhance their satisfaction. This development, therefore, makes it imperative to investigate the interrelationships between perceived SQ, perceived value and overall customer satisfaction, so as to determine whether this relationship is direct or mediated by perceived value. The following section examines of models used in empirical studies to measure SQ in the HE sector.

3.8 Models for Measuring Service Quality in Higher Education Sector

A review of extant literature indicates that a number of models have been developed over the years in various countries to evaluate customers (students) perceptions of SQ and its effect on their satisfaction in HEIs. Among the various SQ models developed, a few have been proposed to measure SQ in service industries in general (i.e. generic measurement scales) while others were developed to measure SQ in a specific service sector (i.e. industry-specific measurement instruments). The two most popular and widely applied generic measurement models used to evaluate SQ in HEIs are the SERVQUAL model by Parasuraman et al. (1985, 1988) and the SERVPERF instrument by Cronin and Taylor (1992). Nonetheless, to date there is no near consensus on which one of the two generic measures is superior. Surprisingly, the SERVQUAL is the leading tool in terms of its usage. See the detailed discussions of these two generic scales below.

Notable industry-specific instruments developed specifically to measure SQ in HE comprise HedPERF (in Malaysia) by Abdullah (2006), SQM-HEI (in India) by Senthilkumar and Arulraj (2011), HEDQUAL (in Turkey) by Icli and Anil (2014), HESQUAL (in Mauritius) by Teeroovengadum et al. (2016), HiEduQual (in India) by Annamdevula and Bellamkonda (2016), and UnivQual (in Spain) by Marimon et al. (2019), among others. Developing SQ measurement models has helped institutions to improve their service(s), quickly identify problems, and better assess customer satisfaction (Manhas and Tukamushaba, 2015). Besides, the SQ measurement models assisted researchers and practitioners to understand essential antecedents and consequences of SQ, and ultimately aid development of methods and strategies for improving quality to achieve a competitive advantage and build customer loyalty (Abdullah, 2006b; Senthilkumar and Arulraj, 2011).

Omar, Ariffin and Ahmad (2015) submit that evaluating SQ from the customer’s perspective using these models provides crucial information for service providers who intend to boost business performance, enhance core competence and strategically position the organisation in the market place. A review of SQ measurement models and related empirical studies are presented in the ensuing sections. The next section first examines the SERVQUAL and SERVPERF models.

3.8.1 SERVQUAL and SERVPERF Models

This section examines the SERVQUAL and SERVPERF literature including criticisms raised at the conceptual and operational levels. The two models are reviewed in the ensuing sections below.

3.8.1.1 The SERVQUAL Model

As previously stated, the SERVQUAL is the most widely used methodology in the literature for measuring and managing quality of service in different service sectors, particularly from the customer's perspective. The SERVQUAL model was developed by Parasuraman and his peers in 1988 based on their earlier ground-breaking conceptual Gap Analysis model proposed in 1985. The model was originally conceptualised as a function of the differences between customer expectation and performance along 10 dimensions with 97 items and tested in five industries. The ten original dimensions include reliability, competency, courtesy, responsiveness, tangibles, access, credibility, communication, security and understanding. However, the SERVQUAL scale was later condensed to five dimensions consisting of reliability, responsiveness, assurance, empathy and tangibles (Parasuraman et al., 1988).

According to the authors, reliability refers to the ability of the service provider to deliver dependable and accurate service; responsiveness describes the willingness of the service provider to deliver prompt service and provide helpful guide to customers as promised; and assurance measures the knowledge and courtesy of employees and their capability to inspire trust and confidence. Empathy is about the caring, individualised attention the service provider offers its customers whereas tangibles describes the physical environment of the service provider in terms of the appearance of persons, facilities, physical equipment and communication materials.

Based on these five dimensions, two sets of 22 items or statements were developed anchored on a seven-point Likert scale. One set of the questionnaire (i.e., 22 items) measures customers' expectation of SQ prior to them using the service and the second set assesses customers' perception after experiencing the service. The differences between customers' perceptions of services received (P) and their expectations (E) scores across five dimensions constitute the perceived SQ or gap score (i.e. SQ = P - E) (Parasuraman et al., 1988). Thus, if P > E, then SQ is high, and P < E is evaluated as implying low SQ. Jain and Gupta (2004) submit that the SERVQUAL scale is suitable for identifying areas relating to SQ shortfalls for possible interventions as it informs managers about customers' opinions of services provided to them. The SERVQUAL instrument also serves as a standard measure to evaluate SQ in similar industries.

However, many criticisms have been raised on the SERVQUAL scale at both the theoretical (and conceptual) and operational levels. Notable theoretical criticisms include the SERQUAL model focusing on the process component of service delivery without considering outcomes of service encounters (Buttle, 1996; Groonroos, 1990); use of expectation battery has been questioned for being loosely defined and therefore subject to diverse interpretations (Teas, 1993; Cronin and Taylor, 1994; Torres, 2014); the five dimensions cannot be applied in all service industries (Carman, 1990; Ladhari, 2009); and not all students or customers think considering both expectations and perceptions (Qin and Prybutok, 2009).

The operational deficiencies of SERVQUAL consists of use of the “gap score” as a poor choice of measure of psychological construct (Van Dyke et al., 1999); issues about poor predictive, unstable dimensionality and overlap among dimensions (Qin and Prybutok, 2009); concerns with convergent, discriminant and predictive validity (Ladhari, 2009); and the perceptions score (compared to expectation score) contributes largely to the gap scores (Babakus and Boller, 1992). In the HE context, Teeroovengadum et al. (2016) find support in Joseph and Joseph (1997) and Angell et al. (2008), and intimate that students usually do not have clear expectations of services they would receive from HEIs. Therefore they do not often consider their expectations while evaluating services provided to them.

A related study conducted in Australia by Chavan et al. (2014) found that most students have vague expectations and limited prior service experience to shape their service expectations. They further suggested that students rather form their expectations as they consume the educational service during their three to four-year programme. Likewise, a longitudinal study has indicated that the students’ expectations of the set of factor-defined dimensions and attributes studied increased remarkably over time and senior students tended to be more demanding than beginning students (Campos et al., 2017). This suggests that there is a little evidence that students evaluate the quality of services received from their institutions based on the differences between their perceptions and expectations.

Intriguingly, numerous past studies on SQ in higher education have either adopted or adapted the SERVQUAL scale to evaluate students’ perceived quality (see e.g., Stodnick and Rogers, 2008; Shekarchizadeh et al., 2011; Chen, 2012; Sultan and Wong, 2012; Calvo-Porral et al., 2013; Anim and Mensah, 2015; Sadeh and Garkaz, 2015; Galeeva, 2016). Despite these studies having applied SERVQUAL to measure SQ in HEIs, researchers (Galeeva, 2016; Teeroovengadum et al., 2019) have intimated that SERVQUAL does not consider specificities of the higher education sector. From the foregoing reasons, the researcher believes the use of the SERQUAL scale to evaluate SQ in the context of higher education is more problematic and inappropriate. To overcome these deficiencies, the SERVPERF model was proposed and is therefore discussed in the next section.

3.8.1.2 The SERVPERF Model

The SERVPERF model was proposed by Cronin and Taylor in 1992. The SERVPERF model was derived from the SERVQUAL model by excluding the expectations component of the later model. The SERVPERF scale therefore measures service performance or SQ by considering only customers perceptions across the five dimensions, namely: reliability, responsiveness, and assurance, empathy and tangibles dimensions. This is based on empirical evidence as argued by Cronin and Taylor in their 1992 and 1994 studies that perception scores outperform gap scores in predicting overall evaluations of SQ.

This was supported by other academic scholars in HE who maintain that the performance-only approach is more appropriate and presents supreme measurement capability (Oldfield and Baron, 2000; Abdullah, 2006; Brochado, 2009; Mwiya et al., 2017). Another reason for the appropriateness of SERVPERF in the context of higher education is that capturing the expectations of students, as previously stated, is challenging. Other advocates of SERVPERF have suggested that the SERVPERF scale possesses better psychometric properties and greater instrument parsimoniousness than the SERVQUAL instrument (Brady et al., 2002; Jain and Gupta, 2004).

However, a study by Bayraktaroglu and Atrek (2010) compared the fitness of SERVQUAL and SERVPERF in HE services and they found that both scales have a good model fit, howbeit the SERVQUAL is slightly better than SERVPERF. Research evidence also indicates that a major drawback of the SERVPERF scale is that there is inconsistency in a generalised factor structure as applied to measure SQ in different service industries (Cronin and Taylor, 1994; Gilmore and McMullan, 2009). Jain and Gupta (2004) suggest that the SERVQUAL scale is preferred when the study objective is to identify areas relating to SQ shortcomings for possible interventions by managers and practitioners. On the other hand, they intimated that SERVPERF scale should be used when one is interested in undertaking SQ comparisons across service industries. Besides, an extant study suggests that SERVPERF is more apt to adopt if the purpose of the research is to determine causal relationships for dimensions of SQ (Dabholkar et al., 2000).

While the generic instruments have been tested with success in wide-ranging service industries, their application in higher education is still hazy as a result of seemingly irreconcilable conceptual and operational problems associated with them (Senthilkumar and Arulraj, 2011). Accordingly, some researchers are undertaking customization of these generic instruments to measure SQ in HEIs (Shekarchizadeh et al., 2011; Darawong and Sandmang, 2019). Apart from this, the SERVQUAL and SERVPERF models have neglected input and output variables in their conceptualisations and measurement of SQ. It is therefore imperative that a comprehensive model of SQ needs a more integrated perspective comprising input-process-output variables. In this respect, many scholars are vehemently advocating for the development of an industry-specific instrument for measuring SQ that is deemed more suitable than employing a single generic scale (see e.g., Abdullah, 2006; Senthilkumar and Arulraj, 2011; Ushantha and Kumara, 2016). This has led to other conceptualisations and development of new measurement instruments of SQ in HE as presented in the following section.

3.8.2 Other Models for Measuring Service Quality in Higher Education.

Several past studies on SQ and its impact on student satisfaction have developed SQ measurement models or instruments for the HE sector in different service settings, various countries and cultural backgrounds. The outstanding models are presented in Table 3.2 below.

Table 3.2: Other Studies Conducted on Service Quality and Student Satisfaction in Higher Education Sector.

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Abdullah (2006) (Malaysia)	The development of HEdPERF: a new measuring instrument of service quality for the higher education sector.	To develop and validate a new measurement scale of service quality for the higher education sector.	- Sequential mixed methods design using focus groups followed by cross-sectional survey strategy to administer questionnaire to 680 students drawn from six different tertiary institutions. - EFA, CFA and multiple regression were used to analyse data.	- Non-academic aspects, - Academic aspects, - Reputation, - Access, - Programme issues, and - Understanding	- The measurement model comprises six dimensions with 41 items. - Access is the most important dimension that affects students' perceived SQ. - 42.9% variation in perceived service quality is explained by the six dimensions.	- The measurement items were positively worded. - Sampling procedure used not reported. - University and industry collaborations not considered. - Focuses more on service process
Sultan and Wong (2010) (Japan)	Performance-based service quality model: An empirical study on Japanese universities.	To develop a performance-based SQ model for universities in Japan (PHEd model)	- Cross-sectional quantitative survey design. - Questionnaire used to collect data from 362 undergraduate and postgraduate students. - Descriptive statistics were used to analyse data. - PHEd model tested for unidimensionality, reliability and validity using CFA.	- Dependability, - Effectiveness, - Capability, - Efficiency, - Competencies - Assurance, - Unusual situation management - Semester & syllabus	- Academics are in the centre of value-based higher education in Japan. - PHEd model consisting of eight dimensions with 67-items	- Relatively large number of items. - The study did not consider alumni & industry collaborations. - The PHEd model considered only service delivery process attributes

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Senthilkumar and Arulraj (2011) (India)	SQM-HEI – determination of service quality measurement of higher education.	To develop a new model to measure service quality in HEIs.	- Cross-sectional descriptive and relational study using quantitative method. - Survey questionnaire was used to collect data from 1749 students selected using stratified sampling while convenience and judgmental samplings were used to select 111 institutions including public and private universities in Tamil Nadu State - Descriptive statistics, EFA, CFA, correlation analysis, structural equation modelling within AMOS framework and Bayesian estimation & testing were used to analyse data.	- Teaching Methodology (TM), - Environmental Change in Study Factor (ECSF), - Disciplinary Action (DA) - Placement (PL) is the mediating factor between the three dimensions and quality education.	- Quality of education is based on the best faculty (TM), the excellent physical resources (ECSF), a wide range of disciplines (DA). - ECSF plays vital role in the outcome of the quality education followed by TM. - Students have a high regard for teachers in shaping their career. - Placement is the mandatory aspect of higher education and the outcome of quality education.	- The study considered only students from Tamil Nadu State of India; thus, results cannot be generalised. - Little attention given to administrative services and governance issues. - Data collected at a single point in time.
Sumaedi et al. (2012) (Indonesia)	An empirical study of the state university students' perceived service quality.	To identify university students' perceived SQ dimensions; & dimension(s) contributing most towards overall students' perceived S	- Cross-sectional survey design using quantitative method. - Data was gathered from 155 undergraduate students drawn from two state universities in Indonesia. - Multiple regression analysis and t-test analysis were used to analyse data	- Curriculum, - -Facilities, - -Contact personnel, - -Social activities, - -Education counsellors, - -Assessment, and - -Instruction - medium	- Facilities dimension contributes most towards students' perceived SQ. - Students with a different study period have different perceived quality level on the social activities' dimensions. - Students with different gender have different perceived quality level on social activities and facilities dimensions.	The sample drawn from two state universities in the same geographical and at a single point of time, hence results cannot be generalised. The sample size is relatively small. The dimensions are largely input and process variables

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Jain et al. (2013) (India)	Developing a scale to measure students' perception of service quality in the Indian context.	To gain a better insight of the dimensions that determine students' perceptions of service quality in higher education.	- Mixed methods design using focus groups followed by cross-sectional quantitative survey strategy to administer questionnaire to students drawn using stratified judgmental sampling. - Data was analysed using exploratory factor analysis (EFA) to assess the psychometric properties of the scale.	Input quality, Curriculum, Academic facilities, Industry interaction, Interaction quality, Support facilities, & non-academic processes.	- Multidimensional scale developed consists of 26 items. - The items were derived from focus group study & literature review. - Academic facilities dimension contributes most to students' perceived SQ.	The study was confined to only students from two cities in India.
Icli and Anil (2014) (Turkey)	The HEDQUAL scale: A new measurement scale of service.	To develop and validate a new measurement scale of service quality specifically designed for MBA programs in the higher education sector in Turkey.	- Cross-sectional quantitative survey design. - Questionnaire used to collect data from 317 MBA students at 11 universities using convenience sampling. - Descriptive statistics, EFA and CFA within LISREL framework were used to analyse data.	- Academic quality, - Administrative service quality, - Library services quality, - Quality of providing career opportunities, and - Supporting services	- Perceived SQ is second-order construct consisting of five underlying first-order latent dimensions. - Latent dimensions were derived from literature. - Quality of providing career opportunities is more important to MBA students than other dimensions.	- Convenience sampling was used to select student respondents; hence, the results cannot be generalised. - The study was confined only to MBA students

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Sultan and Wong (2014) (Australia)	An integrated-process model of service quality, institutional brand and behavioural intentions: The case of a university.	To develop and test an integrated-process model by incorporating the antecedents and consequences of service quality in a higher education context.	Mixed methods design using focus group technique to collect qualitative data, whilst quantitative data was gathered employing an online questionnaire. The theoretical model was tested using the structural equation modelling (SEM) to analyse quantitative data collected from a sample of 528 university students in one university.	- Academic, - Administrative and - Facilities	- Information (or marketing communications) & past experience are the antecedents of perceived service quality (PSQ). - PSQ is a second order construct with three dimensions. The consequences of PSQ include student satisfaction, trust, university-brand performance, and behavioural intentions. - The model exhibits good validity, and all the nine path coefficients were statistically significant.	The study considered a single university; hence, the findings cannot be generalised across all universities. The study did not capture a real-time "prior to enrolment" experience.
Annamdevula and Bellamkonda (2016) (India)	The effect of student perceived service quality on student satisfaction, loyalty and motivation in Indian universities.	To develop and validate a service quality instrument called HiEduQual to measure the perceived service quality of students in higher education institutions.	- Cross-sectional survey design using quantitative method. - Data was gathered from 2,565 students drawn from seven public universities in India using pretested questionnaire. Respondents have stayed at least one year in their university system. EFA, CFA, and structural equation modelling within AMOS framework were used to analyse data and tests the relationships among the variables.	- Teaching, - Administrative services, - Academic facilities, - Campus infrastructure, - Support Services, and - Internationalisation.	- Student PSQ is a second-order model with six primary first-order dimensions with 31 items. - Student PSQ is a key antecedent to student satisfaction, motivation and loyalty. - Students' PSQ is positively and significantly related to students' satisfaction - Students' satisfaction is positively and significantly related students' loyalty and motivation. - Student satisfaction fully mediates the relationship between PSQ and Student loyalty and student motivation.	The sample drawn from seven universities in one state of Andhra Pradesh; and judgmental sampling used to select respondents, hence results cannot be generalised. The dimensions are mainly input and process variables

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Kashif et al. (2016) (Pakistan)	PAKSERV – measuring higher education service quality in a collectivist cultural context.	To investigate the service quality – satisfaction – loyalty path employing the culturally sensitive PAKSERVE scale in a Pakistan higher education context	- Quantitative method using cross-sectional survey strategy to administer questionnaire to 300 final year undergraduate full-time student at three universities in Punjab province of Pakistan. - CFA and SEM within Amos framework used to analyse data to test the proposed model and hypotheses.	- Tangibles - Reliability - Assurance - Sincerity - Personalisation	- Reliability and sincerity significantly influence student satisfaction. - 68% of variance in student satisfaction is explained by the five dimensions. - 64.8% of variance in loyalty is explained by student satisfaction.	Data collected from three closely sited universities and method of sampling respondents not reported; hence findings cannot be generalised across universities. Qualitative research further needed for more in-depth understanding of how Pakistan culture affect students' perceived service quality. The dimensions are mainly input and process variables
Krishnamoorthy, Aishwaryadevi and Bharath (2016) (India)	An Examination of Influence of Higher Education Service Quality on Students' Satisfaction: An Indian Perspective	To understand the dimensions of higher education service quality.	- Cross-sectional quantitative survey design. Questionnaire used to collect data from 450 students using snowball sampling but only 234 questionnaire retrieved. - Data was analysed using descriptive statistics, EFA and Multiple regression analysis to determine the relationship between perceived SQ and student satisfaction.	- Curriculum aspects, - Infrastructure aspects, - Competency of faculty, - Non-academic activities, - Teaching methods	- The SQ model explains 50.7% variation in students' satisfaction. - Teaching methods contributed significantly to student satisfaction, followed by curriculum, and then competency of faculty - There is significant difference in perception of service quality dimensions found between male and female students regarding infrastructure aspects, competency of staff, and teaching methods.	The study considered only students from Tamil Nadu State of India and snowball sampling used for selecting student respondents; hence findings cannot be generalised. The dimensions are largely input and process variables

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Lakkoju (2016) (India)	Importance-Performance Analysis of Service Quality in Higher Education: a Case Study	To evaluate service quality perceptions of students engaged in business education in India.	- Quantitative survey design using questionnaire administered to 100 first and final year MBA students in one engineering college in Andhra Pradesh State. - Ranking analysis, importance-performance analysis and differential analysis using computed mean values were performed. Also, t-test was performed to test hypotheses and effect sizes were undertaken to determine the robustness and reliability of findings.	- Teaching; - Academic staff; - Course structure and academic facilities; - Administrative staff; - Personal development; and - Other aspects.	- Quality of lectures, quality of seminars, knowledge and experience of academic staff and career services are most influential features of SQ. - Using Importance Performance Matrix, first year students agreed al the dimensions are areas to maintain whereas the final year students indicated the quality of seminars, social opportunities, careers service, and internal student feedback system as areas to be improved. - Declining quality from preceding year to succeeding year.	Sample size relatively small and only students at a single college were considered in the study. Sampling method used not reported
Teeroovengadum et al. (2016) (Mauritius)	Measuring service quality in higher education: Development of a Hierarchical Model (HESQUAL)	To develop and empirically test a hierarchical model for measuring service quality in higher education	- Mixed methods research underpinned by pragmatism philosophy. - The first phase involved qualitative research using focus group study and in-depth interview. This was followed by cross-sectional quantitative survey as the second phase using pretested questionnaire administered to 207 students at the University of Mauritius. - Qualitative data was analysed using thematic analysis technique whilst quantitative data was analysed using EFA and Cronbach's alpha test.	- Administrative quality, - Physical environment quality, - Core educational quality, - Support facilities quality, - Transformative quality	- HESQUAL model is a third order hierarchical model with sub-dimensions. - The final HESQUAL instrument contained a total of 48 items. - Validity and reliability tests were satisfactory conducted for each dimension scale.	- The study considered only one university and non-probability sampling technique was used to select the sample of students; hence findings of the study cannot be generalised to other countries. - Sample size was relatively small

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Ushantha and Kumara. (2016) (Sri Lanka)	A Quest for Service Quality in Higher Education: Empirical Evidence from Sri Lanka	To evaluate the service quality of a higher education institute in Sri Lanka from the students' perspective.	- Quantitative Survey Design using HEdPERF scale administered to 268 third-year students in one public university using random sampling. 250 questionnaire were retrieved. - Reliability of scale was measured using Cronbach alpha while multiple regression analysis was performed to examine how the dimensions are related to perceived SQ	- Academic aspect, - Reputation, - Non-academic aspect, - Access	- Only access and non-academic dimensions have contributed significantly to the perceptions of service quality in higher education. - Academic and reputation dimensions do not significantly contribute towards the overall SQ perception of HEIs	The study considered only one public university; hence results cannot be generalised. The dimensions are largely input and process variables
Latif et al. (2019) (Pakistan)	In search of quality: measuring Higher Education Service Quality	To develop and validate the construct HiEduQual (Higher Education Service Quality) to measure the level of service quality in higher education institutions.	- Mixed methods design using focus groups followed by cross-sectional quantitative survey design. - Questionnaire was administered to 543 students selected from seven HEIs in Pakistan (three public and four private universities) - EFA and CFA were used to analysis data.	- Teaching quality, - Administrative services, - Knowledge services, Activities, - Continuous improvement and - Leadership quality	- The final scale consisted of 37 items. - The study focused on the students, parents, employers, and teachers for generation of questionnaire items. - Leadership found as a significant dimension of service quality in HE.	- Data was collected at one point in time; hence, how the level of service has evolved over time has not been considered. - Sampling procedure used was not reported

Table 3.2 Continued

Author / Year (Place)	Research Title	Objectives	Research Design	Key Dimensions	Main Finding(s)	Limitations
Marimon et al. (2019) (Spain)	UnivQual: a holistic scale to assess student perceptions of service quality at universities	To validate a scale to assess the quality of the university experienced by students and analyse the role of the dimensions of SQ including their impact on student satisfaction in Spain	- Quantitative research based on online survey of 2557 undergraduate students drawn from 12 universities in the Catalonia region of Spain. - EFA and CFA were used to analyse data.	- Curriculum, - Skills development - Service & facilities	- Curriculum, services & facilities are enablers for skills development, which is the outcome of quality education. - Curriculum is most important determinant of student satisfaction directly or indirectly via skills development - Services & facilities do not play a significant role in student satisfaction, although they are necessary to provide good service.	- The sample drawn from only Catalonia region; hence results cannot be generalised across all HE systems of Spain. - The study did not consider evolution of student perceptions of service quality in different stages of their college life.
Dwaikat (2021) (Sweden)	A comprehensive model for assessing the quality in higher education institutions	To propose a comprehensive model for assessing the quality of academic programs in HEIs by adopting the TQM philosophy	- Quantitative research based on online survey of 377 responses from academics. - Partial least squares structural equation modelling (PLS-SEM) technique was used to empirically test the proposed hypotheses and validate the model	- Quality of academic program - Quality of students - Quality of faculty staff/academic staff - Education infrastructure - Adoption of international pedagogy standards - Work/Study environment	- Input-based factors have a stronger impact on the process-based factors; while process-based factors have less impact on output-based factors.	- Data was collected from only Sweden. - Sample involves only academics/experts

Notwithstanding the list of studies provided in Table 3.2, other empirical studies have also been conducted in the higher education context. Abdulla (2006b) undertook a study to compare three instruments for measuring SQ in higher education in Malaysia to determine their relative efficacy. The study objective was to test and compare the relative efficacy of HEdPERF, SERVPERF and the moderating scale of HEdPERF-SERVEPERF within higher education setting. This is to help determine which instrument had the superior measuring capability in terms of unidimensionality, reliability, validity and explained variance. After reviewing literature on the three scales, a four-section questionnaire was designed, and a pilot study was conducted among 30 students to ensure the reliability of the instrument. The pilot-tested questionnaire in a cross-sectional survey was randomly administered to 560 students drawn from six tertiary intuitions in Malaysia over a period of three months. The six tertiary institutions consist of two public universities, one private university and three private colleges. Out of the 560 questionnaires, 381 returned questionnaires were used for the analysis. To perform the comparative check of unidimensionality, a measurement model was specified for each scale and confirmatory factor analysis was run by means of structured equation modelling within LES REL framework. The results show the HEdPERF scale resulted in more reliable estimations, greater criterion and construct validity, greater explained variance, and consequently the modified five factor structure of the HEdPERF came out as the most superior scale for the higher education sector. Although the HEdPERF scale was found to be comparatively more effective in measuring SQ in the HE setting, more research needs to be conducted before a generalization can be drawn across other service industries.

Clemes et al. (2007) carried out an investigation to gain an empirical understanding of students' overall satisfaction with their academic university experiences in one New Zealand University. The study adopted a hierarchal conceptual model to identify the dimensions of SQ as perceived by university students and its effect on satisfaction, price (fees), and image. The study also examined the effect of students' overall satisfaction on favourable future behavioural intentions. A mixed methods design using focus group technique was used to collect qualitative data, whilst quantitative data was gathered from 223 levels 200 and 300 commerce students. Descriptive statistics, EFA and ANOVA were used to analyse data whereas ordinary least squares regression was used to undertake the path analysis. The findings suggest that there was statistical support for the use of a hierarchical model with three primary dimensions (interaction quality, physical environment quality & outcome quality) and ten sub-dimensions (academic staff, administrative staff, academic staff availability, course content, library, physically appealing, social factors, personal development, academic development & career opportunities). The findings support the relationship that SQ positively affects student satisfaction and price (fees). The results further suggest that student satisfaction influences favourable future behavioural intentions. Nevertheless, there is no statistical support for a relationship between price and satisfaction. Furthermore, the results suggest that students' perceptions of the constructs are primarily influenced by their ethnicity and year of study. The major drawback of the study was the sample drawn from students in only from one university at a single point of time; hence, results cannot be generalised to New Zealand universities.

A study by Brochado (2009) compared three alternative instruments for measuring SQ and students' satisfaction in higher education setting in Portugal. Besides the SERVQUAL and SERVPERF models, the HedPERF (Higher Education Performance) model was also considered as the third scale. A structured questionnaire comprising perception items from the SERVPERF and HedPERF scales and expectation items from the SERVQUAL scale was revised to align with the educational sector. The questionnaire was subjected to a pilot testing through expert validation and a focus group study. The study sample comprised 360 students from a technology university in Portugal. The comparison of the scales was based on reliability, validity and explained variance and unidimensionality. The findings revealed that SERVPERF and HedPERF provided the best measurement capability; however, the author could not identify which one was better. The drawback of the study was that the instruments were only compared at one university and one faculty; therefore, the findings cannot be generalised.

Gruber et al. (2010) conducted a study using a new measurement tool developed by them to investigate student satisfaction with higher education services. The objective of the study was to evaluate how students perceive the services offered and how satisfied they were with the services. The study was undertaken at a University of Education in Germany. The new instrument was developed based on an extensive review of literature alongside discussions with the then current students and it consists of 15 quality dimensions covering most of the aspects of a student's life. These 15 dimensions comprise administrative and student services, atmosphere among students, attractiveness of the surrounding city, computer equipment, courses, library and lecturers. Others include lecture theatres, refectory/cafeteria, relevance of teaching to practice, reputation of the university, school placements, support from lecturers, the presentation of information, and university buildings.

A longitudinal quantitative survey design was used in which the general satisfaction with the university was measured using the questionnaire. The authors' new satisfaction instrument was tested in two studies. First, a pilot study was in winter term 2005/ 2006 and the main study was in 2006/ 2007. A total of 374 students in eight lectures participated in the pilot study and 544 students in 18 lectures in the main study, with the response rate being 99%. Descriptive statistics were used to analyse data whereas correlation analysis was undertaken to investigate the relationships between 15 quality dimensions and a student's general satisfaction. The findings of both studies indicated that students' satisfaction with the university is based on a stable person-environment relationship. The satisfaction of the students appears to demonstrate quite well perceived quality differences of the services offered and of the wider environment. The study further revealed that students were satisfied with the school placements and the atmosphere among other students. However, students demonstrated dissatisfaction with the quality of the lecture theatres and the university buildings. The limitation, however, was that the study examines only two samples of students from one university; therefore, the results cannot be generalised to the whole German student population.

A study by Cardona and Bravo (2012) tested the 5Q's model proposed by Zineldin (2007) and investigated undergraduate students' perception of service quality in one private university in Columbia in order to explore the factors that have a great impact on students´ satisfaction. A survey instrument based on the 5Q's model was used to collect data from 1082 students in all faculties using stratified random sampling with proportional representation of academic programmes. A quantitative research design was adopted for the study. Students' perception was evaluated based on a five-point Likert scale along five dimensions, comprising quality of the object (i.e. academic program and course content, relevant and up to date contents) and quality of the process (i.e. lectures, seminars, individuality, flexibility, creativity, filed work, exam forms and alike). Others include quality of interaction and communication, quality of infrastructure and quality of the atmosphere.

Factor analysis and logistic regression analysis showed significant variables in explaining student satisfaction. The findings revealed that the process quality in terms of assessment techniques (exams and projects, among others, can be collectively known as teaching methodology) and physical facilities available to the student at the university contribute best to the explanation of student satisfaction. Also, the findings revealed that the environment and campus life, academic programmes, mechanisms of communication and support to student needs, and release of information about current activities at the university influence students' satisfaction with the university service. The limitation of the study is that only one university is examined, and as such, the results cannot be generalized.

Chavan et al. (2014) studied the drivers of SQ perceptions in the tertiary education sector in Australia. The study objective was to investigate the similarities and differences between international and domestic students' expectations of their tertiary education experience and how they evaluated the quality of services they received from their institutions. A qualitative exploratory research design was used to collect and analyse data. Specifically, six focus group discussions were undertaken comprising 36 international and domestic students in one large metropolitan university in Australia. All the student participants were drawn from the third year undergraduate programme. NVIVO software version 9.2. was used to analyse qualitative data gathered. The results showed a significant challenge concerning the use of expectations battery for evaluating students' SQ. The reason being was that most of the students have vague expectations and limited prior service experience to shape their service expectations. Further, it was established that students form their expectation as they consume the education service during their three to four-year degree programme. Despite several similarities that exist between international and domestic students' perception of education quality, international students were more interested in the tertiary education experience that gives new social and cultural learning experience to enhance their intellectual growth. Contrarily, domestic students were more interested in the functional outcome of gaining tertiary qualifications for entering the world of work. The findings also revealed that the traditional SQ dimensions such as SERVQUAL were not adequate to evaluate in detail the international and domestic students' service assessment. The authors accordingly suggested two additional variables comprising social benefits and co-creation/participation. It was considered that the use of students' satisfaction in evaluating students' service experience may be inadequate; hence, may be viewed as a limitation in generalizing the study.

Chondhury (2015) examined student perceived SQ in business management education in India. The study was exploratory in nature rooted in quantitative methodology, and the study objective was to explore the dimensions of service quality and assess performance of HEIs in business management across customer perceived SQ dimensions. Data was collected using a self-administered questionnaire distributed to a sample of 1,152 students enrolled in six major HEIs selected through simple random sampling. The questionnaire was designed based on modified SERVQUAL. The chosen HEIs had similar profiles such as size, duration of existence and courses/programmes offered. To evaluate the performance of HEIs, Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) was used. The findings of the study revealed that HEIs in India operate in a keen competitive environment facing challenges relating to services and training that they provide. As such, student perception of SQ and their satisfaction level have become very important in order to attract and retain them. The findings also revealed that SQ is a complex and multidimensional construct and that the dimensions of service quality are contextual and depend on the service settings. The study further suggests that customers in the HEIs in business management in India distinguish four dimensions of service quality including competence, tangibles, responsiveness and convenience. However, competence and tangibles were found to be the two most important service quality factors in the context of the Indian Higher Education sector in business management. The study establishes that TOPSIS analysis is a useful framework for ranking competing HEIs' overall performance in terms of SQ indicators. The limitation of the study is that only process dimensions were used in evaluating SQ of the HEIs.

3.8.3 Studies Comparing Service Quality in Public and Private Universities

Al-Alak (2009) conducted a study to determine the differences in overall business students' satisfaction perception among 665 students from three public and three private universities in Jordan. The findings show that business colleges at private universities are competing well and are even well ahead of business colleges at government universities in delivering services and other related outputs. The study identified that business students at private universities perceive a higher quality of service than do their counterparts at public universities and are much more satisfied with such services compared to business students at public universities.

Kimani et al. (2011) conducted a study to ascertain business students' perception of quality service provided by public and private universities in Kenya and investigated the differences in SQ perceptions of business students from two public and two private universities located in rural and urban settings. They used a cross-sectional quantitative survey design to select 424 respondents in which a 7-point Likert scale questionnaire adopted from a modified HeDPERF scale developed by Abdullah (2006a) was administered to the respondents. The findings revealed that most university students were positive about the quality of service they received in their respective universities with overall mean scores above average. The important dimensions that determined service quality in Kenya universities were administrative quality, academic quality, program quality, student support, and availability of resources. Aside from that, the comparative analysis showed that the Rural Private university perception was most positive, leading with an average score of 5.25, followed by the Urban Public university (4.42), the Urban Private university (4.22) and the Rural Public university (4.07) in that order on a scale of 0 to 7. The study further revealed that perceived SQ has a positive impact on students' overall satisfaction, therefore students' perception of the various aspects of service quality within the universities correlated highly with overall satisfaction.

A study by Calvo-Porral et al. (2013) in Spain analysed the differences in perceived SQ between private and public universities and investigated what the key dimensions of perceived SQ from students' perspectives are. After a detailed literature review, a quantitative research design was adopted, and a questionnaire was developed based on the SERVQUAL model. Data was gathered from 150 undergraduate students in third and fourth year at one private university and 105 undergraduate students at one public university, using stratified sampling. Data analysis was carried out using descriptive statistics in terms of a mean comparison and covariance structure analysis to test the differences in perceived quality between the students from both universities and the dimensions having a stronger impact on perceived SQ. Confirmatory factor analysis was used to assess the measurement model in terms of dimensionality, convergent and discriminant validity. The findings revealed that tangibility and empathy are the most significant dimensions that affect perceived quality in HE. Besides, the findings showed that some significant differences exist between the public and the private universities. Specifically, the private university has a better assessment for most of the perceived quality dimensions (reliability, responsiveness, assurance and empathy) than the public university. However, students of the public university had a significantly higher perception of tangibles than their counterparts in the private university. The main limitation of the study was that the study sample was drawn from only one public and one private university and the SERVQUAL scale captured only process component of service delivery in the two universities.

In order to have an overall understanding of country-specific studies on SQ and student satisfaction, the next section presents studies conducted in Ghana on service quality and student satisfaction.

3.8.4 Studies Conducted in Ghana on Service Quality and Student Satisfaction

Table 3.3: Studies on Service Quality and Student Satisfaction Conducted in Ghana's in Higher Education Sector

Author / Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Annor (2012)	An assessment of the service quality delivery in tertiary education: A case study of Pentecost University College (PUC), Ghana.	To assess the staff and students' perception of quality service delivery in a private university college and understand how various dimensions of SQ affect their satisfaction.	- Cross-sectional quantitative research using a case study approach. - A modified SERVQUAL scale as a questionnaire was administered to 230 students and 30 management & staff. - SPSS used to analyse data employing descriptive & inferential statistic.	- Empathy - Assurance - Tangibles - Processes and - Procedures	- Students and staff were satisfied with the service quality delivery in PUC. - Students and staff agreed that the current level of service quality in PUC was high, thus influencing local & foreign students to enrol. - The five dimensions were important to students and staff.	Only one university considered in the study. Convenience and purposive sampling were used to select students and staff, respectively. Hence, findings cannot be generalised.
Tutu-Boahene and Akwensivie (2014)	Service Experience Perspectives in Ghanaian Private Universities.	To investigate what international students in Ghanaian private universities value in their service experience	- Cross-sectional descriptive study using quantitative method. - Modified Gummerson's 4Q model was adopted as questionnaire distributed to 700 foreign students. - ANOVA used to determine differences among the dimensions	- Input quality, - Process quality, - Interactive quality, and - Output quality	The 4Q dimensions impact on students' service experiences during service encounter. Output quality is the strongest indicator that impacted on students' service quality experiences.	The study considered only foreign students and their demographics were not reported.

Table 3.3 Continued

Author/Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Anim and Mensah (2015)	SQ in HIGHER Education: A Comparative Study in Tertiary Institutions in Sub Saharan Africa.	To investigate the gaps that exist between the public and private funded universities in terms of quality service delivery and its impact on their image.	- Exploratory research design using Quantitative method. - SERVQUAL model adopted as a questionnaire distributed to 120 students at one public university and one private university in Ghana. - Descriptive statistics including regression analysis, cross tabulations, ANOVA & coefficient of determination were used to analyse data.	- Tangibles, - Reliability, - Responsiveness, - Assurance, - Empathy	- Overall service deliveries at the public and private universities were below perceptions of students. - Private university students rate their perceived SQ higher than their public counterparts. - For the public university, responsiveness emerged as the most important dimension, whilst for private university empathy was the most important dimension that contributes to students' perceived SQ.	- Only one public and one private university were considered in the study, and the sample size was relatively small. - SERVQUAL model only measures the process quality of the service delivery without considering the input quality and output quality.
Fosu and Owusu (2015)	Understanding Ghanaian Students' Perception of Service Quality in Higher Education	To measure students' perceptions of service quality in a Ghanaian Polytechnic (now Technical University)	Quantitative research using cross-sectional survey design. HEdPERF model adopted as questionnaire administered to 372 students at Tamale Polytechnic using stratified sampling. Data was analysed using descriptive statistics.	- Academic aspect, - Non-academic aspect, - Program aspect, - Reputation, and - Access	Outstanding quality programs, highly educated instructors, timely delivery of promises, good reputation of the programs offered and easy access to learning materials at the school's library were indicators that influenced students' perception of service quality.	The study considered only one institution. Although the study reported adopting qualitative research, the quantitative research was used in practice.

Table 3.3 Continued

Author/Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Zakari (2016)	Students' perception of service quality in higher educational institutions in Ghana and its effect on their loyalty.	To examine the interactive and non-interactive effects of service quality dimensions and institutional reputation on students' satisfaction and loyalty.	Cross-sectional quantitative research and the SERVQUAL scale was adopted as the questionnaire. Stratified, simple random and convenience sampling techniques were employed to draw 379 students (undergraduates, and postgraduates). Data gathered was analysed using Structural Equation Modelling and inferential statistics.	- Tangibility - Responsiveness - Reliability - Assurance - Empathy	- There is positive and significant relationship between service quality, institutional reputation and students' satisfaction and loyalty. - Students' satisfaction levels vary according to different levels of study. - Assurance & tangibles dimensions have most significant impact on undergraduate students' satisfaction. - When institutional reputation was controlled, interaction among students affects service quality dimensions, students' satisfaction and students' loyalty	The sample was drawn from students in only public University in Ghana; therefore findings cannot be generalised.

Table 3.3 Continued

Author/Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Banahene, Ahudey and Asamoah (2017).	Analysis of SERVQUAL application to service quality measurement and its impact on loyalty in Ghanaian Private Universities	To use SERVQUAL model to measure service quality in Ghanaian Private Universities.	Quantitative research using SERVQUAL model as a questionnaire distributed to 352 students at five private universities. EFA, CFA, regression analysis using graphical techniques and structural equation modelling were used to analyse data. analysis	Tangibility Reliability Responsiveness Empathy Assurance	Students' expectations and perceptions of SQ are positively related to loyalty. Students' perceptions of performance predict their loyalty better than their expectations. Students' loyalty is strongly influenced by their satisfaction. Performance-based approach provides stronger empirical support to service quality assessment.	The SERVQUAL model only measures the process quality. The selected five private universities are located in one geographical area; hence findings cannot be generalised across all universities in Ghana. Method of sampling of student respondents was not reported.
Alhassan et al. (2018)	Analysis of Graduate Satisfaction and Experience with Higher Education Services in a Ghanaian University	To examine the satisfaction and experiences of graduands of the University for Development Studies (UDS) with a range of academic and co-curricular services provided to them at the time they were being trained.	Cross-sectional Quantitative research. Convenience sampling was used to select 1000 graduands from the two campuses of UDS to administer survey questionnaire. 601questionnaires were used for data analysis . Descriptive statistics was used to analyse data.	- Academic programmes or services, - Co-curricular services including health, security and sports	Graduands were very satisfied with the general conduct of operations in the university and most of them were willing to further their education in the university. However, the graduands were dissatisfied with the existing health services & facilities, sporting facilities and the general security situation on the two Campuses of the university	Convenience sampling used to select graduands from only one public university; hence, the findings cannot be generalised across universities in the country.

Table 3.3 Continued

Author/Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Banahene, Kraa and Kasu (2018)	Impact of HEdPERF on students' satisfaction and academic performance in Ghanaian universities: Mediating role of attitude towards learning	To investigate the impact of HEdPERF on students' satisfaction and academic performance in Ghanaian private universities, with students' attitude towards learning as a mediator.	Cross-sectional explanatory design using quantitative method. Survey questionnaire based on HEdPERF scale was administered to 600 students selected from six private universities with 100 from each institution using convenience and purposive sampling. CFA and structural equation modelling were used to analyse data.	Non-academic aspects, Academic aspects, Reputation, Access, and Programs issues.	HEdPERF dimensions have positive and significant relationships with students' satisfaction, attitude towards learning and academic performance. Attitude towards learning has positive and significant relationship with students' satisfaction and academic performance. Attitude towards learning partially mediates between HEdPERF dimensions and students' satisfaction, and also HEdPERF and academic performance.	Purposive and convenience samplings were used to select student respondents whilst the private universities were chosen from only one geographical region; thus, the findings cannot be generalised across universities in the country.
Eshun, Badu, and Korwu (2018)	Impact of Service Quality on Students' Satisfaction in a Ghanaian Public Tertiary Institution	To explore the relationship between service quality dimensions and overall perceived service quality and determine the dimension that contributes most to students' satisfaction.	- Cross-sectional Quantitative survey design using Modified SERVQUAL as a questionnaire. - Convenience sampling was used to select 798 undergraduate students from five colleges of one public university in Ghana. - Descriptive statistics including mean, standard deviation, frequency tables, Pearson correlation, multiple regression and Cronbach alpha were used to analyse data.	- Tangibility - Responsiveness - Reliability - Assurance - Empathy	The five dimensions of SERVQUAL were all positively and significantly related to perceived service quality and overall student satisfaction. Assurance has the strongest correlation with satisfaction followed by responsiveness, reliability, empathy and tangibility in that order. Students of School of Business have a better perception of service quality in the university than students of other colleges.	Convenience sampling used to select student respondents from one public university; hence, the findings cannot be generalised. SERVQUAL model measures only the process quality.

Table 3.3 Continued

Author/Year	Research Title	Objectives	Research Design	Key Dimensions	Main Findings	Limitations
Mattah, Kwarteng and Mensah (2018)	Indicators of service quality and satisfaction among graduating students of a higher education institution (HEI) in Ghana	To explore the indicators of service quality from the perspective of graduating students in a public university in Ghana.	Quantitative research using cross-sectional survey design. Systematic sampling used to select 500 graduating undergraduate students to administer pre-tested questionnaire based on possible quality indicators including physical facilities, teaching & support staff, physical environment, services and courses/programmes. Principal component analysis, independent sample t-test & z-test were used to analyse data.	- Academic services & facilities, - Lecturers, and - Academic programs.	- Quality of academic services and facilities, quality of lecturers and quality of academic programs are indicators of service quality. - Graduands were satisfied with academic services, lecturers and programs. - Graduands were not satisfied with the quality of facilities and majority of the graduands will remain associated with the university due to their satisfaction with the three indicators. - Graduands willing to return to the university and also recommend the university to others.	The sample was collected from only one public university; hence results cannot be generalised. The dimensions were mainly input and process variables

3.8.5 Building an Effective Model to Measure University's Service Quality in Ghana

In conceptualising dimensions that are relevant to measure SQ in Ghana's higher education context, particularly in universities, the researcher extensively reviewed the literature on extant studies covering SQ and student satisfaction. Understanding and critically evaluating the discussed literature together with findings that emerged from the discussions on challenges facing higher education delivery in Ghana's tertiary education industry (as provided in Chapter Two section 2.5) has resulted in conceptualising the under listed dimensions as the dimensions of university SQ. The five identified university SQ dimensions (teaching methodology, environmental adequacy in the study factor, access, placement and university governance) are also considered based on the country's culture and other environmental factors as discussed in the ensuing sections.

3.8.5.1 Teaching Methodology Dimension

It is generally acknowledged that teaching and its related practices constitute a very significant core component of the functional process of HE delivery to students and other stakeholders. The teaching process and its various approaches involve cooperation and a personal relationship between the faculty and students. Chen et al. (2014) submit that teaching processes are the methods and practices involved in preparing, delivering and completing a course. The teaching process involves various activities, such as teaching method and work procedures among others that can be tied together as the teaching methodology. According to Senthilkumar and Arulraj (2011), teaching methodology comprises relevant curriculum, teaching and learning support, theoretical and practical knowledge of academic staff, course material and the degree to which exams are representative of courses taught. It also entails promoting class group interaction and providing useful feedback to students that may result in improvement in learning (Krause, 2012). Academic scholars such as Angell et al. (2008), sometimes refer to the "teaching methodology" as the "academic programme quality".

According to Annamdevula and Bellamkonda (2016), the quality of academic programme or services is crucial in motivating students to perform better in their academics. Empirical evidence has shown that curriculum is the most important predictor of student satisfaction directly or indirectly via skills development (Marimom et al., 2019). Available literature indicates that skilled engaging teachers is a determinant of academic course quality that impacts on students' perceived SQ (Jancey and Burns, 2013). A recent meta-analysis study by

Santini et al. (2017) of 83 studies across the world published from 1986 to 2016, found that teaching methodologies including professors' expertise, assessment & feedback and course flexibility had positive and significant influence on student satisfaction. This has been supported by Campos et al.'s (2017) longitudinal study conducted in Brazil, which found that students consider the expertise and knowledge of lecturers, professors' practical experience and teaching methods as well as sound academic programmes as the major factors that influence their perception of the overall quality of their universities. Likewise, there is evidence to show that students perceive a combination of lecturers' expertise, inspirational teaching and support for students as important qualities of a university lecturer (Su and Wood, 2012). These amply demonstrate that teaching methodology constitute an important indicator that contributes towards students' perceived SQ in HEIs.

According to LeFebvre and Franke (2013) and Hofstede (2022), Ghana is a high power distance cultural society. As such, individual Ghanaians, including students, may have more respect for those in authority such as professors and lecturers. This suggests that the presence of professors and other notable personalities in various institutions are likely to impact students' decision making and evaluation of their overall educational experience. As aptly illustrated by Lakkoju (2016), students and their parents in India (a high power distance culture) usually consider the qualifications and experiences of the faculty members when choosing an educational institution. A related study by Mageka and Ogochi (2020) maintain lecturers' experience, professional development and qualifications are major determinants of lecturer expertise. They further stated that an academic's expertise has a great impact on students' academic performance. Therefore teacher expertise, being an important variable of teaching methodology, may largely influence students' perception of academic services offered to them by institutions. This makes teaching methodology an appropriate dimension to be considered as an essential dimension of university SQ.

According to Wuhib (2017), a positive relationship exists between poor teaching modalities, poor service and inferior quality outcomes in academic environments. This observation gives much more credence for the inclusion of teaching methodology in measuring perceived SQ, especially among students in tertiary institutions. To reiterate the importance of inclusion of teaching methodology in measuring service quality, a study done in Ghana has found that quality of lecturers, and quality of academic services and programs are important indicators of service quality in a HEI (Mattah et al., 2018). Above all, anecdotal evidence shows that people, including students in Ghana, place value on excellent teaching curriculum, lecturers' competence (teaching expertise, theoretical and practical knowledge), group interaction, and quality of course materials and helpful feedback as important attributes that influence their perception of academic programme quality. These observations are country specific; therefore, future studies attempting to measure service quality among students in tertiary educational institutions should consider the inclusion of teaching methodology as a dimension in measuring perceived service quality. Consequently, this thesis considers teaching methodology as an essential dimension that is appropriate for measuring quality of university service in Ghana.

3.8.5.2 Environmental Adequacy in Study Factor Dimension

One significant factor that has been extensively highlighted in previous SQ studies reviewed is the physical environment. Looking at the available literature on SQ in the HE sector, the physical environment otherwise known as educational infrastructure is a major input factor for academic programmes and HEIs in general (Dwaikat, 2021, p. 852). The physical environment, which consists of both tangible and intangible elements, is made up of physical facilities, learning resources and conducive atmosphere required to deliver educational services (Senthilkumar and Arulraj, 2011). The tangible features include buildings, lecture halls, libraries, computer facilities, laboratories & equipment, recreational facilities and the like; whereas intangible attributes consist of a conducive and good study environment. Others include academic activities such as faculty collaborations, seminars, workshops and the like that enrich the learning ambience of HEIs.

More recently, the use of digital tools such as Wi-Fi campus connectivity, smart classrooms, e-libraries, e-learning platforms and so forth have become an important part of the educational infrastructure for several HEIs all over the world (Wong et al., 2019; Dwaikat, 2021). Bao (2020) notes that the use of these digital tools in HEIs has become more pronounced since the Covid-19 outbreak pandemic. In Ghana, some institutions such as Central University and Ashesi University are utilising both traditional face-to-face and online teaching and learning to deliver academic programmes to their students. This also constitutes part of the educational infrastructure or the physical environment.

Researchers have given different names with diverse interpretations to the physical environment components of SQ they measure. For example, Parasuraman et al. (1988) used the term “tangibles”; Jain et al. (2013) employed the phrase “academic facilities”;

Annamdevula and Bellamkonda (2016) used the term “campus infrastructure”; and Teeroovengadum et al. (2016) considered the term under two separate headings, “physical environment quality” and “support facilities quality”. Others, such as Senthilkumar and Arulraj (2011), used the term “environmental change in study factor”. This study adapts Senthilkumar and Arulraj’s term but has slightly changed “environmental change in study factor” to “environmental adequacy in study factor” to emphasise the sufficiency of the construct to support the provision of high-quality service.

The physical environment now referred to as environmental adequacy in study factor (EA) plays a crucial role in supporting quality teaching and learning processes in HEIs, and it has been emphasised in the literature that it powerfully affects customers’ cognition, emotions, and behaviour. For instance, Cuyvers et al. (2011) submitted that good school infrastructure has a strong impact on students’ perception of quality, satisfaction, and wellbeing. Barret and his colleagues (2019) have asserted that students’ performance can be improved in institutions of learning with a better physical learning environment. Similarly, Teixeira et al. (2017) submit that there is strong evidence regarding better instruction, improvement in student outcomes and a decrease in the dropout rate when institutions provide high quality educational infrastructure. Gruber et al. (2010) investigated how students’ perception of SQ could affect their satisfaction in HEIs including universities. They found that school atmosphere is one of the most effective elements that impacts student satisfaction. In this respect, Xiao and Wilkins (2015) suggest that HEIs ought to provide a work environment that inspires and sustain high quality teaching. This emphasises the importance to include EA as a dimension of university SQ when evaluating students’ perception of SQ and its impact on their satisfaction.

Several past studies have tested physical facilities as a dimension of university SQ and found that students’ perception about a university’s physical facilities affect their perceived SQ, which in turn positively and significantly impact on their overall satisfaction with the university (e.g., Jain et al., 2013; Sultan and Wong, 2014; Hanssen and Solvoll, 2015; Annamdevula and Bellamkonda, 2016; Krishnamoorthy et al., 2016; Darawong and Sandmaung, 2019). Similarly, a meta-analysis study has concluded that support infrastructure and general tangibility were positively related to satisfaction of students in HEIs (Santini et al., 2017). Nonetheless, empirical evidence also indicates education facilities do not play a significant role in student satisfaction, although it is necessary to provide good service (Marimon et al., 2019). Calvo-Porral et al. (2013) intimate that tangible elements (such as lecture halls, library, computer facilities, laboratories and so forth) of university campuses are perceived as quality features and may attract new students and give competitive advantage over other university campuses. Thus, to evaluate the SQ via students' perception it is imperative to introduce EA as one of the dimensions of university SQ.

There is widespread lack or inadequate academic facilities in the HEI's of Sub-Saharan Africa including Ghana, and this has affected students' satisfaction with university services (e.g., Isa and Yusoff, 2015; Kara et al., 2016; Mattah et al., 2018). As already indicated in Chapter Two section 5.5.2, the provision of infrastructure and other physical facilities at the tertiary education level in Ghana remains a matter of national concern and an obstacle to the delivery of quality service to students (Badu et al., 2018). Corroborating this, a recent study on indicators of SQ and satisfaction among graduating students of one public university in Ghana, concluded that physical facilities including computer facilities, laboratories, lecture halls, and libraries are very important indicators of quality service in university settings (Mattah et al., 2018). However, they indicated that graduating students rated the physical facilities dimension low.

Ghana is a feminine culture (LeFebvre and Franke, 2013; Hofstede, 2022) and so students often tend to emphasise a friendly and pleasant physical environment in evaluating the quality of their educational experience. The researcher also believes quality education should be grounded on available, functional and adequate physical facilities and learning resources alongside a well-maintained good study environment. Therefore to evaluate the SQ via students' perception it is important to introduce EA as one of the dimension of university SQ model for Ghana.

3.8.5.3 Access Dimension

There is an increasing theoretical and managerial emphasis on the role of access in HE, and service delivery in particular. Often when the issue of service delivery in HEIs is raised, the accessibility to resources, availability of the service provider, location of institutions, interactions and personal relationships also come to mind. In fact, teaching and learning involves direct and indirect interactions and personal relationships between lectures and students (Sultan and Wong, 2012). Therefore lecturer's availability to provide guidance to students is key in attaining positive academic outcomes. It has been documented that tertiary education lecturers, apart from teaching and instructing students, also have the responsibility of providing a consultation schedule for their students who need their help (Wibbecke et al., 2015; Kara, Tanui and Kalai, 2016: Gee, 2018). According to Rezaee, Nabeiei and Saghed (2014), accessibility of consultant teachers is one of the characteristics that impacts student's satisfaction.

Gee (2018) strongly believed that students prefer to interact with lecturers who are approachable and available for consultation and, most importantly, friendly. Again, Wibbecke et al. (2015) concluded from their study that consultation on the basis of students' specific needs is an effective method of enhancing teaching and learning. Hence lecturers' availability for consultation is appreciated as one of the key indicators of the "access" dimension used in measuring perceived service quality. Many studies include consultations for students as an important element in attaining quality tertiary education. For example, a study in Kenya by Kara et al. (2016) also recognised lecturer's availability for consultation to be an important element in measuring service quality. In fact, as earlier stated, HE delivery requires a considerable number of interpersonal contacts; therefore, the issue of access plays a significant role in the provision of quality education.

A notable study on the development of a new measuring instrument of SQ for the HE sector by Abdullah (2006) conceptualised access dimension as relating to approachability, ease of contact to lecturers, availability and convenience. He found that the access dimension was the most important dimension influencing students' perception of SQ. Earlier, many prominent scholars have proposed that access is an important dimension of SQ (see e.g., Parasuraman et al., 1985; Mattsson, 1993; Owlia and Aspinwall, 1996; DeShields et al., 2005). Other previous studies that attempted to measure service quality among students in the higher education context equally included access as a dimension of SQ (Douglas et al., 2008; Sultan and Wong, 2010a; Yildiz, 2014; Ushantha and Kumara, 2016). More recently, a Zimbawean study by Moyo and Ngwenya (2018) included access as one of the dimensions used in the measurement of perceived service quality and found that the access dimension significantly affect students' perceived quality. Likewise, past studies have proved that availability of resources (Winkins and Belakrishnan, 2013), and access to online resources as well as ready contact with academics (Jancey and Burns, 2013) are SQ attributes influencing students' satisfaction.

In the context of this thesis, the access dimension is conceptualised as approachability, ease of contact to lecturers, availability as well as convenience. It is intended to capture whether operating hours of the university are convenient to students and whether the university is situated at an ideal location with an exceptional layout including adequate parking space. This is to ensure fruitful and efficient interaction of students with their university during the service encounter. It also encompasses lecturers' availability for guidance and their allocation of enough and convenient times for consultation and counselling services for their students who need their help.

Looking to the available literature on Ghana's tertiary education industry (see Chapter Two section 2.5.4), it was found that prevailing large class sizes in public universities do not promote a desired level of interaction between instructors and students; and paying attention to students' needs cannot be effectively achieved (Arthur and Arthur, 2016). It was also stated that an existing mismatch between the rapid increase in student enrolment figures and an inadequate number of qualified lecturers to provide guidance to the overwhelming numbers of students (Cobbold, 2015) is creating more congestion in public universities in the country. Contrarily, declining and or low enrolments in private universities affect their capacity to provide resources involving online library learning resources due to their falling funding levels as they largely depend on tuition fees. With these developments, quality of university education could be greatly affected. Therefore, researchers in Ghana who intend to measure SQ in the area of HE may have to consider the inclusion of access as a major dimension of university SQ. This is because the access dimension has also been demonstrated in many previous studies to have significant impact on perceived quality.

Ghana is a highly collectivistic society that encourages cooperation, interdependence, harmony, friendship and social usefulness (LeFebvre and Franke, 2013; Hofstede, 2022). This is driving individual's decision making to seek for cooperation, mutual well-being and loyalty during their service experiences. In Ghana, anecdotal evidence suggests that students' supervision relating to lecturers' availability for guidance and devoting sufficient and convenient time for student consultations incontestably affect institutions overall capacity to enrol more students. It is also believed that Ghanaian students desire mutual beneficial relationships with their lectures, and they also want lecturers to be available for guidance, consultations and counselling services during their educational experience. So the access dimension experienced in the education process would affect the student's perception of university quality of service in the country.

Besides, evidence available in Ghana shows that unreliable internet access, particularly in rural communities, and inability of some students to gain access to online library learning resources is not promoting mutual well-being and cooperation between HEIs and students

(Guerrero, 2014). As such, the access dimension should be given high attention in evaluating the SQ in HEIs in order to improve students' perceived SQ. This, therefore, provides justification to conceptualise access as a dimension for evaluating quality of university service in Ghana. An introduction of this dimension will even assist managers of universities to address these access challenges from students' perspective, which is believed will result in improved performance regarding managing the access dimension.

3.8.5.4 Placement Dimension

Pencarelli et al. (2013, p.143) describe placement as a service relating to "the management of the last phase of the relationship between student and university, the stage at which the relationship enlarges or expands to other entities such as businesses and local institutions or organisations". Placement contributes to the educational experience by enhancing graduate skills, abilities and competencies, and ensuring student employability after attainment of a degree (Pencarelli et al., 2013; Teeroovengadum et al., 2016). So, placement constitutes a major indicator to evaluate the quality of output of HEIs. For instance, Dwaikat (2021) submits that international HEIs' ranking organisations usually measure the performance of HEIs based on the quality output of their students in terms of their graduates' employability. Osman and Ashraf (2019) cite Ellis and Moon (1998) and report that employers' perceptions of a university are largely influenced by the quality of the placement service. Moreover, placement is deemed the superior approach of collaboration or interaction for improving the image of the quality education (Senthikumar and Arulraj, 2011). As such, introducing placement as a dimension of university SQ is important to build a comprehensive model that captures the quality of outputs of universities.

Placement lately has become an essential component of students' training by many institutions including London Metropolitan University. The rationale has been that it offers students the prospect of gaining valuable expertise and skills knowledge to obtain potential employment and sustain the job. In emerging competitive HE markets, Pencarelli et al. (2013) highlight that placement has been regarded as the potential to increase value that enrich HEIs programme(s) for stakeholders (particularly students) and differentiate institutions from other competitors. The process of adding skills and knowledge to students' ability is argued by some academics as a continuous process of transformation of the student (Harvey and Green, 1993; Lomas, 2007; Teeroovengadum et al., 2016, 2019). Harvey and Knight (1996) suggested that students acquiring adequate knowledge and skills to perform a future job are value-added activities; thus, a measure of quality in terms of the extent to which the educational experience can transform and improve them. So, the placement dimension, which is a measure of transformational quality, is appropriate to be included in the university SQ model to examine its effect on students' perceived service quality.

It was found from the literature reviewed on models for measuring SQ in HE that many studies on evaluating SQ included indicators that measure the placement construct directly or indirectly and proved its effect on quality education (see e.g., Jain et al., 2013; Icli and Anil, 2014; Lakkoju, 2016; Teeroovengadum et al., 2016; Marimon et al., 2019). A typical examples of indicators (or attribute) include industry interaction, providing career opportunities, skills, personal development, transformation quality and the like. Kaur and Bhalla (2015) state that placement is a significant factor that contributes to quality of higher education directly because, as stated by Osman and Astraf (2019), placement plays a full mediation role in the relationship between industrial link and SQ of education. In a study by Gruber and his peers (2010) in Germany on how students' perception of SQ could affect their satisfaction in a HEI, it was proved empirically that school placement is one of the most effective elements that impact on students' satisfaction.

According to Senthilkumar and Arulraj (2011), the placement dimension can also be evaluated based on the underlisted attributes. These attributes include there is linkage between the university and industry; the university provides jobs on campus to students; the degree from the university is highly esteemed in the labour market; and the university pays close attention to industry and university collaboration. Others entail providing students with opportunities to undergo internship training; the university provides soft skills development in terms of leadership, communication, critical thinking, teamwork and so forth; the university maintains constant interaction including networking with its alumni; and ensuring graduates from the university get good jobs.

A recent study by Barsoum (2017) has acknowledged that job placement services during students' study or upon graduation is of great benefit to graduates because it prepares them for the roles they aspire to or already hold. Researchers (Senthilkumar and Arulraj, 2011; Rudhumbu, Tirumalai and Kumari, 2017; Tavares, 2017) have suggested that students consider employability as the major reason to enrol in higher education. Ghana's economy has grown, but this growth is accompanied by rising graduate unemployment and underemployment (Guerrero, 2014) and this has become a big issue in the country. Data released by the Ghana Statistical Service as part of its 2021 population and housing census has shown that 32.8 per cent of Ghanaians aged 15 to 24 years are unemployed. Thus, in an environment of huge unemployment rates, most Ghanaian students are seeking skills and knowledge to prepare them for the global workforce (Goode, 2017). Hence, it is imperative to consider placement to be used as a vital metric to evaluate quality of university performance in Ghana.

Above all, in Sub-Saharan Africa, strong anecdotal evidence indicates students and parents choose universities based on the premise that after graduating the certificates obtain from the university would guarantee them easy employment in the job market. This is because the mindset of the people is not oriented towards entrepreneurship but rather immediate employment by firms. This perhaps is largely influenced by the Ghanaian culture being a high uncertainty avoidance society (LeFebvre and Franke, 2013; Hofstede, 2022). This aligns with the attitude of students and parents unwilling to take risks in establishing their own businesses; instead students are usually seeking employment in organisations after graduation from HEIs. This suggests that when students are evaluating the quality of education provided by their institution, they would place premium on placement services provided to them that would guarantee them employment in the job market. Regrettably, there is also a dearth of country-specific studies on SQ in HE that included placement as a dimension to measure SQ. Accordingly, the placement dimension is introduced into the proposed university SQ model to fill this gap, and then to examine its effect on students' perceived service quality.

3.8.5.5 Institutional (or University) Governance Dimension

As previously reported, good university governance is a critical internal organisational factor that ensures institutions deliver satisfactory service quality to stakeholders (including students), which ultimately promotes better performance by stakeholders and institutions. The important function of effective governance in HEIs has appeared in past studies (Al-Shuaiby, 2009; Shibru et al., 2017). These studies viewed governance, alongside leadership, as highly influential in creating a pleasant teaching environment for faculty and provides students with the quality of education they deserve.

The relevance of governance mechanisms in enhancing service delivery in other areas have been amply demonstrated in literature. For instance, in the healthcare supply-chain network context, Martins et al. (2020) suggest that both formal and informal governance mechanisms can be used to improve service quality. In the higher education context, Monyoncho (2015) emphasised that poor governance arrangements in universities can result in bad leadership and bureaucratic decision making. This, according to him, will in turn negatively affect the quality of services in the university. More recently, Muhsin et al. (2020) proved that the university governance experienced in the education process by students impact on their satisfaction through the teaching quality of lectures.

It has been observed in the literature that a notable issue of grave concern in the delivery of quality service in HEIs in Sub-Saharan Africa (including Ghana) over the years has been institutional governance (e.g. see, Shawa, 2013; Abugre, 2018). Extant studies conducted in Sub-Saharan Africa in late 1990's and early 2000's revealed that leadership indiscipline and subversion of autonomy in universities eroded academic freedom (Banjo, 1999; Akinkugbe, 2001). This led to ineffective policies and poor management practices resulting in not handling students' complaints in a caring manner; lack of compassion and integrity in handling academic issues; and ineffective problem-solving and communication mechanisms. This ultimately caused overall decline to university education**.**

Unfortunately, despite past reforms in governance practices and procedures in Ghana (refer to Chapter two section 2.4.2), there is no appreciable improvement in governance practices that drive institutions to deliver outstanding services to students and other stakeholders. Literature reviewed (see section 3.3.3) shows more recent research evidence of circumstances of labour and student unrest and riots, including violence. This has been accompanied by a disregard for proper governance procedures and practices in Ghana's university setting, which are affecting the effectiveness of service delivery in various institutions (Shattock, 2014; Frimpong, 2018; Nyame and Abedi-Boafo, 2020). Besides, breakdowns due to irregularities by university administrators and governing boards, financial improprieties, and weakness in institutional policies are also negatively impacting the delivery of academic teaching and research (Shattock, 2014; Abugre, 2018). These are consequently having a potential impact on students, other stakeholders, and overall institutional performance.

Looking to the available literature on HEIs, the role of institutional governance in the process of university education provision has been widely studied. But as previously stated, there is little empirical evidence in past studies that conceptualised university governance as a dimension of university SQ, with the exception of one study conducted in India by Singh et al. (2008). This makes university governance dimension an important and interesting development worth investigating to determine how it is influencing students' perception of university service provision in Ghana. Accordingly, it is important to introduce "university governance" as a dimension in the university SQ model to fill this gap.

All the dimensions of the university SQ identified ought to be measured and linked to perceived SQ, and in turn determine perceived SQ impact on overall student satisfaction via perceived value. In addition, the relationships between students' perceived SQ, perceived value and overall student satisfaction need to be tested in Ghana's university context. The following section therefore provides the research gaps in the literature.

3.9 Research Gap

The literature discussed in this chapter has demonstrated that a lot of work has been done to assess service quality within tertiary education institutions including universities. Despite this level of research, a number of research gaps exist in tertiary education service quality, perceived value and student satisfaction literature. These gaps include:

Research Gap 1

The available literature revealed that Ghana's tertiary education sector has been overwhelmed with challenges such as inadequate physical facilities, insufficient placement opportunities, large class sizes, and governance crises, among others; thus, affecting quality service delivery within institutions. Recent research on service quality measurement has recommended the use of measurement scales based on country-specific determinants to address specific higher education issues about quality (de Jager and Gbadamosi, 2010). However, previous studies reviewed reported that the measurement of service quality in Ghanaian universities has long been based on the use of the SERVQUAL scale by Parasuraman et al. (1988) and an industry-specific research instrument such as HedPERF by Abdullah (2006). These scales were developed for advanced and other economies to improve the quality of services provided, customer satisfaction and enhanced competitive advantage.

Literature reviewed indicates researchers (e.g., Furrer et al., 2000; Dedic and Pavlovic, 2011; Sultan and Wong, 2013a) have reported that factors in a country's cultural context and environment influence individuals' perceptions in evaluating service quality. This notwithstanding, the measurement of university service quality in Ghana using scales based on country-specific determinants of service quality is lacking in the empirical studies reviewed so far. Surprisingly, only a study by Mattah et al. (2018) has explored the indicators of service quality based on the university setting from graduating students' perspectives in one public university. Thus, there is a dearth of empirical investigations in Ghana’s tertiary education context using country-specific measures in assessing perceived service quality and its effect on student satisfaction through perceived value. In filling this gap, this study is designed to identify and gain insight into underlying country-specific dimensions of university service quality in Ghana that influence perceived service quality to help improve upon the quality of services offered in Ghanaian universities.

Research Gap 2

Another major gap identified in this review concerns linking university governance to perceived service quality. The available literature shows that service delivery by universities in Sub-Saharan Africa is affected by governance practices and policies (Akintayo and Onabanjo, 2008; Shawa, 2013; Abugre, 2018). What is particularly worrying about universities in Ghana is inappropriate governance practices and policies influencing service delivery performance including academic teaching and research (Shattock, 2014; Abugre, 2018; Frimpong, 2018). So the university governance experienced and perceived by students in the university education process may affect their perceived service quality. Until now, there has been a paucity of research studies on models for service quality assessment that incorporate university governance as a dimension, apart from a study conducted in India by Singh et al. (2008). For that reason, a more comprehensive research is required to explore and empirically test university governance as a probable dimension of perceived quality. Unlike previous studies, this thesis will provide empirical evidence, especially conceptualising a service quality model based on country-specific determinants introducing university governance as an additional dimension that affects students' perceived service quality in Ghana’s university setting. This will fill the gap and make a notable contribution to knowledge in giving a new direction to future research on the conceptualisation of university service quality.

Research Gap 3

Information on the delivery of high-quality services may lead to the creation of superior customer value, which in turn can result in achieving high customer satisfaction has been well documented in literature (e.g., Hu et al., 2009)**.** There are numerous studies on the interrelationship among service quality, perceived value and customer satisfaction in different industries and countries (e.g., Howat and Assaker, 2013; Yu et al., 2014; Hallak et al., 2018; Ng’ang’a et al., 2020). Moreover, these studies on service quality connected to student perceived value and satisfaction in the university industry is dominated by studies contextualised in the UK, Australia, western European countries, USA, and parts of Asia (e.g., Ledden et al., 2011; Sultan and Wong, 2012; Prentice et al., 2018). However, studies in Ghana that determine the context-specific relationship between perceived service quality and overall student satisfaction mediated by student perceived value in the higher education sector is not available to the best of the researcher's knowledge. So, further investigation is important to test the relationships between perceived service quality and student perceived value and then, overall student satisfaction within the context of Ghana's university sector. In contextualizing the study in Ghana where the work is perhaps the first of its kind, this will make an empirical contribution to the literature on universities service quality.

Research Gap 4

Although public and private universities in Ghana are competing against each other in a highly competitive market, research comparing the two sectors in terms of students' perceptions of service quality to ascertain any major differences between the two sectors has not been given much consideration. The review so far has established that studies that compare students' perceptions of service delivery in public and private universities are limited with a lot of them focused largely on the use of existing generic-scales and industry-specific instruments (e.g., Sulaiman, 2010; Kimani et al., 2011; Calvo-Porral et al., 2013). In Ghana, only one study investigated quality service delivery in higher education by comparing one public university and one private university college using the SERVQUAL model (Anim and Mensah, 2015). Thus, there is a dearth of studies in Ghana that compare the difference in service quality levels between public and private universities based on country-specific factors. The originality of this research therefore resides in the fact that it seeks to fill an existing scholarly gap relating to service quality parity between public and private universities in the Ghanaian context. Thus, comparison of students' perceived service quality in the two sub-sectors would help reveal the areas of strengths, weaknesses and critical dimension(s) for each university sector that may be used in building competitive advantage.

Research Gap 5

From the various studies reviewed so far regarding the measurement of service quality in tertiary education institutions, information on the development and use of country-specific scales based on Ghana's needs, environmental factors and culture is unavailable. This study seeks to fill this gap. Thus, the methodological development of a new measurement scale based on country-specific determinants will be used to measure, firstly, overall service quality in the general university sector and, secondly, juxtapose the public against private universities. This study will make a notable contribution to the creation of new knowledge in the field of measurement and assessment of service quality.

3.10 Summary of the Chapter

This chapter critically examined the relevant past studies and literature representing the basis for an understanding of service quality, particularly in the higher education context. It has demonstrated that there is a lack of a generally accepted definition of service quality and a common framework that allows a precise assessment of determinants of SQ in higher education to account for the quality of education. Furthermore, this chapter considered that because different cultural backgrounds of customers (students) influence the perception of SQ, it therefore argued for an assessment of SQ comprehensively from students' perception of the educational institution's performance taking into account the country's culture and environmental determinants. This approach was adopted for use in this study with regard to the extent of perceptions of service quality amongst Ghanaian students. Moreover, the chapter has contended that an assessment of service quality needs to capture input-process-output determinants of SQ in order to provide a better understanding of issues affecting perceived SQ and its effect on student satisfaction via perceived value. In fact, it has been demonstrated in this chapter that both service quality and perceived value are major inputs into customer satisfaction.

On the basis of the literature review, students as customers to be satisfied has been acknowledged as an appropriate strategy to adopt in order to be successful in a highly competitive education landscape in both developed and emerging economies, compared to other roles of students in higher education. Besides, there is strong reason to link perceived service quality to perceived value in keen competitive markets, particularly when institutions employ service quality as a strategy to maintain or gain a competitive advantage. While perceived value remains strategically important in the provision of services, there is still contention in its conceptualisation. However, this chapter has argued in favour for a multidimensional value model by Ledden et al. (2011) anchored on conceptualisation of Sheth et al.'s (1991) model to measure students' perceived value in this thesis. The chapter has established that there are limited studies on the interrelationship between perceived service quality, perceived value and student satisfaction in Ghana's university sector; moreover, the issue whether this connection is direct or mediated by perceived value remains unclear. This provided the justification for an investigation of a mediating role of perceived value on the relationship between perceived SQ and student satisfaction in this study.

Models for measuring service quality in higher education have been considered in this chapter whereby a large number of studies on service quality in the tertiary education, in both developed and developing countries have been examined and evaluated. More specifically, SERVQUAL and SERVPERF models and their corresponding criticisms were examined in this chapter. Other models of SQ and satisfaction were similarly reviewed, including empirical studies on SQ and student satisfaction conducted in the Ghanaian higher education context. The chapter further evaluated the previous studies that compared public and private university students' assessment of perceived service quality.

It has been revealed that although the SERVQUAL model was the dominant tool of analysis employed in many such studies, it is not adequate to assess service quality in the higher education sector. Moreover, the overall findings derived from these studies tend to point to the lack of research in conceptualising a service quality model that includes university governance as a dimension, although it has contributed to effective service delivery in developing economies. These various discussions have evidently led to identification of five university SQ dimensions as the underlying country-specific determinants of perceived service quality, and a justification for the comparison of students' assessment of public and private universities' SQ based on these five dimensions. Thus, throughout this chapter, it has been demonstrated that this thesis will employ the country-specific scale, and will therefore be one of the first of such investigations into the Ghanaian university sector. The next chapter presents the development of a conceptual framework and research hypotheses of the study by drawing on the findings from this chapter in relation to theories and studies on service quality, perceived value and customer (or student) satisfaction.

CHAPTER FOUR
CONCEPTUAL FRAMEWORK AND HYPOTHESES

4.1 Introduction

This chapter presents a discussion on the development of the conceptual framework and research hypotheses of the current study based on literature reviewed in the previous chapter alongside research objectives. The proposed conceptual framework is derived through the organisation and integration of theories, dimensions of service quality as antecedents of perceived service quality, and overall student satisfaction and student perceived value as consequences of perceived service quality. Other areas of discussion in this chapter is the mediating role of student perceived value on the relationship between service quality and student satisfaction, and a comparative assessment of public and private universities based on students' perception of dimensions of service quality. This chapter begins with section 4.1, which serves as the introduction. The second section (4.2) expatiates on the proposed conceptual framework for the study, its dimensions, variables and relationships. The third section (4.3) propounds the hypotheses to be tested in this study based on the framework shown. The fourth and final section (4.4) provides the summary of the chapter.

4.2 The Conceptual Framework of Quality Service Delivery in Ghana’s University Industry

The conceptual framework of this study describes the researcher’s world view and how the research problem would be explored (Adom, Hussein and Agyem, 2018), and is grounded on a comprehensive review of relevant theoretical and empirical areas alongside the objectives of the study. The conceptual model identifies and clarifies relationships among the constructs of the study. Thus, the conceptual framework is presented in visual display and supported by an explanation of how the main constructs under investigation relate to one another to help provide a guide into the field work and analysis (Grant and Osanloo, 2014). This research is based on the concept of perceived service quality and its impact on student satisfaction directly and or via perceived value. Figure 4.1 below displays the proposed conceptual framework of quality service delivery in Ghanaian universities. An understanding of students’ perceived service quality and its role in the HEIs, particularly universities, may be gained within the context of this framework.

Drawing from Martinez and Martinez's (2010, pp. 38-40) persuasive argument to conceptualise perceived SQ adopting the spurious model approach, this study extends existing research by reconceptualising students' perceived service quality as a second-order multi-dimensional formative construct (having five latent dimensions that are measured reflectively) and analysing its influence on overall student satisfaction and student perceived value. This means that perceived service quality is a higher-second order construct with five underlying latent dimensions that are distinct entities from perceived service quality. Past studies on service quality measurement in the higher education context have already conceptualized perceived SQ as a second-order factor (see e.g., Sultan and Wong, 2013b, 2014; Icli and Anil, 204; Teeroovengadum et al. 2019). This approach is adopted because it provides a theoretically error-free estimate of the specific dimensions, as it allows the separation of variance due to specific dimensions from measurement errors; hence, it prevents increasing or decreasing path coefficient values in the entire model (Chen et al., 2005). This allows accounting for the measurement error in the observable items of each dimension (Martinez and Martinez, 2010). Additionally, this conceptualizing permits less model complexity and more theoretical parsimony in terms of providing the simplest possible explanation for the perceived SQ construct (MacKenzie et al., 2005).

The five reflective first-order latent dimensions of perceived SQ introduced in this study were derived from the extensive review of literature founded on the critical factors in Ghana's cultural context and environment that impact students' perception in evaluating university SQ as discussed in detail in Chapter Two section 3.8.5 of this study. The five identified latent dimensions are (1) teaching methodology (TM), (2) environmental adequacy in study factor (EA), (3) access (AC), (4) placement (PL), and (5) institutional (or university) governance (UG).

Arguably, merging teaching methodology, environmental adequacy in study factor, access, and placement dimensions to develop the conceptual framework of university service quality is like grafting two existing service quality models, namely HedPERF (in Malaysia) by Abdullah (2006a) and the SQM-HEI (in India) by Senthilkumar and Arulraj (2011). The study adopted only the *access* dimension of the HedPERF model and adapted *teaching methodology*, *environmental change in study factor* and *placement* constructs from the SQM-HEI model as most appropriate to be merged to extract a new set of items for the four proposed dimensions of the conceptual model. However, as previously stated, the name of the *environmental change in study factor* construct of the SQH-HEI model was modified to *environmental* *adequacy in study factor* to emphasise the sufficiency of this construct to provide good service. The items of the four dimensions provide the foundation for what the proposed model needs to measure and are derived from the extant literature.

HedPERF and SQH-HEI models were selected for three reasons. Firstly, they are industry-specific instruments developed to measure higher education service quality in developing country contexts having a somewhat similar culture to Ghana and have been validated in terms of unidimensionality, reliability and validity. Secondly, the three fundamental problems related to the SERVQUAL model, which are its dimensionality, its universality, and the use of an expectation-perception disconfirmation approach, are entirely avoided in the case of HedPERF and SQM-HEI models. Thirdly, the indicators of selected dimensions of these models are like the attributes of TM, EA, AC and PL dimensions identified in the literature review findings.

The fifth proposed dimension, which is UG, as discussed in Chapter Five section 3.8.5.5, plays a central role in driving institutions to deliver satisfactory service quality to students, which ultimately promote students and other stakeholders' better performance. Recalling, research evidence indicates that circumstances of breakdowns, unrest, and violence accompanied by a disregard for proper governance procedures and practices in Ghana's university setting are having a potential impact on students, other stakeholders, and overall institutional performance (Shattock, 2014). This, therefore, makes the UG construct an interesting development worth investigating to determine how it is influencing students' perception of university's service provision in Ghana. Thus, *university governance* as an extra dimension was added into the conceptual model to explore its effects on perceived SQ.

To the best of the researcher's knowledge, there are no available existing scale items of university governance in literature used to assess students' experience of university governance from students' perspective to explore its impact on perceived quality, particularly in the Ghanaian context. Therefore, initial qualitative research will be conducted in two Ghanaian universities to explore and extract relevant items/attributes that influence students' perception of university governance. The items generated for university governance together with items of the selected dimensions from the merged models will be used to construct a draft measurement instrument to assess students' overall perception of service quality in Ghanaian universities. Specifically, the selected dimensions of HedPERF and SQH-HEI models and the university governance construct altogether constitute the dimensions of perceived service quality (as earlier discussed) were used to build the conceptual framework.

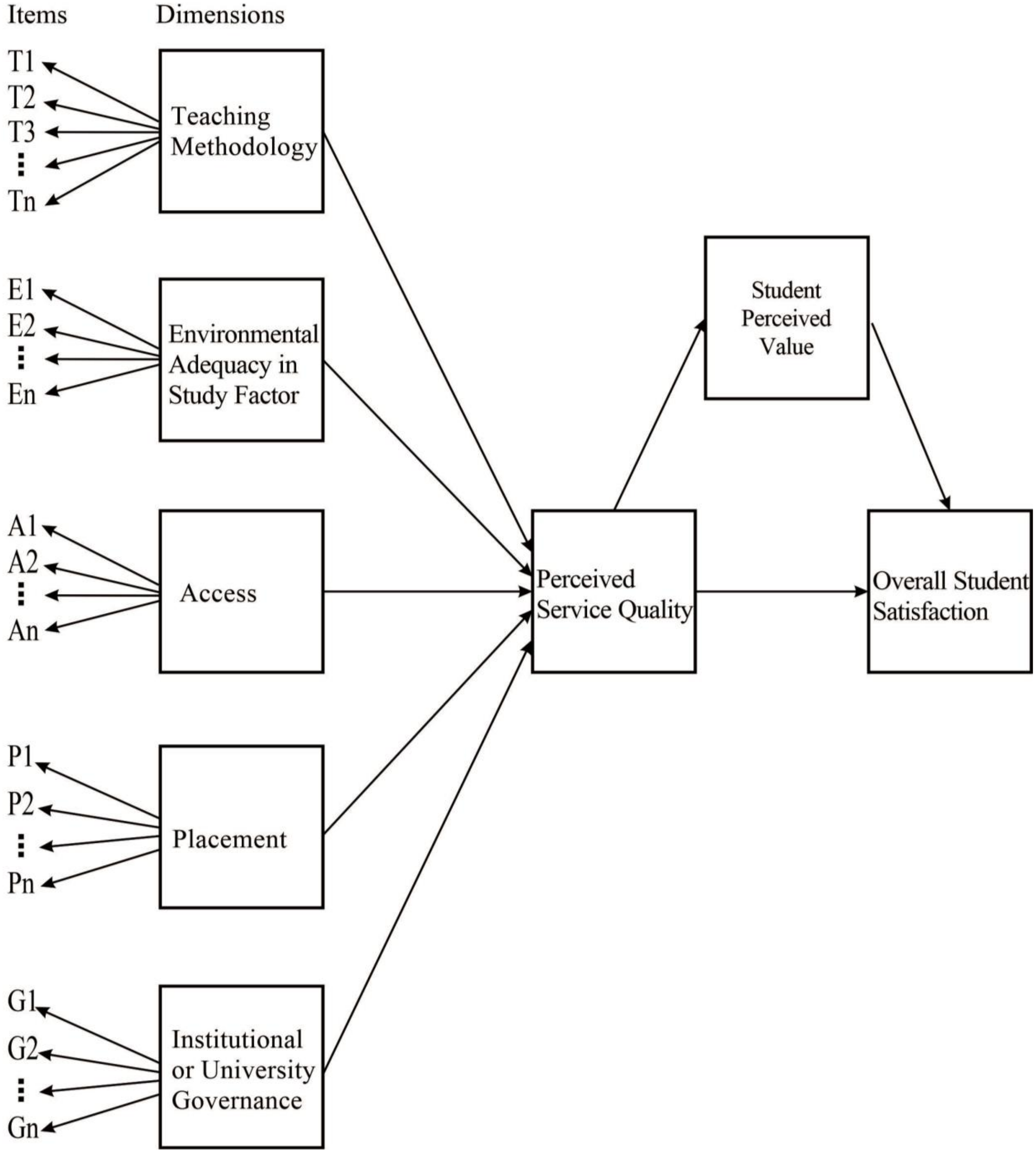
The proposed conceptual framework establishes that students aggregate their assessments of attributes to form their perceptions of a university's performance on each of the five dimensions, and subsequently, perceptions of these dimensions influence their overall perception of SQ (i.e., perceived SQ). In this connection, the degree of perception of quality service delivery of a university depends on the antecedents (or aggregate perceptions of the five dimensions) that students consider prior and during their interaction with their university services; and ultimately the influence of perceived service quality on students' overall satisfaction or otherwise, either directly or indirectly via student perceived value. However, the specific items relating to the remaining constructs in the conceptual framework to be measured are all derived from literature.

The conceptual framework in Figure 4.1 consists of three parts. The first part displays the perceived SQ and its dimensions or components; the second part shows the mediation role of perceived value in the association of perceived SQ and overall student satisfaction, and the third part displays the relationship between perceived SQ and overall student satisfaction. At the core of the conceptual framework is the perceived SQ that, as earlier stated, consists of five dimensions, namely: teaching methodology (TM); environmental adequacy in study factor (EA); access (AC); placement (PL); and institutional (or university) governance (UG). The TM, EA, AC and PL dimensions were conceptualised as unidimensional constructs by grafting the HedPERF and the SQM-HEI models as earlier indicated.

In the context of the proposed conceptual framework in Figure 4.1, the relationship among constructs shows that each of the five dimensions of perceived quality (TM, EA, AC, PL & UG) and overall student satisfaction are considered as the independent and dependent variables, respectively, and are treated as first-order reflective latent variables that cannot be measured directly. On the other hand, student perceived value and perceived service quality constitute the intermediate variables, which are treated as multi-dimensional first and second-order formative constructs, respectively. According to Markus and Borsboom (2013), the items of the reflective latent construct are considered manifestations of common latent traits, thus the latent construct exists independently of its indicators, whereas for formative latent constructs the indicators linking the latent variable are considered samples of a type of behaviour, and thus probably, but not necessarily, correlated.

Within the framework of this study, perceived SQ and its effect on student perceived value and overall student satisfaction provided ample justification for the testing of mediated relationships. Testing the mediated relationships is to help establish whether students' perceptions of university service quality in Ghana can have both a direct and indirect impact via perceived value on their overall satisfaction. Nitzl et al. (2016) refer to Preacher and Hayes (2008) to the effect that to establish mediating relationships, the independent variable (i.e., perceived SQ) must exert significant influence on the mediator (i.e., student perceived value); the mediator must in turn significantly influence the dependent variable (i.e., overall student satisfaction) when controlling for independent variable; and the independent variable must also significantly influence dependent variable in the absence of the mediator. They further contend that to examine any mediated relationships, an important pre-condition is that the effect of the independent variable on the dependent variable decreases substantially when the mediator is entered simultaneously with the independent variable as a predictor of the dependent variable. Figure 4.1 below illustrates the conceptual framework for this study showing the mediator role of student perceived value in the relationship between perceived SQ and overall student satisfaction.

Figure 4.1: Proposed Conceptual Framework of Current Research



Source: Researcher's model showing perceived service quality and its dimensions and how perceived service quality contributes to overall student satisfaction, either directly or indirectly via perceived value.

The proposed conceptual framework in Figure 4.1 involves a two-stage analysis: i) the establishment of valid and reliable scales for each construct, and then the subsequent assessment of the measurement model specifying the relationship between a latent variable (or construct) and its indicators or items; and ii) an examination of the structural model showing causal relations among the constructs. The next section looks at the relationships among the constructs in Figure 4.1 above.

4.3 Linkages among Constructs in the Proposed Conceptual Framework

This section establishes the relationships among the constructs in the proposed hierarchical model and introduces a set of testable hypotheses, which create a conceptual framework for the empirical investigation.

4.3.1 The Relationship between Service Quality Dimensions and Perceived Service Quality

Extant studies, such as that by Brochado (2009) and Mariman et al. (2019), disclosed that there has been a noticeable diversity and inconsistency in the variables/dimensions (or measurement instruments) employed to assess the SQ to determine its impact on student satisfaction in higher education in various studies. However, academics; non-academic activities; facilities available to students; auxiliary services; interpersonal relationships; and industry exposure and collaborations are commonly cited dimensions in SQ literature employed to measure students' perceived SQ in higher education. In the context of this study, teaching methodology (TM); environmental adequacy in study factor (EA); access (AC); placement (PL); and institutional governance (UG) are dimensions deemed relevant to be used to measure students' perception of SQ in Ghanaian universities. The choice of these dimensions has previously been justified in the context of the Ghanaian setting and culture as shown in Chapter Three. The ensuing sections discuss the nexus between perceived service quality and each of the proposed SQ dimensions.

4.3.1.1 Relationship between Teaching Methodology and Perceived Service Quality

Teaching methodology (TM) in the context of this study is operationalized as consisting of: relevant curriculum; teaching and learning support; willingness to allow and encourage class group interaction; theoretical (relevant) knowledge of academic staff; practical (relevant) knowledge of academic staff; extent to which academic staff are up to date in their subject matter; extent to which course material is timely/sequentially presented; the degree to which exams are representative of courses taught; and the extent to which courses are stimulating (Senthilkumar and Arulraj, 2011). A more recent study by Masserini, Bini and Pratesi (2019) has provided empirical evidence that teaching, lectures, and course organization are the foremost determinants of students' satisfaction and students' loyalty among the more academic components of the educational service. In this regard, Sultan and Wong (2014) contended that in any higher education institution, academics (which largely refers to the lecturers' capacity to teach) are perceived to be highly important to students. On the other hand, Latif et al. (2019) posited that teacher quality highlights the importance of teachers in delivering quality teaching to students and is related to teacher performance, teaching methods, the relationship between students and teachers; encouragement by teachers; continuous assessment of students by teachers; understanding of lectures; meeting the requirements of courses; well-trained teachers; and the like.

Furthermore, Oldfield and Baron (2000) propose that the requisite factors that are essential in enabling students to achieve their study obligations mostly include: lecturers' expertise and knowledge; lecturers' care to students; lecturers' responsiveness; and administration staff's reliability and responsiveness. More importantly, Kashif et al. (2016) intimate that students value the sincerity of their instructors during service encounters in a higher education setting. A more recent study by Marimon et al. (2019) has revealed that the ability of faculty managers to design attractive and sound academic programmes, the expertise and knowledge of the lecturers in charge of transferring knowledge to students, and the teaching method used dominate the perceptions of overall quality, which in turn impact highly on student satisfaction. Campos et al. (2017) in their longitudinal study on variations in student perceptions of service quality of higher education institutions in Brazil have established that professors' practical experience, teaching methods, motivation or training received play a vital role in influencing undergraduate students' perception of quality of the higher education institution.

In far-reaching terms, Sultan and Wong (2010a) emphasised that good teaching practices, after-hour consultancy and course content are perceived by the students as some common and desirable teaching characteristics in their studies. According to Curran and Rosen (2006), instructors, course topics, and course execution are the most important factors that influence students' attitudes when they evaluate a class. In line with this, Kashif and Ting (2014) suggested lecturers play a major role in contributing towards the perceptions of service quality. Therefore, proposing teaching methodology in the conceptual framework as contributing to students' perception of quality of service delivered by universities is appropriate and justified. Based on these arguments the following hypothesis is formulated:

H1a: *Higher perceived level of teaching methodology leads to higher perceived level of university service quality.*

4.3.1.2 Relationship between Environmental Adequacy in Study Factor and Perceived Service Quality

Environmental adequacy in study factor (EA) in this study deals with issues such as provision of library facilities; computer facilities; laboratory facilities; a conducive environment that supports teaching and learning; and working time of the college that ensures effective teaching and learning in HEIs (Senthilkumar and Arulraj, 2011). They further pointed out that besides these basic facilities, academic activities like workshops, conferences, overseas collaborations, and seminars enrich the learning ambience. According to Mariman et al. (2019), services and facilities are relevant and necessary to provide good service. Tsinidou et al. (2010) conducted a study in Greece among business students and found that the availability of library textbooks and journals; as well as the physical facilities such as lecture halls/classrooms and laboratories influence students' perception of university services. Likewise, Kimani et al. (2011) affirm that university lecture halls and library facilities drive students' perceptions of a university's services.

Mai (2005) contended that the state of computer room facilities either enhance or worsen the perception of students in higher education. It has been established that lecture room facilities form one of the criteria that students use to evaluate quality service delivery in higher education (Oldfield and Baron, 2000; Clemes et al., 2001). In the context of the creation of a favourable environment for university service delivery, Marimon and his colleagues (2019) maintain that students need a suitable environment in terms of physical facilities and services to make the most of their years of university studies. According to Dura and Isac (2014), the university campus including its layout plays a central role in offering conditions for a pleasant and active student life through its physical facilities and is a necessity for a high-quality education process.

According to Nadiri and Mayboudi (2010), the success of an academic institution depends mainly on the quality of its campus facilities. It has been empirically demonstrated in several studies (see e.g., Sumaedi et al., 2012; Icli and Anil, 2014; Sultan and Wong, 2014; Teeroovengadum et al., 2016; Mattah et al., 2018; Darawong and Sandmaung, 2019), that the university infrastructural facilities dimension (including support infrastructure, general infrastructure and learning setting) make a significant contribution to students' service quality perceptions in the higher education context, thereby constituting a satisfaction indicator for universities. Thus, from the foregoing discussions, the proposed linkage between the EA dimension and students' perception of the quality of services provided by universities in the conceptual framework is justified. Therefore, the following hypothesis is formulated:

***H1b**: Higher perceived level of environmental adequacy in study factor leads to higher perceived level of university service quality.*

4.3.1.3 Relationship between Access and Perceived Service Quality

The conceptual framework portrays the *access* dimension as affecting students' overall perception of service quality in higher education. According to Abdullah (2006), as earlier indicated, the "access" dimension entails the items that relate to approachability; ease of contact of the university; availability of academic staff for guidance and advice; and convenience. He further asserts that "access" is the dominant factor that influences students' perception of SQ in HEIs, particular in Malaysia, and Ghana may not be any different. Thus, he furthermore suggested that students perceived the access dimension to be more important than other dimensions in determining the quality of service they received.

Specifically, Gee (2018) emphasizes that students prefer to interact with lecturers who are approachable and available for consultation and, most importantly, friendly. Rezaee and his colleagues (2014) also state that access to consultant teachers is one of the factors that affect a student's satisfaction. A study by Wibbecke et al. (2015) concludes that consultation, based on students' precise needs, is an effective method of improving teaching and learning. Thomas (2011) intimates that good access to lecturers is perceived to be an important variable affecting student satisfaction. In contrast, Fosu and Owusu (2015) suggest that access to materials at the school's library is an important service quality indicator that affects the students' perception of service quality.

The geographic location of a university, an indicator representing ease of contact of a university, has been demonstrated by Gruber and his colleagues (2010) to influence students' satisfaction. It is also noteworthy that several prominent service quality researchers have identified a significant positive relationship between access and perceived SQ in the higher education context (Athiyaman, 1997; Clemes et al., 2001; DeShields et al., 2005; Sultan and Wong, 2010a; Ushantha and Kumara, 2016; Moyo and Ngwenya, 2018). Therefore, it can be inferred that proposing “access” as a dimension of perceived SQ in the conceptual framework is appropriate. Based on these arguments, the study hypothesizes that:

H1c: *Higher perceived level of access leads to higher perceived level of university service quality.*

4.3.1.4 Relationship between Placement and Perceived Service Quality

The conceptual framework also proposes that placement (PL) activities such as level of provision of jobs on campus to students; assurance for off-campus jobs; internship training; soft skills development; and alumni interaction and network have a potential impact on students’ perception of service quality in HEIs. The placement dimension likewise entails practices relating to industry and institute interaction; graduates from their university get good jobs, and the degree students obtained from their university is highly appreciated in the labour market. Sharma and Vyas (2017) have argued that internship opportunities, international collaborations and opportunities, international exposure programmes, and career training support are key significant factors influencing the individual choices of students during their selection of university for admissions. It was also proved empirically that students consider employability as the major reason to enrol in higher education, although its importance was generally underrated in the choice of the study programme and of the institution (Tavares, 2017).

Spio-Garbrah (2015) contended that there is a vacuum in relevant practical knowledge most African intellectuals and professionals received because their education was unrelated to the natural resources around them and the fundamentals of their country's economic production. Extant research further unveils that individual students who emerged from universities and are more inclined to theoretical knowledge often lack the skills and attitude for undertaking jobs successfully (Rajasekaran and Rajasingh, 2009). Additionally, Joshi and Pandey (2018) contended that the lack of industry faculty interaction on course curricula leads to irrelevant training modules. Thus, higher education providers are engaging with graduates to enhance employability by nurturing generic skills in students that might make them attractive to multiple employers across multiple work contexts and disciplines (Bridgstock, 2009). However, Oriade (2013) notes that one of the key challenges facing HEIs presently lies in providing students with the necessary skills to compete in the labour market.

This development is impelling students to become increasingly preoccupied with career concerns in which they value criteria such as the ability to get a job after attending a particular university as influencing their perception of university services (Dey et al., 1991). Various past studies have found that providing career opportunities to students by universities is very influential on students' perceptions of service quality or perceived performance of their university (e.g., Arambewela et al., 2005; Icli and Anil, 2014). On the other hand, it has also been proved empirically that placement is a mediating factor in students' perception of service quality in HEIs (Senthilkumar and Arulraj, 2011).

Researchers have indicated that parents are financing their children's higher education in anticipation of immediate returns on their investment in the form of placement in a suitable job (Senthilkumar and Arulraj, 2011). They further stated that HEIs are therefore directing their efforts towards achieving a very high level of on-campus placement as the ultimate objective. In Ghana, anecdotal evidence suggests that the opportunity for universities to link students with prospective employers while studying, and how easily attending a particular university can guarantee a student's employment in the job market, are factors that are influencing parents' and students' choice of universities, and ultimately their perception of HEIs service delivery. These reasons, therefore, justify the acceptance of placement (PL) as a dimension of SQ in higher education in the Ghanaian context. Based on these arguments, the following hypothesis is formulated:

***H1d**: Higher perceived level of placement leads to higher perceived level of university service quality.*

4.3.1.5 Relationship between Institutional (or University) Governance and Perceived Service Quality

Neave (2006) defined higher education governance as conceptual shorthand for the way higher education systems and institutions are organised and managed. On the other hand, Gayle et al. (2003) defined university governance as the structure and process of authoritative decision-making across issues that are significant for external as well as internal stakeholders within a university. According to Edwards (2003), university governance is concerned with the determination of values inside universities; their systems of decision making and resource allocation; their mission and purpose; the patterns of hierarchy and authorities; and the relationship of the university with different internal stakeholders, government, business, and its immediate community.

This study operationalized university governance as institutional process that create optimal conditions for student performance in terms of how a university's systems of decision making, communication roles, resource allocation and the relationship of a university with its students are influencing their perceptions and trust in the university (Edwards, 2003; Gayle et al., 2003; Middlehurst, 2013). This is because universities have been urged to move away from the preoccupation with the "structure" of university governing bodies to issues of "communication roles and trust" (Coaldrake et al., 2003).

Sarpkaya (2010) posits that institutional factors affect individual demand for higher education, and these factors ultimately influence the perception of education. Sultan and Wong (2010a) asserted that good problem-solving mechanisms and fair grading are perceived by the students as desirable characteristics of HEIs. Previous research reveals that unfair grading and discrimination among students concerning their marks and grades have a great impact on their perception of HEIs teaching and learning services (Al-Hussain et al., 2008). Ghosh et al. (2001) suggest that students' belief in the governance of HEIs positively impact service quality perceptions, enrolment, retention rates, positive word of mouth, and alumni involvement. They further asserted that management policies and practices such as a university demonstrating courtesy and goodwill towards students; openness in terms of interpreting and disclosing ambiguous higher education issues; honesty and transparency in the provision of resources for teaching and learning; and fulfilment of promises, among others, are the matters of university governance that inspire confidence in students. Arguably, students' perception of institutional integrity in terms of staff handling of students' issues, management policies and practices associated with overall student welfare, and reliable service performance build students' beliefs and confidence, which in turn determines students' trust.

Monyoncho (2015) suggests that poor governance arrangement in a university leads to bad leadership and bureaucratic decision making, and these in turn negatively affect the quality of services in the university. According to Akinkugbe (2001), leadership indiscipline is resulting in poor management practices and policies relating to the handling of students' complaints in a caring manner; lack of magnanimity and honesty in handling academic issues; and ineffective problem-solving and communication mechanisms, are causing an overall decline in university education. However, leadership, together with effective governance, is the most significant function of a higher education institution that creates a pleasant teaching environment for faculty and provides students with the quality of education they deserve (Al-Shuaiby, 2009).

It has been proved that good university governance affects the quality of teaching by the lecturer, which in turn impacts student satisfaction and, ultimately, institutional performance (Budu and Quashigah, 2016; Muhsin et al., 2020). Abugre (2018) maintains that weakness in institutional policies of higher education in Ghana significantly affects the efficient delivery of academic teaching and research. Therefore, considering the dearth of studies on the relationship between institutional or university governance and perceived service quality in the HE context, the proposed linkage in the conceptual framework seems to be appropriate and justified. Thus, the following hypothesis is formulated:

H1e*: Higher perceived level of institutional (or university) governance leads to higher perceived level of university service quality.*

4.3.2 Relationship between Perceived Service Quality and Overall Student Satisfaction

In a competitive educational milieu, extant studies have established that positive perceptions of SQ lead to student satisfaction and satisfied students draw new students by engaging in positive word-of-mouth communication (Marzo-Navarro et al., 2005; Moosmayer and Siems, 2012). Service quality has also been found in a previous study to be an important input to student satisfaction (Annamdevula and Bellamkonda, 2016b). In this connection, the concept of satisfaction symbolises a key output variable in marketing thought and practice. A large body of previous studies have established that perceived SQ is a critical determinant of customer satisfaction across many sectors, including the higher education context (e.g., see Cronin et al., 2000; Al-Alak, 2009; Gounaris et al., 2010; Mansori et al., 2014; Mohamed and Azizan, 2015; Hapsari et al., 2016; Gupta and Kaushik, 2018). Extant studies unveil that service quality is a cognitive state and customer satisfaction is an affective state (Carrillat et al., 2009; Sultan and Wong, 2014).

Perceived SQ is a long-term overall evaluation whereas customer satisfaction is the outcome of the overall evaluation. In linking the two constructs, Sureshchander et al. (2002) identified that strong relationships exist between service quality and customer satisfaction while stressing that these two are conceptually different constructs from the customers' perspective. Alluding to this, Annamdevula and Bellamkonda (2016) conducted a study on higher education and the results of the study support the relationship that perceived SQ positively affects student satisfaction. Similarly, Kimani et al. (2011), Sultan and Wong (2012, 2013b, 2014), Subrahmanyam (2017), and Chandra et al. (2018) conducted a study on higher education and the results revealed that perceived SQ has a positive impact on students' overall satisfaction. This suggests that the students are satisfied if service features perform well. Therefore, based on a proposed linkage in the conceptual framework, which is consistent with the foregoing arguments, the following hypothesis is formulated:

H2: *Perceived service quality has a positive and significant effect on overall student satisfaction.*

4.3.3 Relationship between Perceived Service Quality and Student Perceived Value

Sirdeshmukh et al. (2002) define perceived value as the consumer's perception of the benefits subtracted from the costs of maintaining an ongoing relationship with a service provider. On the other hand, Zins (2001) conceptualised perceived value as the trade-off between what consumers get in return for what they give to the company. However, Sampaio et al. (2012) noted that most students may not have the proper frame of reference to make such a comparison and, in addition, Carvalho and Mota (2010) state that students may take years to appreciate and gauge the actual value of the education they received.

In this regard, Ledden and Kalafatis (2010) assert that students' perception and choice within the higher education market is a function of five dimensions of value: functional value, which is the students' expectations that the chosen degree/program and the HEI will provide appropriate education and will assist their career development; social value, which deals with benefits derived through social interactions in the campus experience; epistemic value, which relates to benefits derived through the ability of an offer to arouse genuine intellectual curiosity and satisfy the desire for students' knowledge; emotional value, which involves benefits achieved from the ability of an offer to arouse affective states that may emerge from students' perceptions of enjoyment and gladness in undertaking their studies; and conditional value, which refers to the specific situation in which the service is being consumed. In the educational domain, this includes the provision of teaching materials, computer labs, libraries and alike, and the effect that this has on students' perceptions of value.

Tran and Le (2020) acknowledge the work of Cronin et al. (2000) across multiple service industries and state that the value of a service product is largely defined by perceptions of quality. Research evidence shows that a positive and significant relationship exists between overall perceptions of dimensions of SQ and customer perceived value across various business sectors (Howat and Assaker, 2013; Dlacic´ et al., 2014; Hallak et al., 2018; Hamenda, 2018; Ng'ang'a K, 2020). Specifically, it has been proved by Dlacic´ and her colleagues (2014), Zhang et al. (2016) and Prentice et al. (2018) that perceived service quality has a positive and significant impact on student perceived value in the higher education context. Further, extant research has proposed that SQ is a critical determinant of value for the graduate of HEIs in the job market (Sureshchander et al., 2002). Ledden et al. (2011) have established in their empirical investigation in the higher education context that SQ is an antecedent of perceived value. Therefore, from the foregoing discussions, the proposed linkage between the perception of SQ and student perceived value in the conceptual framework seems to be justified and appropriate. Thus, the following hypothesis is formulated:

***H3**: Perceived service quality has a positive and significant effect on students' perceived value.*

4.3.4 Relationship between Student Perceived Value and Overall Student Satisfaction

The understanding of students' perception of functional, social, emotional, epistemic, and conditional values in the higher context assist in tailoring the educational offerings to the needs of the students, and it helps to optimize their learning experience (Ledden, Kalafatis and Samouel, 2007). According to Moosmayer and Siems (2012), the provision of value education influences students' expectation that their higher education institution considers their perspective and delivers what best serves their needs. Besides, the provision of value education ensures satisfying corporate demands by increasing students' employability. This, therefore, could ultimately yield students' satisfaction. In this regard, Elliott and Shin (2002) assert that student satisfaction in the higher education context is described as a short-term attitude that arises from the students' evaluation of the educational experience, which is subjective.

It is evident in the literature that service value impacts overall satisfaction. For instance, a study by Tran and Le (2020) on the impact of service quality and perceived value on customer satisfaction using convenience stores in Vietnam shows that perceived value directly influences customer satisfaction. Equally, an earlier work by Cronin et al. (2000) asserts that service value leads to customer satisfaction. In a higher education context, Ledden et al.

(2011) conducted a study at a UK business school to examine relationship behaviour among SQ, value, satisfaction, and intention to recommend, with the findings suggesting that SQ is an antecedent of perceived value, which in turn is a driver of student satisfaction; the ultimate outcome of which is word-of-mouth recommendation. Moosmayer and Siems (2012) examined how service value relates to student satisfaction in a German university and found that students' perceptions of the value influence delivered by their university increased their satisfaction with the institution. Previous works in higher education have reached similar conclusions that students who perceive the value of their education program more favourably, are more probable to experience higher levels of satisfaction (Brown and Mazzarol, 2009; Mansori et al., 2014; Zhang et al., 2016). Based on the research evidence presented above, the purported linkage in the conceptual framework between student perceived value and overall student satisfaction is appropriate and justified. Therefore, the following hypothesis is proposed:

***H4**: Student perceived value has a positive and significant effect on overall student satisfaction.*

4.3.5 Mediating Role of Student Perceived Value

Recalling the literature discussed in Chapter Three, it was observed that there is a gap in testing if the association between perceived service quality and overall student satisfaction is mediated by perceived value in Ghana's tertiary education sector. The role of perceived value as a mediating variable is supposed to provide an enhanced explanation for the link between perceived service quality and overall student satisfaction. Arguably, quality of service, perceived value, and customer satisfaction constitute major standards for building a long-term relationship and loyalty between a customer and an organisation in competitive markets. Kleynhans and Zhou (2012) cite Shahin and Debestani (2010) to the effect that outstanding service quality plays a vital role in adding value to the overall service experience, which in turn strengthens customer satisfaction. Providing excellent services to students is very important for the viability of universities, so it is necessary to understand the process relating to the sequence of relationships among perceived service quality, perceived value, and student satisfaction to ascertain whether perceptions of university service quality can have both a direct and indirect impact on their overall satisfaction.

The indirect relationships between service quality and customer satisfaction via the perceived value have been acknowledged by various past studies. For example, it was proved empirically by Hapsari et al. (2016) that perceived service quality has a positive indirect effect on overall student satisfaction through perceived value. Hamenda (2018) indicates that there is partial mediation of perceived value of the relationship between service quality and customer satisfaction, nonetheless, the intensity of mediation was not reported. Malik (2012), in a study of the service sector of Pakistan, reported that perceived value acts as a partial mediating variable in the relationship between perceived service quality and customer satisfaction. A more recent study by Hallak, Assaker and El-Haddad (2018) on tourism destinations in Australia has provided a model that linked perceived quality and perceived value to tourist satisfaction and perceived quality to perceived value. They proved all relationships to be significant, yet mediation testing was not run in their study.

In another study, Oriade (2013) confirms that perceived value mediates the perceived quality attributes-visitor satisfaction relationship. The findings of this study resonate with those available in the literature although it provides it in a different context, which is the UK attraction services industry. In higher education, previous studies have provided similar results that the perceived value mediates the relationship between perceived service quality and student satisfaction. In a study by Ledden et al. (2011) in the UK higher education sector, it was proved empirically that the relationship between students' perceived service and perceived value is significant and that between perceived value and overall student satisfaction is also significant. Therefore, it can be said that the student's perceived value mediates the relationship between perceived service quality and overall student satisfaction. Likewise, Yunus et al.'s (2009) study at a public university in Malaysia shows that perceived service quality strengthens the effects of perceived value on overall student satisfaction outcomes. In line with the conceptual model and based on these studies, the following hypothesis is formulated:

H5*: Student perceived value mediates the association between perceived service quality and overall student satisfaction*.

4.3.6 Comparison of Public and Private Universities in Terms of Perceived Service Quality

Despite the burgeoning number of studies that have examined service quality in the tertiary education sector, the literature on the comparison of public and private universities in terms of perceived service quality indicates that it is not adequately investigated. Only a few studies made a comparison between the two sectors, however, these studies used different factors or dimensions as the basis of comparison of perceived service quality. For instance, Al-Alak (2009) conducted a study to determine the differences in overall business students' satisfaction perception among 665 students from three public and three private universities in Jordan. His questionnaire contained statements based on the service product, administration of the university, lecturers at the university and facilities. The findings show that business colleges at private universities are competing well and are even well ahead of business colleges at government universities in delivering services and other related outputs. Moreover, it was found that business students at private universities perceive a higher quality of service than do their counterparts at public universities and are much more satisfied with such services compared to business students at public universities.

Hamid and Yip (2019) cite Romero and Rey (2004) and find support in Wilkinson and Yussof (2005) to the effect that public universities provide superior quality service compared to private universities because they can attract the best students, whereas private universities provide higher education according to the demands of the economy and students. Likewise, Hasan et al. (2009) remarked that there is a strong public perception that the public higher education institutions are believed to offer better quality education compared to the private higher education institutions. They further stated that private higher education institutions are the last resort for students who do not gain entry into public higher education institutions.

Kimani et al. (2011) conducted a study to compare public universities with private universities in Kenya in terms of students' perception of the quality of service provided by these two sectors. They used a sample size of 424 business student respondents selected from two public and two private universities located in rural and urban settings and their questionnaire contained statements based on the modified HeDPERF model developed by Abdullah. The results have shown that the students at rural private universities rated their perception of service quality highest with an average score of 5.25, followed by Urban Public university (4.42), Urban Private university (4.22) and Rural Public university (4.07) in that order on a scale of 0 to 7. They concluded that the quality of service offered to students at private universities was perceived to be better than in public universities. The study further revealed that perceived service quality has a positive impact on students' overall satisfaction. Similarly, Anim and Mensah (2015) investigated quality service delivery and its impacts on the image of the institutions in Ghana by comparing one public university and one private university college. In their study, they used the SERQUAL model to measure student's perception of the university's service quality using a sample size of 240 from the two universities. The findings revealed that students at private universities have higher perceived service quality of their institution than their counterparts in public universities. In support of the above studies, Mazumber (2014) intimates that private HEIs provide better service and are highly rated compared with their public counterparts.

Garwe and Tirivanhu-Gwatidzo (2016) compared university governing boards in private and public universities in Zimbabwe to get insight into the beneficial aspects of private university governance and recommend good practices. They collected their data at three public universities and three private universities using a wide range of persons. The study showed that the institutional governance of private higher educational institutions is better than that of their public counterparts because of ownership reasons and the need to remain financially afloat. In this respect, Usman (2014) adds that the private university sector boards portray a more efficient system of institutional governance compared to the public sector boards that lack autonomy and are under strong political influence.

Fatima et al. (2018) carried out their research in the Lahore district in India to compare public universities with private universities in terms of students' opinions on the classroom environment. They used a sample size of 300 students drawn from two public and two private universities and their questionnaire was based on physical, behavioural, social, motivational, and academic environment factors. The findings of their study showed that classrooms of private sector universities were significantly better regarding the physical environment than that of the public sector. However, in the behavioural, social, academic, and motivational classroom environment, the private sector was slightly better than that of the public sector but there was not a significant difference. On the other hand, Lawal and Viatonu (2017) investigated students' access to and utilization of some learning resources in selected public and private universities in southwest Nigeria using the Cost and Quality of University Education Questionnaire and Availability of Learning Resources Observation Schedule instrument. The evidence from their study suggests that private universities have greater access to learning resources than public universities while there was no significant difference between public and private universities in the utilization of some learning resources.

A Malaysian study by Naidu and Derani (2016) found a statistically significant difference between public and private university students' perceived quality in terms of the capability of lecturers in providing support for students in difficulties. Specifically, private university students perceived this dimension better than public sector counterparts because lecturers at private universities were rated to be much more capable in teaching compared to those from public universities. While comparing public and private universities in terms of provision of placement opportunities to students, Kumar (2019) contended that most public universities provide placement guidance to students and trained students in interview skills and therefore their ability to perform well in job placement interviews was better compared to their counterparts from private universities. However, a study in Bangladesh found more graduates from private universities receiving more job placements compared to those from public universities (Wadud, 2019). The difference between these two studies is that the Bangladesh study looked at the actual counts or numbers of graduate students from public universities who landed jobs compared to those from private universities in a given period after graduating. Based on the studies discussed, the following hypothesis is formulated:

***H6**: Perceived service quality is higher in Ghanaian private universities than public universities.*

4.3.7 The Link between the Research Hypotheses and Objectives of the Study

To demonstrate that the study hypotheses are well-grounded on the relevance of the study, Table 4.1 below highlights the link between the research objectives as indicated in Chapter One and the research hypotheses formulated in this chapter of the study.

Table 4.1: The Link between the Research Hypotheses and Research Objectives

Hypotheses	Research Objectives (RO)
H1a: Higher perceived level of teaching methodology leads to higher perceived level of university service quality.	**RO1:** To identify and evaluate the influence that each of the underlying dimensions of university service quality has on perceived service quality, and the importance of the dimensions to students in Ghana;
H1b: Higher perceived level of environmental change in study factor leads to higher perceived level of university service quality.	**RO1:** To identify and evaluate the influence that each of the underlying dimensions of university service quality has on perceived service quality, and the importance of the dimensions to students in Ghana;
H1c: Higher perceived level of access leads to higher perceived level of university service quality.	**RO1:** To identify and evaluate the influence that each of the underlying dimensions of university service quality has on perceived service quality, and the importance of the dimensions to students in Ghana;
H1d: Higher perceived level of placement leads to higher perceived level of university service quality. .	**RO1:** To identify and evaluate the influence that each of the underlying dimensions of university service quality has on perceived service quality, and the importance of the dimensions to students in Ghana;
H1e: Higher perceived level of institutional (or university) governance leads to higher perceived level of university service quality.	**RO2:** To determine whether students' experience of university governance affect their perception of university service quality in Ghana;
H2: Perceived service quality has positive and significant effect on overall student satisfaction.	**RO3:** To determine the relationships between perceived service quality and student value and subsequently overall student satisfaction with respect to university institutions in Ghana;
H3: Perceived service quality has positive and significant effect on students' value.	**RO3:** To determine the relationships between perceived service quality and student value and subsequently overall student satisfaction with respect to university institutions in Ghana;
H4: Perceived student value has positive and significant effect on overall student satisfaction.	**RO3:** To determine the relationships between perceived service quality and student value and subsequently overall student satisfaction with respect to university institutions in Ghana;
H5: Student perceived value mediates the association between perceived service quality and overall student satisfaction.	**RO3:** To determine the relationships between perceived service quality and student perceived value and subsequently overall student satisfaction with respect to university institutions in Ghana;
H6: Perceived service quality is higher in Ghanaian private universities than public universities	**RO4:** To compare the public and private Ghanaian universities in terms of students' perception of service quality.

Source: Researcher's Table

4.4 Summary of the Chapter

This chapter has presented the proposed conceptual framework for the study. In addition, the chapter explained how the 10 hypotheses to be tested in this study were developed. The chapter then connected the 10 research hypotheses developed to objectives of the study. By comparing the literature on private universities and public universities, this chapter revealed that private universities outperform public universities in terms of the different dimensions of service quality in a number of studies conducted in Western, Asian and Sub-Saharan Africa countries. Issues discussed in this chapter, to a large extent, inspired the choice of research methods and development of research instruments. The next chapter will present the research design and methodology of this research. The research paradigm and methods will be provided, and survey strategies and techniques employed to generate, collect and analyse data during the field work will be highlighted. The efficacy conceptual framework developed in this chapter will then be validated based on results of the data analysis in subsequent chapters.

CHAPTER FIVE
RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

This chapter discusses the methodology for this study and explicates research design that is necessary to aid collection of appropriate data to test the hypotheses, and then help with answers to research questions and achieve the research objectives. Research methodology refers to how knowledge is gained about the social world (Denzin and Lincoln, 2011); it therefore translates the philosophical assumptions and principles (informed by the research objectives and questions) into guidelines that show how research can be effectively conducted (Sarantakos, 2013; Saunders et al., 2019). On the other hand, research design refers to various methods and techniques researchers use to collect, analyse and interpret data using qualitative and or quantitative research (Creswell, 2015).

The chapter is divided into 11 sections. The chapter starts with a recap of the objectives and research questions of the study and relations among the study's objectives, research questions and hypotheses in section 5.2. The next section (5.3) provides a review of philosophical assumptions that broadly underpin social sciences research and explores the philosophical paradigm related to the present study. This is followed by an explanation of research methods and choice of a method in section 5.4. The research design for this study and data types, as well as sources, are presented in sections 5.5 and 5.6, respectively. Thereafter, population and sample frame of the study are provided in section 5.7.

Next section (5.8) discusses the initial qualitative research, specifying its sampling strategy, research instrument, administration of the instrument and qualitative data analysis procedure. This is followed by a discussion of the main quantitative research in section 5.9, indicating the sampling plan, questionnaire development, pilot testing of questionnaire, administration of the questionnaire and method of data analysis. A discussion of the ethical issues that informs the conduct of the research is provided in section 5.10, and lastly a summary of the chapter is presented in section 5.11.

5.2 Recapping the Study's Objectives and Research Questions

5.2.1 Study's Objectives

The study has the following objectives:

- RO1: To identify and evaluate the influence each of the underlying country-specific dimensions of university service quality has on perceived service quality and the importance of the dimensions to students in Ghana.
- RO2: To determine whether students' experience of university governance affect their perception of university service quality in Ghana.
- RO3: To determine the relationships between perceived service quality and student perceived value and, subsequently, overall student satisfaction concerning university institutions in Ghana.
- RO4: To compare the public and private Ghanaian universities in terms of students' perception of service quality.
- RO5: To develop a valid and reliable service quality measurement scale for universities in Ghana, and in conclusion make recommendations for further studies to determine if the scale can be adapted to other countries with similar environmental and cultural conditions.

5.2.2 Research Questions

The study seeks to provide answers to the following questions:

- RQ1: What are the underlying country-specific dimensions of university service quality that influence perceived service quality in the Ghanaian universities, and how important is each dimension to students in Ghana?
- RQ2: Does a student's experience of university governance affect their perception of university service quality in Ghana?
- RQ3: What are the strengths of relationships between perceived service quality and student perceived value and, subsequently, overall satisfaction of students in Ghana?
- RQ4: How do Ghanaian public and private universities compare in terms of students' perception of service quality?

- RQ5: What is the appropriate measurement scale that could be used to measure students' perceptions of university service quality in Ghana?

5.2.3 Relations among the Study's Objectives, Research Questions and Hypotheses

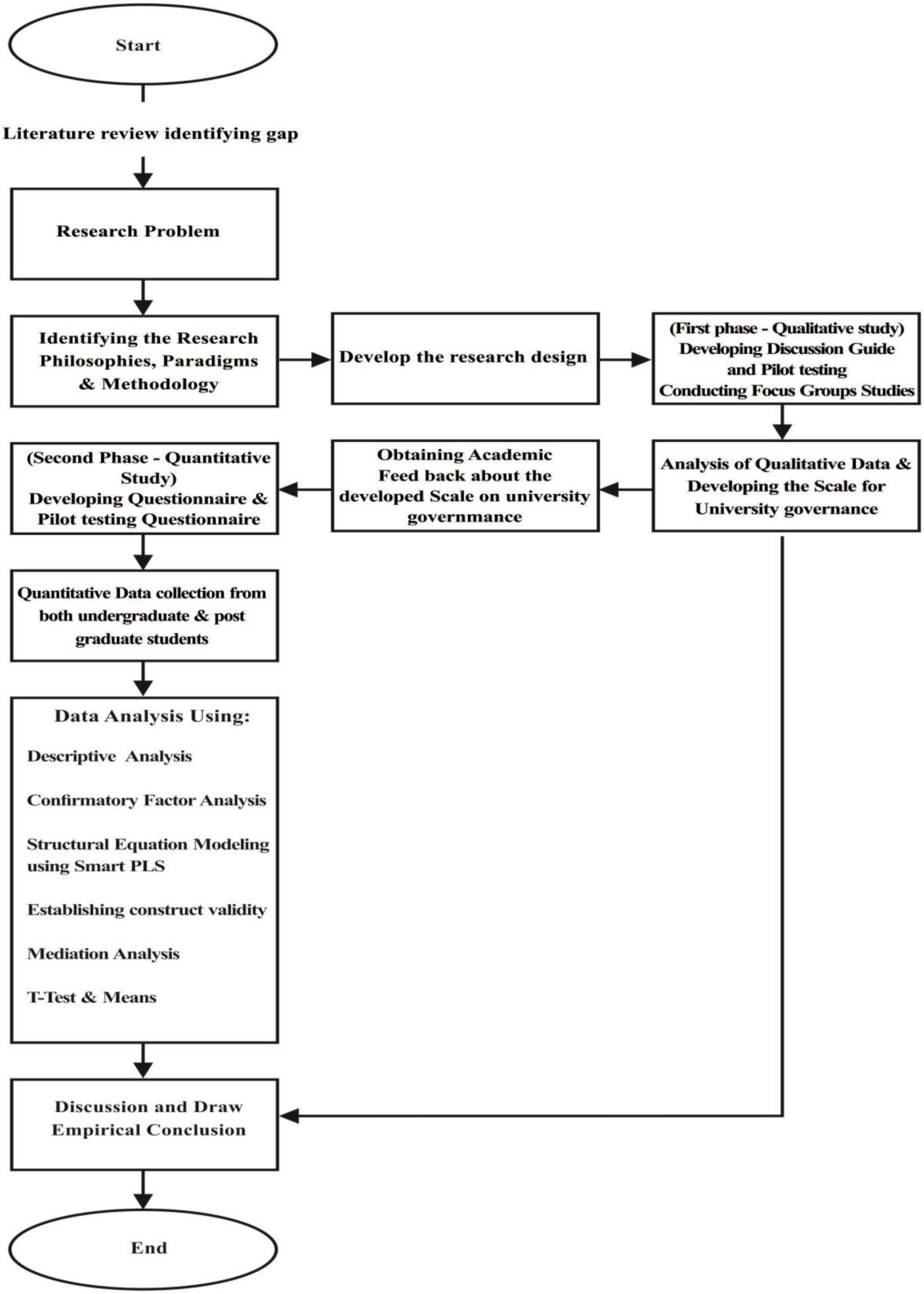
The links between the objectives of the study and research hypotheses have already been highlighted in Table 4.1 in Chapter Four section 4.3.7 of the study. As such, the researcher draws on these links indicated in Table 4.1 together with the research questions to further establish relationship among objectives, research questions and hypotheses as displayed in the Table 5.1 below.

Table 5.1: Relations among the Study's Objectives, Research Questions and Hypotheses

Objectives of the Study	Research Questions	Hypotheses
Objective RO1	Research Question RQ1	Hypotheses H1a, H1b, H1c, H1d
Objective RO2	Research Question RQ2	H1e
Objective RO3	Research Question RQ3	H2, H3, H4, H5
Objective RO4	Research Question RQ4	H6
Objective RO5	Research Question RQ5	-

From the Table 5.1, it is observed that hypotheses H1a, H1b, H1c and H1d assist the researcher in achieving objective RO1 and answers research question RQ1; hypothesis H1e aids the attainment of objective RO2 and provides an answer to research question RQ2; hypotheses H2, H3, H4 and H5 assist achieve objective RO3 and answers research question RQ3; and hypotheses H6 assists to achieve objective RO4 and answers research question RQ4. On the other hand, hypotheses H1a, H1b, H1c, H1d and H1e implicitly contribute to justifying the measures (or dimensions) identified to assess students' perceptions of university service quality in Ghana, and thus assist to achieve objective RO5 and answers research question RQ5. Figure 5.1 below illustrates various sequential steps and processes (including the study's research design) followed by the researcher in answering the research questions and achieving the study objectives. The next section presents a review of philosophical assumptions.

Figure 5.1: Research Process and Design of the Study



Source: Researcher's own Model

5.3 A Review of Philosophical Assumptions

Two main research philosophies in social sciences describe the nature of social world (ontology) and development of knowledge (epistemology) provides an understanding how studies in these fields should be designed and undertaken. These research philosophies refer to scholars' views and impressions on how knowledge is obtained and how issues are investigated (Saunders et al., 2019). The choice of these philosophical stances in any study by researchers assist in selecting the research methods, strategy, data collection techniques and analysis procedures that are workable in practice (Easterby-Smith et al., 2002; Saunders et al., 2015). Therefore, they are explored and determined (based on research problem/questions) before choosing the appropriate research methods. In considering approaches to use to contextualize methods and processes of investigation, the next section discusses the two main philosophical orientations and their respective paradigms and indicates the philosophical paradigm that best suits the study. A research paradigm represents a cluster of beliefs and guidelines that scholars in a particular discipline use to describe what should be studied, how research should be done, and how results should be interpreted (Bryman, 2016).

5.3.1 Ontological Orientations

Ontology refers to researchers' philosophy of reality or the nature of social reality (Saunders et al., 2019). In brief, ontological inquests seek to explore what actually exists, what it consists of, what entities operate within it and how they interrelate with each other (Stainton-Rogers, 2011). The centrality of ontological assumptions reside in the way in which researchers see the nature of reality and whether reality is viewed as objective and therefore external to an individual; or a subjective/internal product of an individual's creation of the mind (Burrel and Morgan, 2016). The two extreme positions of ontological assumptions, as in a continuum, relate to whether reality exists: as an actual, external reality independent of social actors who live it (objectivism) or only through an inner, unconscious construction by those who experience it (constructionism).

5.3.1.1 Objectivist Ontological Paradigm

An objectivist ontology position considers social reality as an external concrete facts that have an existence that is independent and detached from what actors may think or understand (Bryman, 2004; Bahari, 2010). The basic tenet of objective ontology paradigm is its claim to study reality in the most objective manner in which human world is perceived as an ordered, structured entity that is controlled by physical laws (Iatridis, 2011). This perspective reflects the social world with existence of features such as rules and regulations, structures, customs, culture, shared values among others constitute a social order that has a reality outside the domain of control of individuals who dwell in it. As such, individuals only conform, obey, learn or apply rules and regulations intended to achieve certain desired goals.

In the context of this study, objectivists may assume that the phenomenon of service quality in a university for example, exists outside the domain of control of the faculty and administrative staff that perform the said service. Thus, investigating the university service quality and other concepts from this perspective supports the belief that social research can apply methods of natural sciences, especially the use of deductive/quantitative approaches and the idea of causation in social processes to assess elements that constitute reality (Bahari, 2010; Saunders et al., 2019).

5.3.1.2 Constructivist Ontology

The constructivist ontological paradigm is anchored on the belief that social phenomena and their meanings are continually being created from perceptions and the actions of those social actors concerned with their existence (Saunders et al., 2015). This paradigm assumes that the social world is not only accomplished and shaped from a continuous process of social interactions by actors, but also the meaning of the social phenomena under investigation is constructed by people and given an interpretation, and not discovered (Teddie and Tashakkori, 2009). It signifies that social order is in a state of constant revision, reviewing and improvement or change (Bryman, 2016). Viewing social world from this position, Moon and Blackman (2014) submit that meaning making of reality is a projection of the individual mind or imagination. Given this, reality is viewed as personal and community-specific, and cannot be compared; thus suggesting the search for objective truth cannot be discovered.

Contrary to objectivists, constructivists appreciate different constructions and meanings that people individually and collectively place upon their experiences of social phenomena rather than gather facts and measure how often certain patterns occur. To constructivists, it is worthless to categorise social phenomena into causes and effects because social order is in a process of continuous creation (Hirschman, 1986); hence, one is required to understand and explain why people have different experiences. It implies social phenomena can be investigated as a semiotic world of meanings, represented in signs while language is central to this position (Bohlinger, 2009). Constructivism is generally associated with an inductive/qualitative method and is contextually unique and value-laden. Empirical inquisition is shaped from individual perspectives to broad patterns, and ultimately to theory generation (Creswell and Plano Clark, 2011). In the context of this study, constructivists would propose, for instance, that the level of service quality in the university is as a result of the interaction between the faculty and administrative staff on one hand, and students on other hand. Therefore at no time is there or would there be a definite state of service quality as it is constantly changing. In addition, quality service delivery by universities in increasingly competitive environments produced through social interactions is all in a constant state of revision, reviewing and improvement.

5.3.2 Epistemological Assumptions

Epistemology is concerned with how knowledge is created and what constitutes acceptable knowledge in a field of study (Bryman, 2004; Saunders et al., 2015). It entails the philosophy of study of knowledge (Trochim, 2000) and ways of knowing and learning about social reality based on the relationship that exists between the knower and what can be known. The epistemological philosophy presents two diametrically opposed positions on the issues of whether knowledge is something that can be acquired or something personally experienced (Burrel and Morgan, 2016). The first position view knowledge as 'hard', objective, tangible and theory neutral that is external to the researcher, having the claim that social phenomena can be analysed scientifically by applying methods used in natural sciences; this position is widely referred to as positivism. On the other hand, the second position known as interpretivism, views knowledge as personal, subjective and unique in nature, and which does not exceed researchers own observation and interpretations of it (Eriksson and Kovalainen, 2008).

The two diverging epistemological positions located at the either-end of the continuum determine how research in social sciences should be conducted and then, conclusions drawn. Epistemology is interconnected to ontology and methodology (Trochim, 2000) since determining what exists and its nature by researchers depends on how knowledge can be discovered about the 'reality'. Therefore, it is becoming increasingly common for researchers to select mixed research philosophies (Creswell, 2009; Malhotra, 2010). The ensuing sections look at the two contrasting well-known epistemological perspectives, positivism and interpretivism (Bahari, 2010) together with pragmatism (a neutral paradigm located in the middle position of epistemological continuum), which avoids objective and subjective stances superiority debate.

5.3.2.1 Positivism

Positivism has its roots in the physical sciences and its claim is that the social world constitutes a reality that is separate from individuals' description of it, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition (Hatch and Cunliffe, 2006; Saunders et al., 2015). Therefore, the basic tenet of the positivism stance is its claim of objectivity. In gaining knowledge via empirical inquiry, positivist researchers capture 'reality' as facts in a systematic manner, and formulates hypotheses deduced from existing theory and tests them against empirical evidence in order to build laws that can be used to predict human activity. Researchers gather facts through the use of research instruments such as questionnaire, direct observations and empirical measurement using hard quantification and statistical analysis to generate valid truth (Eriksson and Kovalainen, 2008; Saunders et al., 2015).

Positivism focuses on providing clarity on cause-and-effect relationships, thereby reducing ideas into a small discrete set of ideas (Creswell, 2015). It is associated with the deductive/quantitative method while apt for surveys and experimental designs and is value-free for promoting more objective interpretation of reality (Saunders et al., 2015). Regarding this study, positivism acknowledges that the researcher is independent in the measurement of university service quality, and that he is not affected by the conceptions of subject matter. However, the truth is discovered and proven through scientific measurement of stakeholders' (students') perceptions of observable dimensions of university service quality, systems, structures and processes that naturally and independently underpin those structured environments.

Researchers working from the positivist perspective believe that collected facts are numerical in nature, which are mostly drawn from a population as samples and are statistically analysed; and in which findings are generalizable (Easterby-Smith et al., 2008; Eriksson and Kovalainen, 2008). A caution associated with the use of this paradigm is that once data collection has started, the direction of the study cannot be changed, and researchers attempt to be value-free in order to enable an objective investigation. Moreover, the researcher would be treating human beings as objects and quantities without understanding meanings people attached to social phenomena in terms of values, beliefs and experiences (Cloke et al., 1991).

5.3.2.2 Interpretivist Epistemology

Interpretivism, sometimes referred to as phenomenology, is founded on the view that natural science methods cannot apply to social science, and valid knowledge of reality is constructed rather than discovered (Moon and Blackman, 2014; Saunders et al., 2015). It advocates that experiences of individuals that interact with their social world shape their perception of the world and are interpreted in accordance with the researcher's own perspective and values (Saunders et al., 2015). Therefore, the knowledge developed is relative to the researcher and context. Interpretivist approach to research seeks to uncover the hidden meanings behind the intentions and actions of people (individuals or group) so as to create new, richer understanding of different points of view, and ultimately interpreting realities in the context of their peculiar experiences (Hatch and Cunliffe, 2006; Saunders et al., 2019). Moon and Blackman (2014) intimate that interpretations of reality are culturally derived and historically situated, sometimes offering the existence of multiple realities (Denzin and Lincoln, 2003).

Interpretivist researchers view reality as a subjective perception of the social world, and the knowledge of reality differs because it is a mental construction by individuals. An interpretivist stance leans towards a qualitative research generating textual data and is highly contextual and favours studying small samples in depth, with the view that this can enable the creation of a defendable position instead of absolute truth (Saunders et al., 2019). Hence, the findings are not generalizable. Nudzor (2009) argues that the interpretivist stance is apt for initial stages of a research to gain an understanding of the research settings and constructs as a precursor to the more serious quantitative study using sampling process. The interpretivist philosophy in the context of this study, for instance is expedient for exploring how students culturally construct meaning of constructs such as university governance in their university environment based on their individual "lived" experiences and its impact on their perceived service quality.

5.3.3 Pragmatism

Pragmatism can be understood as a paradigm placed at the middle position of the two extreme ends of epistemological assumption (Teddie and Tashakkori, 2009). This balanced position implies that pragmatism takes aspect from both subjective (interpretivism) and objective (positivism) positions at the same time, thus portraying the existence of one reality as a mixture of the two (mixed position). This mixed position challenges the traditional distinction between the subjective implications of a phenomena and its objective social world (Memon, Syed and Qureshi, 2017). As such pragmatists acknowledge that there is an objective reality that exists beyond human experiences and no two experiences and beliefs are the same. Hence, individuals may have multiple interpretations reality that is opened to empirical investigation (Creswell and Plano Clark, 2011). In pragmatist research at some stage during empirical inquest it is possible to take a subjective approach by interacting with research subjects to construct realities, while at other stages it will be more expedient to adopt an objective approach in order to generate valid knowledge (Teddlie and Tashakkori, 2009). In doing so, a pragmatic approach allows researchers to be flexible enough to adopt the most practicable approach to address research questions (Brierley, 2017).

Pragmatists take the view that the researcher should think of philosophy adopted in a particular study as a continuum, as this stance avoids the pointless arguments about such concepts as reality and truth (Tashakkori and Teddlie, 1998). To pragmatists these concepts are only germane where they support action in the light of practical understanding of concrete, real-world issues. Pragmatism philosophy recognises that the function of human thought is a tool for prediction, action, and problem solving, and not to describe or mirror reality; howbeit knowledge should be useful for action. Pragmatists, therefore, emphasise knowledge based on experience, as it encourages researchers to analyse institutional practices through experience and action (Kelly and Cordeiro, 2020). In addressing socially situated problem, pragmatists reflect on the nature of the problem, their value system and meaning it brings to them and likely actions that may result in desirable consequences (Kaushik and Walsh, 2019).

Tashakkori and Teddlie (2008) assert that in undertaking pragmatic research, philosophical and methodological approach that works best to answer the research problem/question under investigation are given more much importance than to describe reality. Research evidence indicates that the research problem or question is the most important determinant that informs the choice of pragmatism philosophy because one approach may be better than the other for answering particular questions (Brierley, 2017; Saunders et al., 2019). Further, Saunders et al. (2019) contend that it is more appropriate to adopt pragmatism philosophy if the research questions do not clearly suggest that one particular type of philosophy should be adopted, but when it seems entirely practicable to work with different types of knowledge and methods. In this respect, pragmatism sits more comfortably with mixed-methods or multiple-methods to investigate complex phenomena and situations (Maxcy, 2003; Creswell and Plano Clark, 2011; Morgan, 2014), via experience, observations and experiments to understand individuals and their world (Kaushik and Walsh, 2019). Pragmatist researchers base their choice of methods on the research questions/objectives together with all necessary approaches that will help researchers to delve deeper into issues and understand the research problem (Moon and Blackman, 2014), and this pluralism is a strength of this paradigm (Kaushik and Walsh, 2019).

5.3.4 Choice of Research Philosophy

The choice of a philosophical stance is critical to the realisation of research objectives as it facilitates a more informed decision to be made about the research design, which subsequently influences the selection of suitable research strategies and methods (Easterby-Smith et al., 2002; Saunders et al., 2015). The principal aim of this study is to measure service quality in the Ghanaian public and private university educational environment. In addition, the study is seeking to establish service quality parity between the two sectors. Besides, the researcher intends to determine the strength of relationships amongst perceived service quality, student perceived value and overall satisfaction of students in Ghana and believes that by being systematic and careful, the objective truth can be discovered. This necessitated the need to gather data from a large population of undergraduate and postgraduate students in an objective manner. However, in order to develop the research instrument for gathering primary data, the researcher needed to explore what measures are available to assess the opinion and perception of the university students as to what constitutes dimensions of university service quality. In this sense, are there existing industry specific instruments available to measure service quality? And if so, are they sufficient to measure dimensions of service quality in the study context or not?

In addressing the above questions, the researcher notes that existing scales are available and apposite to measure the study’s constructs. However, university governance construct (one of the proposed dimensions of university service quality) to the best of the researcher’s knowledge has no available existing scale from students’ perspective to measure its impact on perceived service quality, although there is an abundant array of previous empirical studies on university governance. Besides, because university governance has diverse contextual meanings and applications including wide-ranging theoretical and philosophical underpinnings (Llewellyn, 2009; Schofield, 2009), it has become necessary to discover how Ghanaian students construct meaning of the university governance construct as understood by them. The researcher therefore deemed it appropriate to delve deeper into the complex and multifaceted nature of this dimension to understand its meaning to explore scales that may be relevant to measure the construct in the Ghanaian context. Consequently, an interpretivist philosophy is apt to discover and understand what measures (variables) students consider important while constructing meaning of quality of university governance and its influence on their perception of university service quality.

The researcher afterward intends to use the university governance scale developed (as discussed in detail in section 5.9.2) together with existing scales of other study constructs to design a questionnaire to measure university service quality, student perceived value and overall student satisfaction in a large survey using statistical techniques to analyse observable facts collected from student respondents. The researcher ensures students offer their personal perceptions without influence during data collection with a belief that social reality is highly objective (Tuli, 2010). This partly inclines the study towards the positivist stance. From the foregoing discussions, the study's research philosophy reflects a mixture of interpretivist and positivist stances. In taking this position it is arguable that one could consider the research philosophy of the study as a continuum rather than two different worldviews (Tashakkori and Teddlie, 1998), and this fits the description of pragmatism. As argued by Saunders et al. (2015), pragmatism supports the retention of a positivist position while accepting an interpretivist viewpoint within the same study. More importantly, the research questions of this study (in section 5.2.2) do not clearly suggest that only interpretivist philosophy using qualitative approach should be adopted but appears practicable to work also with quantitative method grounded in positivist stance (Saunders et al., 2019). This therefore required the adoption of pragmatism stance as theoretical perspective best suited for mixed methods to investigate complex and multifaceted nature of service quality phenomenon and other constructs of the study.

5.4 Research Methods

Researchers in different fields of studies have focused on two main types of research methods in their empirical inquest, namely qualitative and quantitative research, alongside mixed methods as an alternative research methodology. But mixed methods entails using primarily both qualitative and quantitative methods in a single research (Kaushik and Walsh, 2019; Maarouf, 2019). Qualitative and quantitative research are distinct in many aspects (Bahari, 2010) since each method has its own goals. As previously stated, the selection of the suitable research method is based on the choice of philosophical stance for investigating an issue at hand and how this method is utilised in respect of the tools and techniques to collect and analyse data to achieve the objectives of the study (Saunders et al., 2019). The ensuing sections discuss qualitative and quantitative research, together with mixed methods as another research methodology.

5.4.1 Qualitative Research

A qualitative research (or method) is a study of phenomena in their natural social setting and how people affected by the phenomena responded the way they did, while researchers usually make knowledge claims based on constructivist/interpretivist paradigms (Creswell, 2009). It largely involves studying a limited number of cases in depth (Maarouf, 2019), through for example, case studies, grounded theory studies, ethnographic work, narratives, focus groups, in-depth interviews and document analysis to generate words data (Harwell, 2011). Qualitative researchers believe in the existence of multiple realities instead of a single reality and they advocate that this method is effective in addressing complex phenomena as it can offer rich details (Maarouf, 2019).

A qualitative approach to research is associated with inductive paradigm as its main goal is theory generation (Johnson, 2008; Maarouf, 2019) and is premised on the assumption that the social order in its setting is socially constructed and given meaning by social actors, particularly participants. This means that participants share their experiences and perceptions of the phenomenon of interest without being influenced by the researcher’s perspectives (Creswell, 2015). Therefore, the researcher’s role is to create knowledge or bring out interpretations based on the meanings those actors have placed upon their experience within the context of the study through value-bound research (Denzin and Lincoln, 2000). As a result, the findings are highly contextual and subjective and so the fundamental criterion for such study outcomes is trust worthiness (Lincoln and Guba, 1985).

According to Creswell (2009), qualitative method is used to explore meaning, perceptions, attitudes, discover reality and understand the experiences of participants in the research. A similar perspective is qualitative research can be used during initial phase of a study to develop scales items for a study’s constructs in a given study context (Hussein, 2009; Bahari, 2010). However, qualitative data collection and analysis is considered as time-consuming and labour-intensive (Bell and Waters, 2014) whereas generalization of its findings across various settings and transparency of how the study arrived at the conclusions are sometimes questioned (Denzin and Lincoln, 2003; Bryman, 2016). Measures to overcome these limitations may include undertaking credibility measures through respondent validation, member checking and reliability tests via coding themes by an independent researcher as discussed in section 5.8.6.3.

5.4.2 Quantitative Research

The quantitative research is founded on objectivism and positivism claims for developing knowledge; hence, it is termed 'the scientific research' (Creswell, 2014). Its principal orientation to role of theory to research is deductive approach that aims at testing of theory and hypothesis by examining the causal relationship among variables within value-free framework (Bryman and Bell, 2015; Saunders et al., 2019). This method of research is characterized by the use of survey questionnaires to collect data, and it focuses purely on facts gathered through direct observation and experience while using statistical methods to test theory and hypotheses that are related to the research questions (Harwell, 2011). Bryman (2016) asserts that the theoretical model to be developed is generalizable, which can explain cause and effect relationships among the variables, which finally lend it to predicting consequences or outcomes. Quantitative research emphasises quantification in the data collection and analysis (Saunders et al., 2015).

Unlike qualitative researchers, quantitative researchers believe in an existence of a single truth, and this truth is independent of human perception and of the researched phenomenon (Lincoln and Guba, 1985; Maarouf, 2019). Users of this paradigm accept that the objective reality is separated from the researcher's perception, and he is independent of the phenomenon under investigation, that is he does not affect nor affected by the phenomenon (Maarouf, 2019). The strengths of the quantitative research are that its findings ensure objectivity, replicability and generalizability to a larger population (Harwell, 2011) because it is possible to check for reliability and validity (Tuli, 2010).

5.4.3 Mixed Methods Research

The mixed methods is a research that integrates qualitative and quantitative approaches within a single study; so that the overall strength of a study is better than either qualitative or quantitative research (Creswell and Plano Clark, 2011; Bryman, 2016). This suggests that researchers are able to combine both inductive and deductive paradigms in one study to investigate behaviour of human beings. As such the outcomes of a mixed method study could possibly result in both theory testing and building. In this respect, the mixed methods promise a strong base to investigate phenomena both from an objective perspective and subjective stance (Johnson and Onweigbuzie, 2004). Johnson and Onwuegbuzie further opine that the aim of mixed methods research is not to replace either of these approaches but to harness synergistic benefits of the blend of qualitative and quantitative methods and minimize the drawbacks connected with applying either in isolation.

For a mixed research approach, the collection of numerical data and textual data in one study to answer research questions and address research objectives are no longer viewed as two discreet opposite approaches (Maarouf, 2019). Brierley (2017) asserts that mixed methods researchers can use quantitative data to confirm and test the results of qualitative data, and qualitative data to confirm and add meaning to quantitative data. Largely, this can be done either simultaneously when conducting both phases of research at the same time (parallel mixed designs) or in a chronological order when conducting one phase first and the other second with research questions for one phase depending upon the previous (sequential mixed design) (Teddie and Tashakkori, 2009; Antwi and Hamza, 2015; Molina-Azorin, 2016).

The order in the research design is guided by the reasons for choosing the methods (Molina-Azorin, 2016) that ensure a more robust analytical basis as the researcher takes advantage of the strength of each method (Modell, 2009). Model further states that triangulation provides a justification for combining qualitative and quantitative approaches. However, Amaratunga et al. (2002, p.23) posit that the effectiveness of triangulation is based on suggestion that the weakness in one method will be compensated by the counter-balancing strengths of other. Arguably, the mixed method research has been a subject of major criticism as a result of ontological and epistemological underpinnings. Recognising the accompanying distrust that arise from philosophical inflexibility and incompatibility argument, some scholars lately have advocated for a middle-ground position of pragmatism to guide mixed methods research to respond to bipolar positions of objectivity and subjectivity stances debate (Denscombe, 2008; Teddie and Tashakkori, 2009; Creswell, 2014; Mitchell, 2018).

5.4.4 Justification for the Adoption of Mixed Methods Research Methodology

This study adopts the mixed methods research (specifically exploratory sequential mixed methods) of both qualitative and quantitative approaches not only for mixing them, but also because, qualitative research as a first step was used to explore items to measure quality of university governance from students' perspective and then these measures were together used with other constructs of the study in the conceptual framework to develop a research instrument. This first phase of data collection would then set the tone for the second stage quantitative research, where the instrument developed would be used in a large-scale quantitative survey and data statistically analysed to test the study hypotheses and theory. This is consistent with methodological literature that for mixed methods, data from the qualitative phase could be utilised to build a new instrument, select an appropriate one, or to choose variables that are going to enter the next quantitative research phase (Creswell, 2014; Barnes, 2019).

It is worth noting that the outcomes of the qualitative phase of this study has only one function to give input for the quantitative phase for the construction of a scale (or questionnaire) to be used in assessing students' perceived service quality of their universities and how it is strengthening their satisfaction via perceived value delivered to them. Regarding the use of mixed methods research in this study, the quantitative method is more dominant than the qualitative counterpart. This approach is adopted in recognition of the statement by Brierley (2017) that by carrying out quantitative research preceded by qualitative research, mixed methods research may overcome some of the drawbacks with qualitative research for three reasons. Firstly, the problem of trying to test a hypothesis indicating a relationship between university governance and perceived service quality and prior theory. Secondly, the influence of the researcher's personal biases when interpreting the results of the qualitative research. Thirdly, the problem of generalising the impact university governance on service quality results to other subjects and contexts. Hence, the adoption of mixed methods methodology seems well fitted and justified.

Furthermore, the adoption of the mixed methods approach is based on the statement in the mixed methods research literature (e.g. Maxcy, 2003; Denscombe, 2008; Teddlie and Tashakkori, 2009; Creswell and Plano Clark, 2011) that describes pragmatism as the appropriate paradigm for conducting mixed methods research. The authors contend that pragmatism stance mitigates and blurs the incompatibility claim, and it is proposed as very practical and applied research worldview. Besides, Creswell (2003) argues that pragmatism is more apt for different philosophical positions, different assumptions, wide-ranging research questions, and multiple methods including different forms of data collection and analysis. Thus, the mixed methods can be viewed as more practical and applicable in undertaking this study instead of using a monomethod.

Finally, the adoption of the mixed methods approach is in appreciation of the suggestion that mixing quantitative and qualitative methods in a single research not only provides a deeper understanding of the research problem than employing only one approach (Creswell, 2014; Molina-Azorin, 2016), but also seeks to deliver flexibility in using both methodologies in seeking answers to different research questions of this study. Table 5.2 below highlights the links between the research questions and study objectives to the methods of addressing them. The next section describes the research design underpinning the study.

Table 5.2: Research Objectives and Research Questions Link to Methods Used

Research Objective	Research Question	Choice of Method	Technique used to Collect Data
RO1: To identify and evaluate the influence that each of the underlying country-specific dimensions of university service quality unique to Ghanaian culture has on perceived service quality and the importance of the dimensions to students in Ghana	RQ1: What are the underlying country-specific dimensions of university service quality influence perceived service quality in the Ghanaian universities, and how important is each dimension to students in Ghana?	Quantitative	Questionnaire Face-to-face
RO2: To determine whether a student's experience of university governance affect their perception of university service quality in Ghana	RQ2: Does a student's experience of university governance affect their perception of university service quality in Ghana?	Qualitative Quantitative	Focus group study. Questionnaire Face-to-face
RO3: To determine the relationships between perceived service quality and student value and, subsequently, overall student satisfaction concerning university institutions in Ghana	RQ3: What are the strengths of relationships between perceived service quality and student perceived value and, subsequently, overall satisfaction of students in Ghana?	Quantitative	Questionnaire Face-to-face
RO4: To compare the public and private Ghanaian universities in terms of students' perception of service quality	RQ4: How do Ghanaian public and private universities compare in terms of students' perception of service quality?	Quantitative	Questionnaire Face-to-face
RO5: To develop a valid and reliable service quality measurement scale for universities in Ghana	RQ5. What is the appropriate measurement scale that could be used to measure students' perceptions of university service quality in Ghana?	Quantitative	Questionnaire Face-to-face

5.5 Research Design for this Study

This is an exploratory sequential mixed methods design adopting the survey strategy, which started by conducting initial qualitative research using focus groups to develop a scale for a university governance construct to inform the design of the questionnaire in the main quantitative research. However, the initial phase is exploratory in nature since it intends to explore and generate items/measures to assess quality of university governance; further in the quantitative phase, it is both descriptive and partly causal in nature. The researcher believes adopting the focus group approach for the qualitative research instead of in-depth interviews offers the opportunity of allowing students to probe each other's reasons for holding a certain view about the university governance dimension (Bryman, 2016). Furthermore, during the discussion the synergistic group effect may produce a snowballing of ideas, which provokes fresh ideas to gain new insights. Additionally, the focus group method of collecting qualitative data allows participants to discuss their true views, opinions, and feelings in depth and it may expedite the discussion of numerous themes to gain a new understanding (Zikmund et al., 2010).

The choice of the focus group method requires small financial resources (Morgan, 1997), and the process of arguing offers the researcher the opportunity to study the ways in which individuals collectively make sense of a phenomenon and construct meaning around it (Krueger, 1994). Data from the focus group discussions were analysed qualitatively and the findings used to develop the scale to measure university governance from students' perspective (Refer to section 5.8 for the detail description of how the focus group studies were conducted and the approach used in analysing data). Once the scale was developed, six deputy registrars with expertise in university governance and administration were consulted to comment and determine the content validity of the measures before using them as a scale in designing the research instruments for the main quantitative research of the study (see details in section 5.9.2). This approach is consistent with previous studies where academics or experts were consulted and acted as advisors on a proposed scale's domain (e.g. Sweeney and Soutar, 2001; SenthilKumar and Arulraj, 2011).

As previously indicated, the main study involves conducting a quantitative study using a cross-sectional survey design through the use of questionnaires to test and explain relationships found in the conceptual model in Chapter Four. The cross-sectional design has been chosen because the researcher considers it appropriate to investigate contemporary behaviours and attitudes of a group of students about what constitutes their perception of university service quality and its impact on their perceived value and overall satisfaction (Malhotra, 2010, Creswell, 2015). This would help the researcher to compare various groups as well as determine the nature and extent of variations in variables to build assessment of service quality profiles of students based on the university sector they deal with. In addition, the choice of the cross-sectional design for this study is predicated by the fact that the financial and time constrains of this study meant that a longitudinal study design is not feasible.

The main purpose of using the survey approach is to identify broad trends in a population (Creswell and Plano-Clark, 2011) through collection of a structured and systematic data set that allows logical comparison between similar cases (Bryman, 2016). The survey approach has been chosen because of its ease, reliability and simplicity (Malhotra, 2002). It involves the collection of data on contemporary events in relation to same variables from groups of student respondents with similar characteristics to allow generalization of results (Czaja and Blair, 2005). Areas investigated through the use of a survey include respondents' attitude, beliefs, opinions, behaviours, and demographic characteristics (Creswell, 2015). The key features of survey design are description and explanation; using assessment scale and questionnaires; gathering numerical data; and representation of a wide population (Cohen et al., 2000). Therefore, the use of anonymous self-administered questionnaires in the survey helped in the data collection on potentially sensitive questions as the anonymity of the questionnaire exempts respondents from any social imperatives (Czaja and Blair, 2005). In this sense, the survey led to a more accurate description of reality.

Regarding descriptive quantitative design of the study, data gathering through questionnaires and statistically analysing responses from students will also enable the researcher to test the research hypotheses stated in Chapter Four; particularly, what relationship there is, if any, between independent, mediating, and dependent variables. The independent variables for this study include dimensions of perceived service quality. Overall student satisfaction represents the dependent variable with the mediating variable being student perceived value. The causal research component of the study is concerned with doing the mediation analysis to make causal inferences about the influence of perceived service quality on overall student satisfaction via perceived value (as shown in the study's conceptual model in Chapter Four). This is to help explain the process of sequence of relationships in which perceived SQ variable affects student perceived value, which then affects overall student satisfaction to understand the development of the process (Henseler et al., 2016) to establish students' perceptions of university service quality in Ghana can have both direct and indirect impact on their overall satisfaction. The dimensions of perceived service quality, mediating and dependent variables constitute part of the social order of the university around which the measurement instrument is developed. The cross-checking of the quantitative results relating to measures of university governance enhances confidence in findings and enables this study to confirm the validity of qualitative findings.

5.6 Data Types and Sources

This study makes use of both secondary and primary data. A scrutiny of available secondary data informed the gathering of primary data because analysis of secondary data offered valuable insights and established the basis for conducting primary data analysis.

5.6.1 Secondary Data

Malhotra, Nunan and Birks (2017) state that secondary data is data that has been previously collected for some purpose other than the problem at hand. Concerning this study, the researcher obtained secondary data from the National Accreditation Board; National Council for Tertiary Education; Ministry of Education; Ghana Tertiary Education Commission, the regulatory body that has oversight responsibility over tertiary education institutions in Ghana; Ghana Statistical Service; and Association of African Universities. Secondary data was also taken from textbooks and various academic publications by the institutions sampled for the investigation.

This was augmented by useful online materials collected from the websites of international bodies such as the UNESCO, World Bank, United Nations, University World News, and alike. These secondary data were very helpful in reviewing the context of the study and write-up of Chapter Two of the study. While doing the review of relevant literature in Chapter Three, and development of the conceptual framework and hypotheses in Chapter Four of the study, scholarly literature was accessed from online libraries and databases such as London Metropolitan University library & e-sources, Central University library & e-sources, Emerald Insight, Multiple EBSCOhost, Proquest, Google Scholar, Science Direct, JSTOR, among others.

5.6.2 Primary Data

Primary data are originated by the researcher specifically to address the research questions and achieve objectives, and is time consuming and costly (Malhotra et al., 2017). For this study, the main source of primary data was obtained using focus group discussions to generate qualitative data from students (undergraduates and postgraduates) in one public university and one private university in Ghana. In addition, quantitative data was obtained via the field survey using a questionnaire administered to similar groups of students selected from ten public and private universities in Ghana.

5.7 Population and Sample Frame

The population for this study comprises undergraduate and postgraduate students of both public and private universities in Ghana. This is consistent with previous studies that have used both undergraduate and postgraduate students in a single study in their assessment of service quality and student satisfaction in HEIs (e.g. see Ahmad, 2015; Mestrovic, 2017). However, the sampling frame for this study comprised undergraduate and postgraduate business students of five public and five private universities in Ghana. The rationale for the choice of the sample frame is to facilitate comparison across the two university sectors because business programmes are dominant and common to public and private sectors in Ghana.

The use of five public and five private universities in this study was based on two justifications. First, the use of ten universities (public and private) is consistent with previous studies, which used a similar number of universities to examine service quality in the university sector when there are more universities in the country (see e.g., Darawong and Sandmaung, 2019; Kökalan, Yumuşak, and Gürleyen, 2022). Secondly, at the data collection stage of this thesis, which started in 2014/2015 academic year and ended in 2015/2016 academic year, there were only nine operational public universities in Ghana (NAB, 2016, 2018). Therefore, five out of nine public universities were used with the aim of achieving a more diverse representative sample of public universities. In effect, to ensure that both sectors are equally represented to facilitate comparison and provide a balanced view of the situation in the entire university sector in the country, only five private universities were used despite there being 65 accredited private universities in the country during this study's data collection period.

The five selected public universities are: University of Ghana; Kwame Nkrumah University of Science and Technology; University of Cape Coast; University of Professional Studies Accra; and University of Education. Similarly, the five private universities are: Valley View University; Central University; Methodist University College; Wisconsin University College; and Pentecost University College. The ten universities were purposively selected based on the criteria that they have existed for over a decade with relatively larger number of student population, faculty strength in terms of rank and qualification and are offering a more diverse accredited business programmes at both undergraduate and postgraduate levels (NAB, 2015, 2016; NCTE, 2015a). In addition, anecdotal evidence indicates that these universities have well established governance structures; proven industry collaboration; and possess significant human and other resources such as teaching and learning facilities that support delivery of university education. Therefore, the study's latent variables to be measured are present in these universities and would help answer the research questions as well as address the research objectives.

Arguably, the blend of universities is to achieve a cross-sectional balance, which guarantees realisation of ecological validity, since data is gathered from students in their own non-contrived, natural setting of university campuses. As this study is only considering the aggregated results of the universities, no analysis is going to be linked to the individual university participating in this study. In this respect, the anonymity and confidentiality of the universities are guaranteed. The next section explains how the initial qualitative study was conducted and how textual data gathered was analysed.

5.8. Initial Qualitative Research

The main objective of the initial qualitative research was to explore students "lived" experiences of university governance and whether it affect their perception of university service quality in Ghana, using focus group discussions held at the public and private university sectors. As indicated earlier, this is to help generate appropriate set of items that capture the essential aspects of university governance that Ghanaian students consider important in their assessment of the construct. The procedure involved a number of steps comprising sampling strategy used to select the participants, composition of focus groups, development of themes for the discussion, pilot study of the discussion guide, administration of the field discussion and preparation of data for analysis. The following sub-sections offer detailed explication of the qualitative data collection and analysis that informed the generation of the construct items to be used together with other latent constructs of the study to design the questionnaire for the main quantitative study.

5.8.1 Sampling Strategy for the Focus Group Studies

To generate the qualitative data for this study, a purposive sampling technique augmented by the convenience sampling method was used to select student participants. A purposive (or judgemental) sampling technique is a non-probability sampling method in which the population elements are chosen based on the judgement of the researcher, who in exercising judgement or knowhow, selects the cases to be included in the sample because they are particularly informative or otherwise most appropriate in answering the research question(s) and addressing the objectives of the study (Malhotra, 2019; Saunders et al., 2019). On the other hand, a convenience sampling is the technique that is used to select elements of a population simply because they are readily or easily available to the researcher (Benzo, Mohsen, and Fourali, 2018; Bryman and Bell, 2019).

First, a purposive sampling was used to select one public university (University of Ghana) and one private university (Central University) from the ten selected universities (see section 5.7). The rationale for choosing the two out of the ten selected universities is that University of Ghana is the oldest and the leading public university in Ghana (Effah, 2010), while Central University is the second oldest and a leading private university in the country (Manuh et al., 2007). Therefore, it is expected that the two universities will have well established governance policies and practices in comparison with other universities to ensure the key findings that emerge from students' judgement of their experience of university governance in these institutions are probable to be information-rich that would help understand the phenomenon of interest. Another consideration for selecting the two institutional types is that they are the largest public and private universities in Ghana in terms of student numbers, physical capacity and other resources (NAB, 2015a, 2016) and are suitable for representing the public and private university sectors. Also, the researcher selected these two large universities within the two sectors because of the high level of resources that these universities should devote to address governance issues that could provide an extensive scope of information on the construct.

Secondly, participants' selection was guided by literature evidence that there is difficulty negotiating access to research participants while studying governance practices and behaviour of institutions (Smith, 2006; Leblanc and Schwartz, 2007). This research therefore sought to select participants who are most conveniently available. The researcher therefore employed a convenience sampling method to recruit 27 student participants, based on ease of access (Patton, 2015) and their willingness and availability to discuss personal experiences of quality of university governance. Besides, the 27 participants selected were determined by their insight, judgment and experience (Chattananon, 2003). (See section 5.8.2 below for the details of focus groups composition). Specifically, participants (i.e., undergraduate and postgraduate business students) with at least one year's experience in their respective universities were selected to participate in the focus group study. Literature evidence indicates students with such experience have sufficient familiarity with the university milieu including faculty and staff members (Darawong and Sandmaung, 2019). Along this line, Darawong and Sandmaung argue that once students have gradually perceived the service quality of the university setting, they should have some critical viewpoints that could help understand how they construct meaning of their university experience.

Participants were recruited at the library premises of each of the study institutions after obtaining their approval to participate in the study. Thereafter, the researcher scheduled one-on-one meetings with the students, explained the study, obtained their informed consent, and agreed on the date, time and venue of the meeting. The intention to record the interviews, an assurance of confidentiality and anonymity, and how the resulting information will be used were communicated verbally to each participant. The recruitment of participants commenced in the early part of October 2014 and lasted three days in each of the two universities, with the researcher working approximately eight hours a day.

5.8.2 Composition of Focus Group Studies

Altogether, four focus group meetings, consisting of six or nine participants in each group, were conducted at the University of Ghana and Central University. At each of the two universities, two separate focus group sessions (one for undergraduate students and another for postgraduate students) were undertaken. Separating participants into undergraduate and postgraduate students encouraged openness and allowed participants to be truthful in their responses and answers. Another reason for forming the separate groups is to promote group cohesiveness, and open and active discussion among participants (Morgan, 1995).

Organising four focus groups with stated group sizes is consistent with methodological literature suggestion that conducting 3 to 6 focus group interviews with a group size of 4 to 12 members are adequate to be convened to reach data saturation and or theoretical saturation on distinct population segments, with each group meeting once or multiple times (Morgan, 1997; Stewart et al., 2014). Furthermore, the use of these group sizes permitted inclusion of enough participants across different fields of specialization (e.g., accounting, marketing) therefore increasing the breadth and depth of information provided by the participants (Finch and Lewis, 2011). The profile of the focus groups conducted is set out in Table 5.3 below.

Table 5.3: Focus Group Profile

	CU Undergraduate	**CU Postgraduate**	**UG Undergraduate**	**UG Postgraduate**
Group size	6	9	6	6
Gender type	5 Male 1 Female	7 Male 2 Female	5 Male 1 Female	5 Male 1 Female
Nationality	5 Ghanaians 1 Nigerian	8 Ghanaians 1 Nigerian	4 Ghanaians 1 Liberian 1 Nigerian	All Ghanaians
Date	18-11-2014	20-11-2014	25-11-1014	27-11-2014
Duration	59 minutes	78 minutes	62 minutes	58 minutes
Setting	Lecture room	Lecture room	Lecture room	Lecture room

Source: Field Data November 2014

CU = Central University and UG = University of Ghana

5.8.3 Development of Themes for Discussion Guide

The themes for the discussion were derived from prior university governance literature (Edwards, 2003; Pandey, 2004; Middlehurst, 2013; Mathew, 2014). Themes were on decision making; effective communications and interpersonal relationship; trust and confidence in the authorities; effective grievance redress system; and transparency in dealing and utilization of resources (i.e. accountability). While these themes may not represent the full set of characteristics that could be examined, they have been deemed to be a salient basis for capturing students' views that reflects a definition of university governance as an institutional structure of relationships and processes that create optimal conditions for stakeholders' (particularly students') performance (Gayle et al., 2003; Middlehurst, 2013).

The interview questions based on these themes are linked to research objective two (RO2) of the study to demonstrate their relevance. A logical sequence of the interview questions began with more general questions on the university's system of decision making, channels and process of communication, and resources allocation; and transitioning to more specific ones on students' relationship with their university, students' trust, and confidence in the authorities of their university, and whether the university is viewed as person based.

In designing the interview questions, the researcher ensured that the wording of questions were clear and in plain English as well as provoke reflective discussion so that participants were not lured to simply answer "yes" or "no" (Bryman and Bell, 2011, 2015). Furthermore, the interview questions were constructed in a sensitive manner to avoid causing any humiliation or cultural inconvenience to the participants (Al-Fattal and Ayoubi, 2013). The interview questions were open-ended questions that allowed for flexibility for emergence of further questions; nonetheless, one closed-ended question was used to close down the discussion. Finally, the questions were one-dimensional so as to ensure only one question was asked at a time. The use of a discussion guide for the focus group study was to allow the interview process to run smoothly (Patton, 2015) and to help the researcher ensure consistency of the discussions in the two university campuses.

5.8.4 The Pilot Study for Qualitative Research

A pilot study was conducted in late October 2014 before carrying out the main discussion, in line with the recommendation of researchers (Mason, 2002; Arthur and Nazroo, 2011). The pilot study was designed to strengthen the qualitative data collection strategy and to enable the researcher to make adequate preparation for the fieldwork and subsequently data analysis (Oppenhein, 1992). The pilot testing of the discussion guide in this study was carried out in two stages. At the first stage, the discussion guide was given to a colleague doctoral student and two lecturers to assess the suitability of the questions; establish the clarity of the questions; as well as determine whether the questions appeared to reflect quality of university governance viewed from students' perspective. The feedbacks received from the experts enabled the researcher to recast some interview questions such as "university's system of decision-making" and "university as being too much person-based" to improve upon their clarity, and this attempt led to revision of the discussion guide.

At the second stage, the revised discussion guide was pilot tested using a convenient sample of eight full-time undergraduate business students drawn from the Methodist University College (one of the selected private universities) and six postgraduate students selected from the University of Professional Studies Accra, which is a public university. The focus group studies were conducted in a conducive lecture hall of the two universities. The objective of pilot testing at this stage was to assess participants' behaviour and understanding of questions posed; assist the moderating team to know how to respond to unanticipated issues; estimate time for each question and adequate time that should be left for meaningful follow-up questioning; and ascertain the effectiveness of the audio-recorder. The motivation for choosing undergraduate and postgraduate students for the pilot testing was to explore similarities and differences in how both groups would respond to questions before the main field study.

After evaluating the outcome of the second stage of the pilot study, some observations and lessons were learned by the researcher. Firstly, it was evident that the two groups opened up and contributed greatly to the discussions. The probable reason might be the questions put the participants at ease and they were comfortable with one another. Secondly, the researcher realised that he had to give more time to follow-up questioning and probes so as to ensure appropriate depth was reached on a particular question (Mason, 2002). Thirdly, the researcher observed that one participant dominated the discussion of one of the questions and directed issues to suit what he/she wanted to tell the moderator. This kind of behaviour did not allow other participants to bring varied views into the interview space. The researcher took notice of such behaviour so as to avoid a similar situation during the fieldwork of the main focus group study. Fourthly, the average time estimated for each session was about one hour and ten minutes. This permitted the two groups to discuss all the questions raised. In view of the above observations, the researcher made minor modifications to the revised interview guide, and this became the discussion guide for this study as presented in Appendix A in page352.

5.8.5 Administration of the Focus Group Discussion

Prior to the start of discussions, a series of follow-ups were undertaken through telephone calls to remind prospective group members about the date, time and venue of the discussion. The discussions took place in well laid out lecture rooms at the University of Ghana and Central University with minimal distractions (Ressel et al., 2002). The seating arrangements for the sessions were made in a circular form to facilitate maximum interaction among participants. The moderator and co-moderator sat amongst the participants to observe the interaction and interpret body language (Krueger and Casey, 2000). Special name tags that bore letters/numbers were developed and assigned to each participant before the discussion began. This arrangement was to reinforce confidentiality and anonymity; avoid depersonalizing participants; and to aid easy identification of contributions when transcribing (McMillan and Weyers, 2007).

Before each group discussion began, participants were again briefed on the purpose of the study and were re-assured of confidentiality. The format of the focus group session and the rules to guide the smooth running of the discussion were explained to them. Participants were informed that they were not obligated to answer any question that would make them feel uncomfortable, and they were at liberty to withdraw from the discussion at any point should they experience discomfort. At the start of the interview a consent form was signed by all the participants (See Appendix B in page 354) and their demographic information was captured (Refer to Appendix C in page 355 for the background of focus group participants)**.** After this, participants were asked to introduce themselves and to comment on any exciting thing(s) about themselves or their university. This was to help each participant relax and settle well in the group.

The moderator began the discussions around set questions by following the questioning route of the discussion guide. Although the moderator used the discussion guide to remind himself of the issues of interest within the time limit, nevertheless he was mindful to probe for further information, elaboration, or clarification of responses as he deemed appropriate (Malhotra and Birks, 2000). In concluding the discussion of issues from time to time, a verbal summary with the help of participants was produced by the moderator to verify proper understanding of participants' comments. This was to ensure that the main areas of interest had been covered and confirmed by participants. In the conduct of the interviews, the moderator avoided coercion or manipulation throughout his interaction with participants (Maholtra, 2010).

Discussions from the sessions were audiotape recorded. Recording the interviews assisted the researcher (co-moderator) to avoid missing any of the participants' comments, analyse the verbatim responses of participants, coding, summarizing, and verifying quotations of interest to the researcher (Onwuegbuzie et al., 2009; Bell and Waters, 2014). Reflected accounts of discussion sessions were documented immediately after each session. Light refreshments were served during each of the sessions in order to create a friendly environment. However, care was taken that this did not disrupt the flow of the discussion and recording process of each session. The researcher's role as co-moderator was note taking, providing prompts, using probes for clarification and elaboration of issues under discussion when necessary to provide a focus for the study, and analysing the data collected from participants. However, as a member of faculty of the private university due to instructor relationship with participants, the researcher limited his role and appointed a research assistant. This is to ensure not influencing participants responses during the data collection in the university. At the end of each session, the researcher expressed appreciation to the participants for their time and input. Each discussion session lasted between 60 to 80 minutes. In each of the two universities, one week was used to conduct the two sessions; and the undergraduate session was conducted two days before the postgraduate session. The four sessions ran for two weeks and were undertaken in the middle of November 2014.

5.8.6 Qualitative Data Analysis Procedure

5.8.6.1 Data Management

The processing of the focus group data began by copying the interview recordings from the audio-taped recorder on a USB flash drive. The files of the recordings were labelled with names. The recordings on the USB flash drive were checked for quality and subsequently sent to a professional transcriber to do transcription of the recordings. The researcher then checked the accuracy and consistency of the transcripts by listening to the recordings while reading through the transcripts. After affirming the accuracy of the transcripts, the recordings were erased from audio-taped recorder while the USB flash drive was kept in a safe and secured place. In addition, the researcher ensured the professional transcriber erased the recordings from her computer after producing the transcripts. Next, the researcher structured the data to ensure that pieces of the transcripts are related to interview questions. Finally, the field notes made by the moderating team during the four sessions were combined to be analysed along with the transcripts. Points where the participants showed any emotion (e.g. nodding one’s head or smiling) during the sessions were noted and the actual point when this happened was identified and noted in the transcripts: these were to augment the transcribed data by capturing all relevant facts.

5.8.6.2 Method of Analysis of the Qualitative Data

The focus group transcripts together with the field notes and context descriptions were analysed through a thematic analysis. The choice of this approach is grounded on the fact that it assists the researcher to identify a limited number of major themes, which adequately reflect the textual data (Cramer and Howitt, 2008). It has been argued that procedurally, the thematic analysis method has a lot in common with other qualitative data analysis methods including grounded theory (Howitt, 2010). The main reason of using the thematic analysis is its flexibility, which means that the potential range of things that can be said about the data is broad (Braun and Clarke, 2006). In addition, Boyatzis (1998) maintains that thematic analysis interprets various aspects of the research topic and helps to summarise key features of a large body of data. These benefits afford researchers enormous theoretical freedom, in arriving at a worth of detailed, yet complex amount of data.

However, other scholars (e.g., Howitt, 2010) contend that without an existing theoretical framework that would anchor analytic claims made, thematic analysis is limited to mere description and lacks interpretative power; it is largely descriptive and falls short of theory development. Notwithstanding the above-stated criticisms, the researcher adopted thematic analysis not for theory development but rather for the interest in the themes that emerged to be used as items to measure quality of university governance. This subsequently was used together with other dimensions to construct the service quality measurement scale for universities in Ghana in a large-scale quantitative survey.

In analysing the focus group data, the researcher employed the following six-step procedure for thematic analysis as suggested by Braun and Clark (2006):

- Data familiarization,
- Initial coding generation,
- Searching for themes based on the initial coding,
- Review of themes,
- Theme definition and labelling, and
- Report writing.

Step 1: Data Familiarisation

The researcher carefully read the transcribed data, and re-read the data, thus noting down initial ideas captured in the data, and searched for meanings, patterns and similarities (Bazeley, 2009). Data familiarisation started from data gathering during focus group discussions to the transcription phase. This early stage in the thematic analysis process prepared the researcher to undertake effective coding.

Step 2: Generating Initial Codes

This phase involved the generation of initial codes by systematically going through the transcripts, listing them and trying to find similar initial codes in the field notes. The researcher manually begun coding transcripts and field notes related to individual participants at this stage. In undertaking this task, the researcher was guided by general themes derived from the literature, which represents key ideas and concepts of quality of university governance. More themes and sub-themes were added as the work progressed. Different codes were generated across the researcher's data set at this stage.

Step 3: Searching for Themes Based on Initial Coding

At this stage, the researcher re-focused the analysis at the broader level of themes, rather than codes. The researcher collated the initial codes into potential themes. In achieving this, the researcher analysed codes, and considered how different codes might combine to form an overarching theme, whereas others form sub-themes. Thus, all relevant coded data extracts to be associated with some identified theme were grouped and scrutinized to enable comparisons to be made. The researcher assessed each code and identified thematic patterns within each interview transcript while establishing the significance of individual themes.

Step 4: Reviewing Themes

At this review stage of the thematic analysis process, theme applicability to the collated data extracts as well as the entire data set was carefully checked. First, the researcher read all the collated data extracts for each theme and considered whether they appeared to form a coherent pattern. Second, the researcher considered the validity of individual themes in relation to the data set, i.e. whether the themes (i.e. thematic map) generated accurately represented the data set as a whole. Thus, there was reviewing at the level of the coded data extracts and refining of themes. At this stage, the identified themes were based on the question-by-question style adopted compared to the concepts of quality of university governance in literature.

Step 5: Defining and Labelling Themes

At this stage, the process of developing themes and sub-themes continued. The researcher revisited the literature and the data collected to be certain that themes were well-defined and named. Themes are defined by the "essence" of what each theme was about and what aspect of the data each theme captures (Braun and Clarke, 2006). The themes and data relationships that emerged were used in producing a report in step six as well as being used as an input for the questionnaire development for the construction of the service quality scale for universities in Ghana.

Step 6: Report Writing

Report writing was done in Chapter Six, where the findings of the qualitative data analysis on quality of university governance based on thematic analysis has been presented. This includes verbatim responses of participants that were revealing or apposite to the study.

5.8.6.3 Credibility Measures

In ensuring that the findings obtained from the focus group studies were devoid of the researcher's biases and interests, respondent validation and member checking was undertaken in March 2015 by the researcher to confirm the findings of the study (Janesick, 2000; Creswell, 2015). In doing so, the researcher presented a summary of his findings and thematic tables to the participants of the four focus group studies in separate follow-up meetings, asking them whether they agreed with all of the emergent views, specifically, if they saw their personal views represented in any or all of the reported findings.

All the participants of the four focus group studies confirmed that the summary of findings amply and accurately captured their opinion on quality of university governance, indicating that respondent validation had been achieved. With regards to member checking as a means of confirming the findings, participants were asked to verify the accuracy of verbatim quotes while their approval was also sought to use their direct personal quotes in written reports of the study. All the participants whose direct quotes appeared in the report gave permission to cite them. Credibility measures were used to authenticate information obtained from participants. The analysis and findings of the qualitative data is presented in Chapter Six of this study. However, the next section explains how the main quantitative study was conducted and also how subsequent quantitative data analysis was carried out.

5.9 The Main Quantitative Research

This section describes methods and procedures adopted in collecting and analysing quantitative data for the study. Specifically, it presents the sampling strategy adopted, questionnaire development and pilot testing, administration of the questionnaire, and method of data analysis.

5.9.1 Sampling Strategy for the Quantitative Survey

Ten public and private universities were selected using the non-probability purposive sampling method. The reasons for selecting these ten universities have been explained earlier (See section 5.7). Another consideration for using purposive sampling in selecting the ten universities was to enable the researcher to select cases in a strategic way so that the institutions sampled are relevant to the study and to ensure variety in the sample (Bryman, 2016). In addition, purposive sampling was used to achieve a good spread of public and private universities, with care to include variation in geographic location, to be able to effectively answer the research questions and achieve the research objectives.

After selecting the ten universities by the purposive sampling method, the next stage was to select the sample size. A proper determination of sample size ensures accurate, valid and reliable generalization of research findings to the broader population (Sturgis, 2008). For this study, the sample size was determined based on the statistical analysis to be undertaken, non-response, time and cost considerations, and sample representativeness of the target population in order to achieve generalizability (Diamantopoulos and Schlegelmilch, 1997; Bryman, 2016).

A total sample of 800 business students was selected from the ten universities (5 public and 5 private) for carrying out the survey. Regrettably, the selected universities in both public and private sectors were unwilling to disclose total number of students in their respective institutions to the researcher. However, this sample size was deemed adequate for a large population size including provision for non-response. Specifically, a maximum sample size of 400 each per university sector was chosen. Equality of sample size was meant to facilitate comparisons across public and private sectors. Thus, for each of the ten universities, a total of eighty (80) student respondents were selected comprising sixty (60) undergraduate and twenty (20) postgraduate students. The proportional representation of undergraduate and postgraduate students in this study was informed by the guidelines on Norms for Tertiary Education for Ghana, which indicates that postgraduate enrolment constitutes 25 percent of total student enrolment (NCTE, 2012).

The choice of this sample size for this survey is consistent with guidelines that a sample size of 500 is very good in judging adequacy of sample size for factor analysis, whereas a sample size of 1000 is described as excellent (Comrey and Lee, 1992). In addition, the sample size considered for this study is five times more than the number of variables; a condition for effective structural equation modelling (Hatcher, 1994). Furthermore, the anticipated response rate; the degree of variation of population characteristics; the degree of reliability required for the sample; and the time space available for the researcher were also considered in arriving at this sample size for the quantitative survey (Bryman, 2016). Finally, the choice of this sample size was based on cost since there is no external funding for this research. See Table 5.4 for the sample distribution described above.

Table 5.4: Sample Selected from the Ten Public and Private Universities

Type of University	Number of undergraduate students to be selected	Number of post-graduate students to be selected	Total number of students selected
Public Universities			
1. University of Ghana	60	20	80
2. Kwame Nkrumah University of Science and Technology	60	20	80
3. University of Cape Coast	60	20	80
4. University of Professional Studies Accra	60	20	80
5. University of Education Winneba	60	20	80
Private Universities			
1. Valley View University	60	20	80
2. Central University	60	20	80
3. Methodist University College	60	20	80
4. Wisconsin University College	60	20	80
5. Pentecost University College	60		20
Total	**600**	**200**	**800**

Source: Field Work 2016

Having chosen ten public and private universities (five each sector) by the purposive sampling method as specified above, this was followed by dividing the selected universities first into clusters based on business programmes on offer in the universities. A cluster sampling method was then used to randomly select four business programmes from each of the ten universities. The reasons for choosing four business programmes at each university were to minimise cost of considering all business programmes at each university, and to avoid missing programmes where there is a relatively large number of business programmes in a university (De Vaus, 2014). Besides, the four clusters were deemed adequate in maximising the number of clusters chosen because at the time of data collection for this thesis, anecdotal evidence indicates that the business schools in the selected universities were running between five and seven accredited business programmes. These programmes included accounting, agricultural business, banking & finance, human resources management, logistics and supply chain management, management studies, and marketing. The justification for adopting the cluster sampling technique was to overcome the challenge of insufficient time and higher cost of doing the research considering all business programmes were run by the selected universities in geographically dispersed campuses (Bryman, 2016; Saunders et al., 2019).

Next, a representative sample of undergraduate students from each of the four selected business programmes in each university was chosen using the stratified random sampling technique, where the different year groups (or levels of study) were used as the stratifying criteria or variables. This sampling method was adopted to ensure student respondents are selected across different year groups or levels of study (i.e., levels 200, 300 and 400) for the business programme they are attached. Students in year one (i.e., level 100) were excluded from the sample of this study (See section 5.8.1 for reasons as explained). The rationale for adopting stratified random sampling is to ensure that students are fairly represented in terms of their different year groups for each business programme. This, according to Bryman (2016) and Saunders et al. (2019), would ensure that the sample selected is similar to the business student population in each university.

Subsequently, from various year groups or levels of study strata comprising levels 200, 300 and 400 for each undergraduate business programme, a simple random sampling method was then used to select five students from each year group or level made up of different sessions (e.g., morning, evening and weekend) using the lottery method. This simple random sampling technique was feasible due to the existence and availability of sample frames (i.e., student registration records or class registers for all the sessions) in the selected universities. Having obtained a list of students and their sessions for each level or year group per business programme, their student identification number indicating session were written on a piece of paper and dropped in a jar. The jar was then vigorously shaken and a draw was made. The process continued in this manner until five samples had been drawn from each year group strata per the business programme. Next, students whose identification numbers correspond with these five draws were identified and their telephone numbers were obtained. A questionnaire was then administered to them at a later date in classrooms or lecture theatres of their respective university campuses at the close of lectures. By adopting simple random sampling, every student of the population has an equal probability of inclusion in the sample (Bryman, 2016; Benzo, Mohsen, and Fourali, 2018). Thus, a total of 20 undergraduate students were selected from the four selected undergraduate business programmes per each year group (or level) in each university. The 20 cases each from levels 200, 300 and 400 formed 60 cases of randomly sampled undergraduate students for each university as presented in Table 5.4.

This same approach and criteria were repeated in selecting five postgraduate students from second year Masters students in respect of one business programme, and cases selected from the four different business programmes formed a random sample of 20 postgraduate students for each university as displayed in Table 5.4. The multi-stage sampling, particularly the four-stage process (purposive/cluster/stratified/simple random cross-sectional approach) ensured there was fair representation of business students in terms of programmes, year group (or level of study) and sessions run by the business schools in selected universities. Consequently, the selected sample for the investigation was deemed to be fairly representative of the student population; thus, enhancing the generalizability of survey findings.

5.9.2 Questionnaire Development

The questionnaire was developed to collect quantitative data to answer research questions and test the study hypotheses. The questionnaire items to measure the study constructs (apart from institutional governance) as outlined below, were adapted and or adopted from survey instruments by Abdullah (2006), Ledden et al. (2011), SenthilKumar and Arulraj (2011), and Sultan and Wong (2012); and this is to ensure that the questionnaire achieved construct validity (Wang et al., 2014). These survey instruments based on theory and empirical research were chosen after the researcher had extensively studied several existing scales related to each construct under investigation. This approach of generating items or scales solely through a review of relevant literature to assess service quality is firmly supported by research (e.g., Parasuraman et al., 2005; Sin et al., 2005; Icli and Anil, 2014; Keshavarz and Jamshidi, 2018). The scale items to measure university governance quality were based on the results of the focus group interviews with students. These results revealed the variables they deemed important when they assessed the quality of university governance experiences while attending their universities.

A seven-point Likert scale (ranging from 1 = strongly disagree to 7 = strongly agree) was employed to measure attitude towards all items featured in the questionnaire. This was to enable the researcher to adequately capture the intensity of respondents' impressions (Bell and Waters, 2014). In addition, the 7-point Likert scale was thought to provide high reliability because of the greater range of answers permitted to respondents to express their opinions on respective items (Oppenheim, 1992). Furthermore, the Likert scale was used in this study because it is easy to prepare and interpret, and simple for respondents to answer (Zikmund, 2000). The adoption of this scale was driven by the suggestion of Churchill (1983) that the Likert scale, as an interval scale, is more powerful than a nominal scale as it permits a researcher to make stronger comparisons and conclusions.

In developing the questionnaire items, the researcher avoided the use of biased words, leading questions, jargon, double-barrelled questions, negatively worded questions, and hypothetical questions in order to achieve high response rates (Dillman et al., 1993). To ensure a minimal cognitive demand on respondents so that their mental capacity was freed up to think about the response, the researcher kept grammatical complexities to a minimum; using specific instead of general terms, and ensured that the scale was clear, concise and unambiguous (Lietz, 2010). The questionnaire items were mainly closed-ended questions because they afford the respondents the opportunity to answer the questions quickly and easily with minimal writing (Saunders et al., 2015). Dichotomous questions and multiple-choice questions were used to capture respondents' demographic data. To increase the likelihood of participation in the quantitative survey, special care was taken so that the questionnaire is not overly long (Polit et al., 2001).

The questionnaire was divided into five parts: introduction; dimensions of perceived service quality; student perceived value; overall student satisfaction; and demographic information. The questionnaire begins with part one, which is the introductory section. This section presents the introductory statement that indicates the issue under investigation as well as the importance of the study. The introductory statement also informs respondents that participation is voluntary, and their anonymity will be guaranteed; hence, urging them to be honest in answering all the questions. The part two of the questionnaire presents the dimensions of perceived service quality and is divided into five sections in line with the five key dimensions being investigated as presented in the researcher's conceptual model in Chapter Four. The contents of these sections are specified below.

Section One: "Teaching methodology" – This section of the questionnaire presents 11 items on a 7-point Likert scale used to measure teaching methodology. These items were adapted from SenthilKumar and Arulraj (2011) and were constructed and successfully used in developing countries for measuring service quality in higher education with a similar university landscape to Ghana. The eleven-item scale is indicated in Table 5.5 below.

Table 5.5: Scale Items for Teaching Methodology

In relation to the service that you experience in your university, indicate the extent to which you agree or disagree with each of the following statements:
……university provides relevant curriculum.
……university offers excellent teaching support.
……university provides adequate learning support .
……university encourages class group interaction.
…… lecturers at this university have relevant theoretical knowledge.
……lecturers at this university have relevant practical knowledge.
…... lecturers at this university are up to date in their subject.
……lecturers at this university give helpful feedback.
……the course material for various courses in this university are sequentially presented.
……exams written in this university are representative of courses taught.
……courses that are taught in this university are stimulating

Source: Adapted from SenthilKumar and Arulraj (2011)

Section Two: "Environmental Adequacy in Study Factor". As previously stated, "Environmental change in study factor" construct of the SQH-HEI model was modified to "environmental adequacy in study factor" to highlight the capability of this construct to support provision of good service. This dimension was measured using 5 items on a 7-point Likert scale. The five items are shown in Table 5.6 below

Table 5.6: Scale Items for Environmental Adequacy in Study Factor

In relation to the service that you experience in your university, indicate the extent to which you agree or disagree with each of the following statements:
……university has good library facilities.
…….university has good computer facilities.
…….university has good laboratory facilities.
……university has excellent conducive environment for study.
…….academic activities such as workshops, overseas collaborations and seminars enrich the learning ambience of this university.

Source: Adapted from SenthilKumar and Arulraj (2011)

Section Three: “Access” in this study was addressed largely in terms of the opportunity for interaction among students and university employees (i.e. faculty and administrative staff), availability of academic staff for guidance and advice, approachability, convenience, ease of contact and how convenient the location of the university was to students. The items measuring access dimension were adapted from the HedPERF instrument by Abdullah (2006). These scales were used because of their wide acceptance in the service quality literature. An additional item as regards parking facilities was included because the public transportation system in Ghana is not adequate, and students (mostly workers joined by friends) rely on their cars to move around, therefore parking availability was important. The issue of “required grade” before being admitted to a particular university did not receive attention in this study because it is the requirement determined by National Accreditation Board. Under this section, the researcher presented eight items on a Likert scale to measure the “access” dimension. The eight items are indicated in Table 5.7 below.

Table 5.7: Scale Items for Access

In relation to the service that you experience in your university, indicate the extent to which you agree or disagree with each of the following statements:
…….university has operating hours convenient to all their students.
…….university has an ideal location with excellent campus layout.
…….university has adequate parking facilities.
…….lecturers at this university are available for guidance.
…….lecturers of this university allocate a convenient time for consultation.
…….administrative staff of this university are always available to help students.
…….administrative staff are too busy to respond to a student’s request promptly.
……..opening hours for administrative offices are personally convenient for me.

Source: Adapted from Abdullah (2006a)

Section Four: “Placement” – This section presents eight items that measure students’ perception of whether graduates are given adequate training and whether attending a particular university is likely to secure those jobs relatively easily. These items were adapted from Senthilkumar and Aruraj (2011). The eight items to measure placement are indicated in Table 5.8 below.

Table 5.8: Scale Items for Placement

In relation to the service that you experience in your university, indicate the extent to which you agree or disagree with each of the following statements:
……university ensures students undergo internship.
……university provides soft skills development in the form of leadership, communication etc.
…….university maintains constant interaction networking with its alumni.
…….university pays close attention to industry and university collaboration.
…….university provides jobs on campus to students.
…….degree from this university is highly esteemed in the labour market.
…...graduates from this university get good jobs.
…….linkage between this university and industry.

Source: Adapted from SenthilKumar and Aruraj (2011)

Section Five: "Institutional/university governance" – This dimension was measured using an appropriate response set of 15 items generated from results of the focus group data analysis in the first phase qualitative research (See Table 6.1 in Chapter Six section 6.4 page 215 for the summary of the items)**.** To examine for accuracy of the response set in capturing the intended university governance construct, content validity assessment was undertaken engaging six deputy registrars with expertise in university governance and educational administration (who in addition were teaching various courses in their universities). These made them more suitable to judge what important aspects of university governance in higher education are. These experts were chosen using purposive sampling from the ten selected public and private universities (three from each sector). In fact, two of the deputy registrars (or experts) have both local and international experience in governance of universities, while the other four experts have worked over a decade in their respective universities as administrators.

Content validity Assessment by Experts

The content validity of the 15-item scale was determined following the procedures proposed by Davis (1992) and advocated by Yusoff (2019). First, a content validation form (involving the 15 items) was prepared, and a copy of the form was self-administered to the six registrars to rate each item based on clarity and relevance on the four-point degree of relevance scale (See Appendix D in page 357 for the Content Validity Assessment Form). Next, the experts were encouraged to review the domain of the items and provide written comments where necessary. This was followed by the six experts independently rating each item based on the relevant scale, indicating score on all items. Finally, the analysis of responses from the six experts was undertaken based on content validity index (CVI) suggested by Polit, Beck and Owen (2007). They recommend an acceptable value of 0.83 and above as the cut-off value of CVI for using at least six experts.

Before the computation of CVI, the relevance rating (1= the item is not relevant to the measured domain; 2= the item is somewhat relevant to the measured domain; 3= the item is quite relevant to the measured domain; and 4= the item is highly relevant to the measured domain) was recorded as 1 (for relevance scale of 3 or 4) or 0 (for relevance scale of 1 or 2). The content validity index (CVI) was computed in two ways. Firstly, Item-level Content Validity Index (I-CVI) for individual items, where the number of experts agreeing on an item (i.e., giving item a relevance rating of 3 or 4) was divided by the number of total experts involved. Secondly, Scale-level Content Validity Index (S-CVI) for the overall scale.

However, S-CVI are calculated in two ways: namely the averaging calculation method (S-CVI/Ave) and universal agreement calculation technique (S-CVI/UA). Thus, S-CVI/Ave was computed from total I-CVI value divided by the total number of items; whilst S-CVI/UA was estimated by summing the number of items that had 100% agreement and dividing that by the total number of items. The results of the computation showed that Item-level Content Validity Index (I-CVI) for individual 15 items were all greater than 0.83, except three items having values of 0.67, 0.50 and 0.67. The content validity index of the overall scale for university governance based on the average method (S-CVI/Ave) was determined to be 0.92, indicating good relevancy of the 12 items to be used to assess the construct. On the other hand, scale-level content validity index based on the universal agreement method (S-CVI/UA) was estimated to be 0.80, very close to satisfactory level of content validity.

Consequently, the results led to eliminating the three items from the proposed university governance scale generated via qualitative research. The first item, *"Duration in handling students' complaints in this university is long (I-CVI=0.67)"* was considered by the experts as somewhat relevant to the measured domain as was *" There is unstable internet connections in the universities (I-CVI=0.67)".* Another item *" The universities have nice facilities including lecture halls, libraries and alike (I-CVI=0.50)"* was considered by the experts as not relevant to the measured domain to be included in the scale. By removing those three items of the scale that were not related to the domain of university governance as viewed from students' perspective, the number of items reduced from 15 to 12. The twelve items are measured on a 7-point Likert scale. The items are included in Table 5.9.

Table 5.9: Scale Items for Institutional/University Governance

In relation to the service that you experience in your university, indicate the extent to which you agree or disagree with each of the following statements:
…. In this university students are not included in decision making regarding matters that concern them.
…. In this university decision making extends beyond the authority of a single person.
.... The procedures for handling students' complaints in this university are cumbersome, long, etc.
….The communication channels including internet connections available in this university are ineffective.
….There exists a poor maintenance culture in this university.
….There is inadequate books in the library of this university.
….The grading system prevailing in this university is not transparent.
….There is a lack of transparency in fixing fees in this university.
….The leadership of this university demonstrates unfair behaviours towards students e.g. not adequately resolving students' complaints.
….There exist a good relationship between students and lecturers in this university.
….Students are displeased with services provided by administrative staff of this university.
….There is ineffective coordination of activities in the administration of this university.

Source: Field Work, November 2014

Under part three of the questionnaire, "student perceived value" was measured using 22 items categorized under two composite sub-scales: "get dimensions of value" and "give dimensions of value" (Ledden et al., 2011). The "gets dimensions of value" was based on functional value, emotional value, epistemic value, social value of referent others, social value of fellow students, and image value. Measurement of "give dimensions of value" was based on money and time. Items relating to components of the two sub-scales are adapted from Ledden et al. (2011). These scales were used because of their wide acceptance in the service quality literature. Items to measure each type of value are indicated in Table 5.10 below.

Table 5.10: Scale Items for Student Perceived Value

Get/Benefits Value

Functional value (3 items)

My degree will allow me to earn a good/better salary.

My degree will allow me to achieve my career goals.

My degree is a good investment for my future.

Epistemic value (3 items)

The content of courses under my programme keeps me interested.

I learn new things from my programme.

The programme content contributes to the high value of my education.

Social value of referent others (2 items)

People who are important to me think that taking my programme is a good thing to do.

People who influence what I do think that taking my programme is a good idea.

Social value of fellow students (3items)

Working in groups has been a beneficial part of my programme.

The support provided by my fellow students has been important in helping me through the programme.

The social interaction with fellow students on my programme makes my studies more interesting.

Emotional value (3 items)

I feel proud that I am taking my programme.

Taking my programme of study has boosted my self-confidence.

Taking my programme of study has given me a sense of self-achievement.

Image (3items)

I believe that employers would have positive things to say about my university

I have heard positive things about my university.

I believe that my university has a good reputation.

Give/Sacrifices

Money (2 items)

The fees I pay for the programme are reasonable.

The money I spend on the programme is worth it.

Time (3 items)

My studies have reduced the time I spend with my friends.

My studies have reduced the time I spend with my family.

I have had to give up some other interests of mine in order to do this course.

Source: Adapted from Ledden et al. (2011)

Part Four of the questionnaire measures overall student satisfaction. Under this part, overall student satisfaction was measured using seven items adapted from the survey instrument developed by Sultan and Wong (2012, 2014). This 7-item scale was used because it is a performance-based measure, and it possesses relatively more items to capture overall student satisfaction. The 7 items are included in the Table 5.11 below.

Table 5. 11: Scale Items for Overall Student Satisfaction

…….My feelings towards the university's services is good.
…….Overall, this university fulfils my needs.
…….Overall, I am satisfied with the service performance.
……..Overall, I am satisfied with the quality relative to price (fees).
…….Overall, this university provides satisfaction compared to an alternate higher education institution.
……. Overall, it is a good university.
…….It has been a good decision to select this university.

Source: Adapted from Sultan and Wong (2012, 2014).

The final part of the questionnaire captures the respondents' demographic information. The five items measured include gender, age, nature of current university of attendance (public/private), level of study, and type of programme pursued in the university. The questionnaire also provided the respondents the freedom to make any general comments they deemed relevant to the study. In the next section, pilot testing of the questionnaire is described.

5.9.3 Pre-Testing and Pilot Study of the Questionnaire

The questionnaire designed for this study was first pre-tested and subsequently pilot-tested before its administration in the main survey. Pre-testing of the questionnaire is to assist in identifying fundamental problems with the instrument as well as to determine its potential effectiveness in terms of comprehension and relevance of individual items, logical sequence of the questionnaire, key issues missed out and layout of the questionnaire (Diamantopoulos et al., 1994). On the other hand, the pilot-testing of the questionnaire is sought to ascertain that the respondents are capable of completing the survey questionnaire, follow the instructions provided, the questions posed are largely understood by the respondents, above all ensure that the questionnaire works (Creswell, 2015; Saunders et al., 2019). It is also to provide the researcher an opportunity to identify and address potential validity and reliability challenges before full-scale data collection (Webb, 2000), likewise address unintentional mistakes in the questionnaire.

The questionnaire was pre-tested through personal interviews with three doctoral colleagues who are involved in various fields of research at London Metropolitan University Business School. These colleagues were asked to comment on any perceived ambiguities, omissions or errors concerning the draft questionnaire. The feedback received was largely related to typographical errors, unclear layout and rewording of some questions to ensure clarity and simplicity. The questionnaire was revised based on their comments in which changes were made to font-size, spacing, and layout, while spelling errors were corrected and some terms were changed. The revised questionnaire was further submitted to two experts (an academician and a researcher) both with several years of experience in instrument development for feedback before being administered for the pilot-scale survey. The researcher made minor changes to the instrument based on the comments received from these experts in order to reflect the student context under study.

The final version of the questionnaire was eventually pilot tested on 40 sampled final-year business students (20 each from the public and private sectors) at the University of Ghana and Methodist University College campuses. It must be noted that students involved in the pilot testing of the questionnaire were different from those interviewed at the pilot stage of the focus group interviews as indicated in section 5.8.4. In each of the two universities, 15 undergraduate and 5 postgraduate business students were selected to ensure that the sample was inclusive and representative of the target population. The choice of this sample size was guided by the suggestion of Saunders et al. (2015, 2019) that at least 10 members are deemed adequate for pilot testing. The sampling procedure used to select the respondents was consistent with the sampling method employed in section 5.9.1 of the study.

A classroom administered survey strategy was adopted to distribute the paper copy of the final version of the questionnaire to respondents at the end of lectures. The respondents were told the purpose of the questionnaire and were assured of anonymity before they were given the questionnaire to respond to. An evaluation of the students' response to the piloted questionnaire shows that an overwhelming majority of respondents provided positive feedback, constituting a 92.5% (37 out of 40) response rate. The subsequent validity and reliability analyses also affirm the adequacy of the questionnaire to be used in the main survey. Please refer to Appendix E in page 359 for the sample questionnaire. The pre-testing and pilot testing of the questionnaire were done between 2nd March and 30th March 2015. The following section explains the validity and reliability analyses of the pilot study.

5.9.3.1 Validity Analysis of the Pilot Test

Validity refers to the extent to which an instrument measures what it is supposed or intended to measure in the context in which it is applied (Saunders et al., 2015; Field, 2017). The essential forms of validity that ensured the credibility of the instrument in this study include face validity; content validity; criterion-related validity; and construct validity. According to Burns (1994), face validity involves assessing whether a survey instrument appears to measure the concepts under study. In this study, face validity was achieved by asking non-experts (students) to assess questions for clarity, accuracy and completeness, and to which they provided positive feedback.

Construct validity refers to the degree to which inferences can legitimately be made from operationalized study constructs to the theoretical constructs on which those operationalization were based (Trochim, 2006). Therefore, Carmines and Zeller (1979) state that construct validity of an empirical instrument can be assessed if the measure can be placed in a theoretical context. To ensure the realization of construct validity in this study, first the researcher ensured that the items operationalised to measure respective constructs in the questionnaire were derived from scales in literature that relate objectives of the study other than abstract constructs (Scott and Mazhindu, 2005).

Field (2017) says that criterion-related validity refers to showing a correlation between the questionnaire developed and some other existing validated questionnaire that is believed to accurately measure the variables being considered. Hair et al. (2006b) states that criterion-related validity deals with the correlation between a measure and some criterion variable of interest. In this pilot study, criterion-related validity was achieved, for instance, by comparing the questionnaire developed with a similar validated instrument such as the HedPERF instrument by Abdullah (2006) to ensure that the items used to measure “access” in the questionnaire match up with validated ones (see e.g. Kimani et al., 2011).

For content validity, Field (2017) states that it refers to assessing the extent to which individual questions asked represent the construct being measured and adequately cover the specified domain of the construct. According to Nunnally and Bernstein (1994), content validity is best determined prior to the administration of a test, rather than afterwards. In this present study, all the scales used are deemed to have content validity because items of the study's constructs were adapted from scales in the literature, except the items of university governance construct that were developed based on the focus group data analysis. Furthermore, all items used in this study were given to knowledgeable doctoral students, an academician and a researcher to assess their content validity. Therefore, the evidence indicated that the items that measure the dimensions of "perceived service quality", "student perceived value", and "overall satisfaction" have content validity. Additionally, the use of confirmatory factor analysis during the analysis of the main survey data further affirmed content validity of the study through undertaking convergent validity and discriminant validity.

Finally, external validity refers to the extent to which the findings of the study could be generalised to the entire population of the study (Malhotra, 2010; Bryman 2016). To achieve external validity, the results of this study derived through the use of the survey instrument were generalised to the Ghanaian university setting and specifically to 10 public and private universities (five each) used in this study.

5.9.3.2 Reliability Analysis of the Pilot Test

Reliability refers to whether a measurement instrument is able to yield consistent results each time it is applied (Bryman, 2016)**.** To ensure that the results obtained via administration of the questionnaire are repeatable under the same conditions, a reliability test was performed. In this respect, external reliability was verified during pilot testing through a retest reliability test (Scott and Mazhindu, 2005). This test confirmed that the same results were obtained when the questionnaire was administered to the same respondents twice. In addition, tests of internal consistency (Cronbach, 1951) was undertaken to establish the internal consistency or the item-to-item scale correlation for teaching methodology, environmental adequacy in study factor, access, placement, university governance, student perceived value and overall satisfaction constructs in the questionnaire. A Cronbach alpha coefficient ranging in value from 0.00 to 1.00 was used to describe the reliability of factors extracted from the Likert scale items in the questionnaire. If a score value is above 0.70, then it means the items are highly satisfactory (i.e. consistent and reliable), hence must be included in the questionnaire (Hair et al., 2010).

In this study, the pilot testing of the dimensions of perceived service quality: teaching methodology, environmental adequacy in study factor and placement all obtained very good reliability (>0.70). University (or institutional) governance had a considerably acceptable reliability (above 0.6) whereas "Access" had a poor reliability (<0.60). To improve reliability of the instrument, the item “there exist good relationship between students and lecturers in this university” under university governance construct was deleted, and this increased the Cronbach’s alpha from 0.695 to 0.727. Similarly, the item “administrative staff are too busy to respond to students request promptly” under access construct was also deleted, thus the Cronbach’s alpha increased from 0.565 to 0.772. This led to a very high Cronbach’s alpha value of 0.737 for the dimensions of perceived service quality.

In the case of the dimensions of student perceived value: functional value, social value of referent others, social value of fellow students, emotional value and money all obtained very good reliability result for the pilot testing (>0.70). Image and Time both had a considerably acceptable reliability (above 0.6) whereas epistemic value had a poor reliability (<0.60). By deleting “I have had to give up some other interests of mine in order to do this course” item under the Time construct increased the Cronbach’s alpha from 0.671 to 0.886. Accordingly, a very high Cronbach’s alpha value of 0.808 was obtained for student value scales. Likewise, a very high Cronbach’s alpha value of 0.884 was obtained for overall student satisfaction construct. The overall reliability for the pilot testing of the questionnaire items is 0.887, which indicates high internal consistencies and appropriateness of the questionnaire (Nunnally, 1988); therefore they were retained to be assessed further using confirmatory factor analysis.

5.9.4 Administration of Questionnaires – Conducting the Main Quantitative Field Survey

Prior to administration of the questionnaire, a letter (see Appenix F in page 364) was sent to the management of the respective universities explaining the purpose of the research, promising confidentiality of the data collected and requesting their students’ participation. Furthermore, the expected benefits of research outcomes to the universities; the scope of respondents to be selected for the survey; ethical behaviours such as avoiding intrusion and obstruction to abide by; how necessary arrangements were to be made without disrupting lectures; expected time for completing the questionnaire; and the duration of the entire exercise were also communicated in the letter to the management of the selected universities

A face-to-face approach was used to distribute a hard copy of questionnaires to undergraduate and postgraduate students of the 10 selected public and private universities in Ghana. This was done personally by the researcher together with assistance sought from two faculty members of the respective universities. This approach was chosen for this study above other methods such as mailing a questionnaire by post or using internet. The choice of the face-to-face method was based on the fact that Ghanaians are more comfortable with filling in questionnaires that are personally delivered and thoroughly explained to them by the interviewer (Hinson and Sorensen, 2006).

The questionnaires were administered to student respondents in the classrooms of respective university campuses at the end of lectures, while the completed questionnaires were retrieved at the end of lectures the following day. Where the day of administration of the instrument fell on Friday, the questionnaires were retrieved on Monday. This technique appears to be efficient, simple and productive and ensured a good response rate. The adoption of this approach was informed by previous studies (e.g. Prugsamatz et al., 2006) in which questionnaires were distributed to students at the end of lectures and a 100% response rate was achieved. However, on a few occasions where prospective student respondents were not available in class during the time of administration of the questionnaire, an arrangement was made at the students' convenience to deliver the questionnaire. This was achieved by obtaining the cell phone number of the prospective student from colleagues and calling him/her to schedule a meeting.

The field survey begun on 6th December 2015 and was completed on 15th April 2016. By the survey's closing date, the number of questionnaires retrieved from the respondents was assessed to show how many respondents were contacted and the number that cooperated to determine the response rate. Out of the total questionnaires returned, partially completed questionnaires were excluded from the analysis to estimate the valid response rate. In so doing, the researcher determined whether the percentage of valid responses was sufficient to satisfy the statistical analysis criteria as well as being consistent with the typical response rate for a large-scale face-to-face survey research and sample size for other similar studies. In all 800 questionnaires were administered on business students but 778 (representing 97.3%) were usable. The following section will explain the method of quantitative data analysis to be applied.

5.9.5 Quantitative Data Analysis

This section deals with data preparation, data entry and data analysis techniques employed in the study.

5.9.5.1 Data Preparation and Data Entry

Returned completed questionnaires were first checked for completeness and edited for illegibility, inconsistency, ambiguity and unsatisfactory responses (De Vaus, 2014; Bryman, 2016). Coding book was kept which contain coding instructions developed by the researcher to assist the coding process. The researcher then coded the data by giving a code to each possible response. A data summary sheet was also designed to record all codified responses prior to data entry. The data summary sheet listed the actual questions and their labels against codified responses from each questionnaire that was checked regularly to reduce the incidence of coding errors. Codified responses were then carefully entered into the SPSS version 22 software to begin analysis.

5.9.5.2 Data Analysis Techniques

The quantitative data generated from the cross-sectional survey of students have been analysed using structural equation modeling, confirmatory factor analysis and descriptive statistics including independent samples t-tests to examine the construct measures and to test the hypotheses outlined in the conceptual model in Chapter Four. The researcher believes the combination of these of analytical techniques would assist in presentation of results in manner that can be easily understood, while the strengths inherent in each technique would balance the weaknesses in the other.

Descriptive statistics analysis was performed using Statistical Package for Social Science (SPSS) version 22 in order to provide an overview of the sample population. Appropriate descriptive statistical tools such as frequency tables, the mean and the standard deviation were estimated to demonstrate the measures of central tendency and dispersions of the variables. Pallant (2010) intimated that data should first be subjected to descriptive analysis, particularly data involving variables measuring independent constructs, before any further data validation and analyses. The preference for SPSS is premised on the fact that it is a Windows programme, and it can perform highly complex data manipulation and analysis with simple instructions and can be used to generate charts, tabulated reports, descriptive statistics, and complex statistical analysis among others (Turnbull and King-HeKe, 2014).

5.9.5.3 Structural Equation Modelling

Structural Equation Modelling (SEM), a multivariate data analysis method, is used to test theoretical relationships between constructs of the study (Hair et al., 2006) and it shows parameter estimates as well as path links among constructs in the conceptual model. The use SEM technique involves the assessment of two sub-models: the measurement or outer model; and the structural or inner model (Hoyle, 2011; Fan et al., 2016). The measurement model specifies the relationships between the latent variables and their observed indicators, whereas the structural model specifies the relationships between the independent (or exogenous) and dependent (or endogenous) latent variables (Hair et al., 2006; Hoyle, 2011). An exogenous variable in the conceptual model of the study has path arrows pointing outwards and none leading to it, while an endogenous variable has at least one path leading to it and shows the effects of other variables. Hair et al. (2006) emphasised that in SEM a variable is either exogenous or endogenous.

The measurement model of the study's latent constructs comprises dimensions of perceived service quality (i.e. "teaching methodology", "environmental adequacy in study factor", "access", "placement" and "institutional or university governance"), "student perceived value" and "overall student satisfaction". SEM enables the researcher to test the structure of interrelationship among these constructs and also estimates multiple regression equations concurrently through specifying the structural model with the aim of establishing whether the hypothesised conceptual model delineated in Chapter Four is in agreement with the data gathered to reflect the theory.

The use of SEM as an analytical tool by researcher is based on the premise that it combines multiple regression analysis and factor analysis (Abramson et al., 2005) and it permits for the consideration multi-relationships between one or more independent variables and dependent variables; while other multivariate techniques can examine only a single association at a time (Tabachnick and Fidell, 2001; Hair et al., 2006). Supporting this assertion, Wang et al. (2007) indicated that SEM is a more superior analytical tool to multiple regression and factor analysis; this informs the choice of SEM approach. Furthermore, the motivation for the use SEM in this study is grounded on its applicability to both cross-sectional and longitudinal data, as well as experimental and non-experimental data (Lei and Wu, 2007). Above all the preference for SEM as the appropriate data analysis method for this thesis is rooted in its ability to isolate measurement error from the assessment of latent variables, while other multivariate techniques do not parse measurement error separately (Iacobucci, 2009).

Extant literature indicates that there are two dominant approaches of SEM: Covariance-based SEM (CB-SEM), which is widely applied for confirming or rejecting theories through testing of hypothesis using software packages such as AMOS and LISREL; and Partial Least Square SEM (PLS-SEM), which focuses on the analysis of variance with no assumptions about data distribution and is carried out using SMARTPLS, PLS-Graph or Visual PLS (Hair et al., 2011). In this study, the PLS-SEM approach is employed to identify the dimensions of university service quality having significant relationship with perceived service quality in Ghana's university sector, and to determine the strength of the relationship between perceived service and overall student satisfaction and student perceived value.

PLS was adopted considering its ability to model latent constructs using much smaller or much larger samples (Chin, 1988; Hair et al., 2011) and under conditions when normality is not satisfied (Hair et al., 2013). Unlike other methods, PLS use of both reflective and formative measures in the structural equation modelling (Vinzi et al., 2010; Ledden et al., 2011; Hair et al., 2014). In this research one of the constructs of measurement model, specifically student perceived value, is treated as multi-dimensional first order formative construct, and this influenced the choice of PLS approach. PLS has been used in extant studies to examine what constitute dimensions of service quality and its influence on satisfaction of customers/students (see e.g. Yeo et al., 2015; Ali et al., 2016).

In this study, the suitability of the items for capturing and measuring the latent constructs domain, except university governance, have been empirically tested extensively in previous studies. Therefore, the use exploratory factor analysis (EFA) may not be necessary to discover the factor structures and to examine their internal reliability. However, the 12 items developed to measure university governance construct have demonstrated a satisfactory content validity. In addition, one major objective of this research is to examine the effect of overall university governance (rather if antecedents or sub-dimensions) on students' perceived university service quality, hence the researcher does not consider it essential to perform EFA.

5.9.5.4 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a statistical tool used to confirm the factor structure of a set of observed variables (Suhr, 2000). In this study almost all the latent constructs were adopted and adapted from prior studies and CFA was employed to test empirically whether the hypothesised relationship between observed items and their underlying latent constructs exists (Iacobucci, 2009). Hair et al. (2006) intimated that an item is a variable or an indicator that is used in combination with one or more to form and measure the latent construct. The CFA allows for testing the significance of each of the item loadings and overall fit of the model (Tortosa et al., 2009; Hair et al., 2016).

In using CFA, non-significant items were subsequently deleted until standardised loadings were obtained. CFA allowed the researcher to verify that the measurement model fits reasonably well before proceeding to examine the path structure model (Browne et al., 2002 cited in Iacobucci, 2009). The choice of CFA for this study stems from its ability to rely on several statistical tests to determine the adequacy of model fit to data whereas traditional statistical tools usually use one statistical test to establish the significance of the analysis. The measurement model in SEM is assessed through CFA.

5.9.5.5 Independent Samples T-Test

Independent Samples T-Test is a statistical technique that is used to compare the difference in the means values of two samples or groups using a measure of the spread of the scores. This technique involves sampling from two populations and examining for differences in their mean values (Robson, Pemberton and McGrane, 2008). One of the key objectives of this research is to compare whether there were any significant differences apparent between Ghanaian public and private universities in terms of students' perception of service quality based on the data collected in the survey. The researcher recognizes that both groups of students from public universities and those from private universities, exist independently of each other, therefore independent t-test is deemed as the best technique to determine whether perceived service quality differ between students of public and private universities; and thus research hypothesis H6 can be tested.

This test is considered appropriate due to its ability to compare differences in the means of two samples of service quality perceptions of the two sectors, even if they have different numbers of replicates. However, there are alternative techniques such as ANOVA test, which can determine differences in the mean values for independent samples but is not adopted because ANOVA is used to compare three or more independent samples (Saunders et al., 2015). The mean ratings of public university students' perception of service quality were compared with private university students' ratings to determine if there was any apparent and significant difference. In this regard, Saunders et al. (2015) suggest that differences between the two groups is statistically significant, if the likelihood of any differences between these two groups occurring by chance alone is low, while having a large t-statistic with a probability less than 0.05.

5.9.5.6 Steps Followed by the Researcher in Analysing Data

Statistical analysis of data in this study was undertaken in six major steps, and these are: test for non-response bias; common method bias test to indicate whether data is suitable for statistical analysis; testing for suitability of employing PLS for data analysis; an assessment of measurement model and structural model using PLS; testing mediating role of student perceived value and descriptive statistical analysis using t-statistic and means to compare students' perceived service quality in Ghanaian public and private universities.

The first stage of the statistical analysis was a test for non-response using the method proposed by Lings and Greenly (2010) to determine whether there was significant difference between those who responded to the questionnaire within the first three days and those who responded after follow-up; notwithstanding an extremely high response rate achieved.

At the second stage of the data analysis, because data were collected using a single survey method, steps were taken to address probable concerns about common method bias (Podsakoff et al., 2003). This was achieved by performing the Harman's (1967) one factor test based on the approach proposed by Andersson and Bateman (1997), Podsakoff et al. (2003) and Schriesheim (1979) to control the common method variance. Podsakoff et al. (2003) state that common method variance is a variance that is attributable to the measurement method rather than to the construct of interest. This is to determine whether a single major factor may emerge to account for a majority of the variance explained by the model and the relevance is to demonstrate the data is appropriate for statistical analysis.

The third of the statistical analysis sought to establish the suitability of PLS statistical measure to analyse the sample data. To achieve this objective, the Komogorov-Smirnov and Shapiro-Wilk tests based on skewness and kurtosis of the observed variables were performed to assess normality of the data distribution so as to determine whether it is possible to proceed with the evaluation of the measurement model using PLS.

The fourth stage of the data analysis is the SEM analysis, which was undertaken in two phases. The first phase involves performing confirmatory factor analysis (CFA) within the framework structural equation modelling to assess the reliability and validity for both reflective and formative constructs of the measurement model of the study. Specifically this study employed a first-order CFA within the framework of SmartPLS version 3.2.6 (Ringle, Wende and Becker, 2015) software to conduct a statistical check for the assessment of the psychometric properties of the reflective latent variables in terms of convergent validity and discriminant validity.

Convergent validity has been assessed through factor loadings, composite reliability and average variance extracted (AVE) (Hair et al., 2006; Ali et al., 2016). Next, the discriminant validity was assessed by determining correlations between measures (Gerbing and Anderson, 1988) and using Fornel and Larker's (1981) criterion for estimating the square root of AVEs of the constructs. Further, based on the recommendations of recent research that the Fornell and Larker criterion is not effective in detecting the lack of discriminant validity in common situations (Ronkko and Evermann, 2013; Henseler et al., 2015), a more rigorous approach, the heterotrait-monotrait ratio (HTMT) of correlations, was also assessed to further establish discriminant validity of the reflective constructs (Henseler et al., 2015; Henseler et al., 2016a).

The convergent validity test was performed to show that the items of the constructs are uniquely measuring their respective constructs whereas the discriminant validity test was performed to demonstrate that one construct is uniquely different from other constructs in the model (Sultan and Wong, 2012). To test whether the proposed items that measure student perceived value construct formatively are statistically significant in the Ghanaian context, a multi-collinearity test was performed, following the recommendations of Hair et al. (1998). Having validated the reflective and formative measures, the results demonstrate the study's measurement model possesses quality statistical indices, and hence can predict structural model values.

In the second phase, structural model analysis was undertaken using SmartPLS Version 3.2.6 to analyse the path model and empirically test the research hypotheses (Hair et al., 2014; Ali et al., 2016). The predictive accuracy or coefficient of determination (R^2), path coefficients, predictive relevance (Q^2) and effect size (f^2) are the main statistical measures that were utilised to evaluate the path model (Chin, 1998; Henseler et al., 2009; Hair et al., 2011). Bootstrapping procedures (500 sub-samples) was used to estimate the statistical significance of path coefficients in testing hypotheses H1a, H1b, H1c, H1d, H1e, H2, H3, and H4. As stated by Henseler and Sarstedt (2013), Goodness-of-Fit (GoF) index is not suitable for model validation, except to assess how well a PLS path model can explain different sets of data.

Accordingly, GoF index was not employed in this study because PLS path model will not be used to explain varied sets of data.

The fifth stage of the data analysis involves testing mediating role of student perceived value on the relationship between perceived service quality and overall student satisfaction as displayed in the conceptual model in Chapter Four**.** As previously stated**,** student perceived value is the mediator if it mediates the relationship between an independent variable (perceived service quality) and a dependent variable (overall student satisfaction). The study employed the PLS-SEM approach suggested by Nitzl et al. (2016) to conduct the mediation analysis using PLS Version 3.2.6 to test hypothesis H5.

The sixth stage of the data analysis was undetaken to assess whether perceived service quality is higher in Ghanaian private universities than public universities. The researcher performed descriptive statistical analysis using independent t-statistic and means to enable him to compare students' ratings of service quality dimensions relating to hypotheses H1a, H1b, H1c, H1d, and H1e between public and private universities to test hypothesis H6. Detail discussions of the methods of analysis relating to each step with respective requirements are presented in Chapter Seven, which is Quantitative Data Analysis.

5.10 Ethical Considerations

Compliance with ethical guidelines is critical to the conduct of research particularly in the social and behavioural sciences. The researcher in the conduct of his PhD study as much as possible is guided by the London Metropolitan University Research Ethics Policy and Procedures (2021) and Code of Good Research Practice. As such for all phases of the research process there was compliance to ensure that the researcher's behaviour in relation to the rights of participants in the research project or who are affected by it were within the ethical boundaries (Saunders et al., 2015, 2019) such as obtaining informed consent, respect for privacy, and avoidance of harm and deception, as these were guaranteed to all respondents. More specifically, at the start of the research, ethical clearance was obtained from the London Met Research Ethics Review Committee, the authority responsible for ethical issues regarding staff and postgraduate students' research.

In addition, a number of ethical issues were considered, and these include the right to privacy was observed as all participants in the study were informed about the purpose and the procedures involved; and participants were informed about the outputs of the project, its aims and objectives. Besides, the researcher demonstrated a lot of professionalism during the focus group discussions. These include participants were properly briefed about who the researcher is, the assurance was given that there would be no misrepresentation or distortion in reporting the data collected, and that no information would be given out or used for a purpose other than the research purpose (Malhotra, Nunan and Birks, 2017). Participants were equally made aware of the usage of recorders and other relevant equipment. Nothing said by participants was attributed to them without first seeking and obtaining their consent.

The researcher also observed the international market standard ISO20242 and the Data Protection Act (1998) as well as the ICCE/ESOMER Code guidelines regulating marketing and social research practices that is fully compatible with the Market Research Society’s Code of Conduct (2019). Participants for the study were selected based on their willingness, and their cooperation was highly solicited. Each participant approached received an informed consent form and was asked to read and sign it. They were informed about how the data collected will be managed during and after the project. The right of the participant to withdraw from the study should there be discomfort, or any challenges experienced was guaranteed. In addition, the right to anonymity and confidentiality were considered very critical.

In this study, the questionnaire was developed in very simple language by avoiding ambiguous or misleading and deceptive questions, or double-barrelled questions or sensitive ones that could embarrass the respondents or create any misunderstandings. The information offered by the research participants were handled in a confidential manner (Saunders et al., 2019). Finally, it was observed that the study so far did not cause a threat to the psychological wellbeing, health, values or dignity of any of the participants. All audio recordings and all other information deemed sensitive by the researcher shall be destroyed immediately after a successful Viva.

5.11 Summary of the Chapter

This chapter of the study has explained the epistemological and ontological assumptions and justified the adoption pragmatism as the philosophical paradigm to guide the study on quality service delivery in Ghana’s tertiary education industry. The choice of the pragmatism paradigm informed the adoption of the mixed methods research combining both quantitative research and qualitative research designed in two phases. In line with this, the chapter continued to clearly establish the basis for the adoption of an exploratory sequential mixed methods design as the research design for the thesis, having quantitative research as the dominant phase with initial qualitative research at the beginning to develop a scale for the university governance construct. The scale developed was then subjected to content validity assessment and was used together with other latent constructs of the study to design a questionnaire for the quantitative survey. The population and sample frame for study have been described. Also, sample size and procedure, research instrument including its pilot testing and data collection procedure for each research method have also been discussed in this chapter.

Specifically, focus group discussions were used to collect qualitative data while a survey questionnaire was employed to gather quantitative data from undergraduate and postgraduate students. Furthermore, the qualitative data was analysed via a thematic analysis and a number of strategies were adopted to improve the credibility of the findings. These included the use of participant validation and member cross checking. The method of quantitative data synthesis and analysis has been clearly established. To conclude, the chapter has provided ethical guidelines observed in accordance with relevant Data Protection Legislation in conducting the study. These comprised matters relating to informed consent, right to privacy, confidentiality of participants, data protection and security. The next two chapters present the analyses of qualitative data gathered through focus group discussion and quantitative data collected using the survey questionnaire in Chapter Six and Chapter Seven, respectively.

CHAPTER SIX
ANALYSIS AND FINDINGS OF QUALITATIVE DATA

6.1 Introduction

This chapter and the next chapter, Chapter Seven, have been devoted to the analysis of the results of the data obtained for this study. This chapter covers the analysis and findings of the qualitative focus group discussions based on information gathered from 27 undergraduate and postgraduate students in one public and one private university in Ghana. The main purpose of this chapter is to analyse textual data and generate items or measures of the university governance to be used together with other latent constructs of the study to design a questionnaire for the main quantitative research of this thesis. The chapter comprises four sections and the introduction represents the first section. The second section (6.2) provides a brief overview of the initial qualitative approach. The third section (6.3) covers focus group discussion responses and analysis of results. The fourth section (6.4) presents the summary of the chapter and will also display a tabulated summary of relevant sets of items generated from the focus group discussions to measure the university governance construct.

6.2 A Brief Overview of the Initial Qualitative Research

In accordance with the use of the exploratory sequential mixed methods design, the researcher adopted the focus group discussion during the initial qualitative research phase to explore students' experiences and views concerning the governance of their university and how it affects their perception of university service quality. Specifically, four focus group discussions were held with 27 student participants (undergraduate and postgraduate) selected conveniently from the two universities. As previously indicated, university governance in the context of this study is operationalised as institutional processes that create optimal conditions for student performance in terms of in terms of how a university's systems of decision making, communication roles, resource allocation and the relationship of a university with its students are influencing their perceptions and trust in the university (Edwards 2003; Gayle et al., 2003; Middlehurst, 2013).

The researcher believes that the selected students form part of the university's social order, so could offer the requisite information on how students construct meaning of governance experience of their university to understand the phenomenon and whether it produces conditions in enhancing their performance (Denzin and Lincoln, 1994 cited in Gephart, 2004:

455). This resonates with a suggestion by Saunders et al. (2019) that interpretivist stance is characterized by an effort to uncover the meanings that participants attach to social phenomena to understand what is happening and why it is happening. This in turn would enable the researcher to generate the relevant variables derived from the analysis of the focus group data that students consider important in their assessment of the quality of university governance and whether it affects their perception of university service quality.

In Chapter 5, Table 5.2 highlights the links between the study objectives and research questions to the methods of addressing them. This chapter seeks to address the research question RQ2 that frames the focus group study and guides data analysis and results. Specific areas of questioning covered during the focus group discussions on university governance derived from university governance literature (Edwards, 2003; Pandey, 2004; Middlehurst, 2013; Mathew, 2014) include the university's system of decision making; effectiveness of the communication procedure in the university; provision of resources for teaching and learning in their university; and students' relationship with their lecturers, administrative staff, and management of their university. Additional areas of discussion focused on students' trust and confidence in authorities in handling academic and non-academic matters, and whether the governance of their university is person-based.

As stated in Chapter Five section 5.7.5, participants were assured of confidentiality, and they did not feel at risk in any way when sharing their views during discussions. Appendix C (in page 356) presents the details of demographic information of focus group participants in terms of their gender, age, level of study, programme of study and duration of study at their various universities. The focus group discussions were captured on an audio recording medium: Guest et al. (2012) recommend that data gathered through an audio medium can be analysed using thematic analysis. Accordingly, the thematic analysis technique was used to analyse data gathered to provide a true reflection of opinion concerning the quality of university governance in Ghana. In addition, thematic analysis has been considered well-suited for this study as it will enable the researcher to decipher, examine and interpret meaningful patterns or themes that emerge out of data collected (Malhotra, 2019). Furthermore, the choice of thematic analysis was because it enables the researcher to identify a limited number of major themes or categories that adequately reflect the factors that students deem essential in their assessment of the quality of university governance in Ghana's university industry. The researcher manually coded the transcripts and field notes and then collated the codes into themes. Therefore, the analysis of findings of the focus group data is organised around identified themes based on the question-by-question style adopted as reported in the subsequent section 6.3. Quotes from the focus group discussions are used to support the findings as well as to deepen readers‘ understanding.

6.3 Focus Group Discussion Responses and Analysis of Results

6.3.1 Theme 1: University Decision Making

Question 1: What is your view about the university’s system of decision making, particularly complaints handling? *(*Probe: Tell us a summary of the complaints of any sort you or any friend have made and whether it (they) affect your perception of university service quality).

At the start of the focus group discussion, the researcher explored the views of participants regarding the extent of their participation in the decision making in their university and how their levels of involvement affect their perception of the quality of service provided to them. In addition, participants were asked to indicate their satisfaction with the degree of participation and to give a scenario of a complaint made and how it was handled.

Responses: Participants overwhelmingly revealed that they are not being involved in the decision-making process in their universities and in many instances, decisions were imposed on them, whether or not they were happy with the decision(s). The participants simply described this development in their universities as an autocratic decision-making process. The participants expressed their strong dissatisfaction towards this approach of decision making where university officials do not involve them in the matters that concerned their welfare. An obviously unhappy postgraduate student puts it as follows:

“The university does not involve students in decision making process. Decision is taken by the university and then imposed on students. The authorities do things according to what pleases them and not what pleases students. Sometimes students kick against certain projects and proposed projects, which they really need to address first, like acute water supply problem at the halls, which is very important to students, but the authorities do what please them and forget about students”.

The concern about the autocratic nature of decision making was re-affirmed by another undergraduate participant who also questioned the decision-making process in the following quote:

“…In terms of decision making, I will say it is being imposed on students because, when you look at other institutions that we know of, we have the administration and the student body forming the whole process, because the administration cannot run without the students”.

Apart from the autocratic nature of the decision-making process in the universities, further probing revealed that there exist bureaucracies in the universities regarding the issue of handling complaints. The findings indicate that the complaint handling process of universities is long and sometimes students will have to follow up on issues for a very long time to have their complaints addressed or forget about the issue reported altogether. Furthermore, there is widespread dissatisfaction among participants concerning the complaint handling process of their universities and this development influences participants' perception of the quality of service provided to them. The statement below is an affirmation of that belief:

"In terms of complaint handling, I would say students don't even know which channel to use to address their complaints and I perceive this development as influencing many of us in terms of how we assess services provided by this university".

A postgraduate participant who represents graduate students on the Students' Representative Council (SRC) expressed his dissent in this way:

"*…. The decision-making process takes a very long time. It took me over 21 days to get a softcopy data on students to organize SRC elections. I had to go through the ICT directorate, Dean of Students, Pro-Vice Chancellor of students' affairs and academic affairs to be given the go ahead. The process is too long so I don't think they are providing any good service".*

An undergraduate student who leaned forward while speaking at the top of her voice declared:

"*The decision-making process is very poor. I had an incomplete (IC) in my results and the lecturer involved lied to me he had travelled out of the country, but the head of department told me he was around. The head of department also could not help me solve the problem, so I had to pay extra money to write the exam again, for a paper I didn't fail ooo!!!"*

Furthermore, a dominant thread that runs through participants' responses shows that the administrative staff takes a very long time in resolving students' complaints. The findings likewise indicate that processes students go through to lodge their complaints are cumbersome. Participants strongly asserted that administrative staff do not exhibit responsiveness and urgency, which are hallmarks of quality service delivery, in addressing their request, grievances and complaints. The statement below is typical:

"…I desire that when I make a complaint it should take a very short time to resolve… but the authorities in charge behave like they are doing the student a favour. You will be irritated when you visit the students' information centre. When students complain about issues concerning ID cards, they will not respond to you. I have a friend who got his ID in level 300. Those at the administration take a very long time in handling complaints".

Another postgraduate participant opined:

"*…A friend wrote a particular exam, and he didn't get the result online on his transcript and so he reported the case and was asked to file a report. The student wrote a letter to them and it took a long time for them to take delivery of it, they will not even acknowledge receipt of your letter…you have to follow up if the issue is not solved. …. I believe that this attitude is affecting many of us the way we see this university".*

Another postgraduate participant offered an opinion in that direction as presented below:

"*….. the university authorities listen to students' problems when raised but they do not address the problems raised by students because they do not use proper mediums".*

From the foregoing discussion, it is obvious that the main issues identified as affecting students' assessment of quality decision making in the universities in Ghana include university authorities not adequately resolving students' problems, cumbersome processes, long periods to handle students' complaints and decisions taken do not consider or include students' views. This observation confirms the popular opinion expressed in literature that students were dissatisfied with the extent of their influence on decision making, their views on academic matters were not taken into consideration, and their institutions did not provide them with adequate information on their rights (Menon, 2005).

6.3.2 Theme 2: Channels of Communication

Question 2: What channels of communication are available at your university? Do you think there is any link between the effectiveness of the communication process and your perception of university service quality?

Responses: Generally, participants were of the view that the channels of communication used by universities to convey messages or information to students include emails, text messages, notice boards, student information centre and through formal written letters as was noted by some participants:

"…There are quite a number of communication channels such as text messages, emails, and notices on noticeboards used to convey message to us."

Participants were further probed to uncover the challenges associated with these modes of communication used in conveying information to them and whether the said modes affect their perception of university service quality. A typical view expressed by participants pointed to the fact that*:*

"Notices are posted in obscure places and unless someone sees and informs you. …only a few students receive emails because email passwords are often changed without student notice, and this affects the way I see the service provided to us as not ok".

The findings show that the participants view Dean of Students' Office as the first recognised point of contact through which students are required to channel their grievances to top management. However, there was a common view that when complaints are filed through this office hardly one will receive feedback, except issues concerning finance. This is how a postgraduate participant put it:

"If you have a problem like finance, you report to the Dean of Students' Office, then they will go to finance to see to the issue. But the problem is, if there are other complaints, hardly will you get feedback on the problem".

It is worth noting that letter writing and complaint filing are the additional prescribed channels that students use in communicating their pressing issues, grievances, and requests to authorities of universities. In an apparent affirmation of this position, one undergraduate participant declared:

"……. issues with complaints, you normally file a complaint form and submit to the appropriate department. Students can also write to the Dean of Students about their issues and the Dean forwards it to an appropriate channel. But the majority of students don't know the appropriate channels to use to have their problems solved. So, on the whole I would say, effectiveness of communication channels has been poor".

On the issue of the effectiveness of communication channels identified, some participants argued loudly that these channels of communications are not effective in creating conditions that will enhance student performance. A postgraduate participant commented:

"There is no effective level of communication in this university because nobody gets to hear anything. Information from the top comes across easily, but when it is from student to the top, then it becomes a problem".

Another undergraduate participant commented:

"…the channels of communication are not effective. The channel is there but someone is not doing his or her work and this really affects my view whether they are concerned in providing excellent service to students as they profess to be doing."

Hence, within universities under investigation, it is evident that the channels through which information is disseminated and communicated to students exist, but they are not effective and, to some extent, when complaints were made to authorities, they usually fail to respond to the complaints lodged. Moreover, the process tends to be very bureaucratic.

6.3.3 Theme 3: Resource Allocation

Question 3: As a student what observations have you made so far with respect to provision of resources for teaching and learning in your university? (Probe: how it affects their performance and perception of their university quality service delivery).

Responses: A common view expressed pointed to the fact that adequate resources exist for teaching and learning in the two institutions. Participants said that they have very good lecture halls, washrooms, and library facilities and they indicated provision of such resources aid learning and create a conducive environment for their academic work. For example, one undergraduate participant from the private university stated:

"I will say that the provisions of facilities are good. I always have access to the library and the classrooms even on weekends. We are fine in terms of the provision of facilities and lecturers are always available for class lessons. There is regular supply of power and washrooms are available".

Another postgraduate participant claims:

"I have used the lecture halls and I think they are in perfect shape. I have access to the library and the classrooms even on weekends".

The findings further indicate that, notwithstanding the availability of good facilities that support teaching and learning in these universities, there was a lack of maintenance of these facilities. This is evident in the statement of a postgraduate participant of a public university:

"The resources exist but the maintenance culture is poor. Microphones have weak batteries and students have to contribute and use their pocket money to buy new batteries before the lectures can go on. The washrooms are also not well kept".

The participants called for a better maintenance and supervision culture when it comes to the provision of resources. Participants believed that management should not only sit in their offices but rather step out of their comfort zones to monitor the activities of the other staff members to ensure that quality service is delivered to stakeholders, particularly students. An undergraduate participant of a private university declared:

"…… Management should not only sit in the office, but they should also supervise and ensure work is done…… there is more room for improvement in the management of the university to ensure better service is provided to students".

Some students lamented about the inability of the university to update its library periodically, despite the payment of library fees. In addition, they indicated that there is a lack of effective coordination between lecturers and management of the library to ensure that adequate and relevant books are made available to students for their studies. This is how a postgraduate participant from the public university puts it:

"We pay library fees, but relevant books are not available for our studies…I think that there is a gap between the business school library and the lecturers. For example, when a lecturer recommends a textbook, the librarian might not be aware that the book has been recommended. I quite remember we took a course, and we didn't have a single textbook for the course and so what the lecturer did was to ask the librarian to order the books for us although at the initial case it wasn't available right up to the middle of the course. We didn't have access to any textbook for that particular course and so I think there should be collaboration between the lecturers and the university library systems so that whatever books that they have recommended to students can be stocked in the library".

Another postgraduate participant of a private university commented:

"*…. I hardly see business books being bought. I know that in our library here there is a special reference library where you get our books for business if the lecturers recommend it, you will get it but the question is, we are about 60 students taking advance entrepreneurship and they have only 1 or 2 books and the thing is that someone will even go and hide it in the library"*

Besides, participants believed the lack of internet services at vantage locations on campus makes access to information for academic research difficult. Participants added that the ICT centres are not adequate to accommodate students who require the use of this facility at a particular time whilst the "wifi" service was not well managed. Participants, therefore, pointed out that they face internet problems on their campuses even though they paid for this service. This development was perceived by participants as unfair treatment of students. This opinion is affirmed by the following statement:

"The internet fee component in our bill is 180 Ghana cedis (£23.08), but we cannot access internet in our halls, classroom and some part of campus. The "wifi" does not work often, and students have to walk to ICT centre, which cannot accommodate a lot of students and I think the authorities have not been transparent and fair to students given the amount we paid for internet service".

Another undergraduate participant commented saying:

"…the student Wi-Fi is another resource challenge. It is not working as I speak now".

In conclusion, it is obvious from the results obtained that even though the universities possess nice lecture halls, the institutions lack a good maintenance culture and stable internet connections and these affect students' overall performance. There is a lack of effective coordination between library management and lecturers to ensure adequate and relevant textbooks are available in the library.

6.3.4 Theme 4: Students Relationship with their University

Question 4: How would you describe your relationship with lecturers, administrative staff, and management of your university? In your opinion does it enhance your performance as a student?

Responses: Replies gathered appeared to show that students in general have a good personal relationship with their lecturers since they are their first point of contact in academic delivery. There was a consensus among participants that where the student to lecturer ratio is low this tends to create a congenial university environment that promotes effective teaching and learning, and this does influence their perception of service quality. This is evident in the following quotes. An undergraduate participant of the public university claims:

"… I have been able to establish a relationship with my lecturers. I see some lecturers as counsellors and people I can seek advice from. … I'm ok with the relationship with lectures".

Another postgraduate participant of the private university commented saying:

"*At the faculty level, I will say the relationship is very good and near excellent because immediately you report an issue, they try to solve it and even invite students to a round table discussion on certain issues. I have confidence in the faculty, they are up to the task and I will say that this enhances teaching and learning in this university".*

Conversely, participants reported that the relationship between the students' body and administrative staff is not cordial. They were of the view that what they are being taught by their lecturers is not what is practised at the administrative level. According to students, this behaviour is perceived as poor customer service rendered to them. The statement below espouses that opinion:

"*… The relationship of the administration staff is nothing to write about, the administration staff will talk to you as if you are a thorn in their flesh. I remember one administrative staff drove me out of her office because I asked a question about something I needed an answer to. This really affected my perception of the service delivered in this university"*

.

Another postgraduate participant from the public university similarly declared:

"The problem of administrative staff is poor attitude towards students. I'm not satisfied with poor service from the administrative staff".

A critical look at these responses may probably suggest that some selected student participants may be bias in their views given that they were not randomly chosen. However, the minority of participants indicated that they have a cordial relationship with the administrative staff until they had incomplete grade (IC) in their results slip. They mentioned that in the process of addressing the problem the relationship then became unpleasant. This is how one undergraduate participant put it:

"*I have a cordial relationship with the administrative staff, and I only had a problem when I had my IC issue with my results".*

In describing the relationship between student and management, participants pointed out that the relationship becomes friendly if only they agree with management. This position was opined by a postgraduate participant as follows:

".... Relationship with management is friendly when you agree with their decision and aggressive when you do not agree with them. They see you as disobedient when you don't agree with them. So, relationship with management has been bad and not the best. Relationship with administrative staff has been cordial to a point. They brand you differently when you disagree with them; students who agree with them are their friends".

A few participants also reported that they had not seen and do not even know management of the university. Some other participant reiterated that:

"*…there is no close relationship between student and management at their various faculties. You can be in the University of Ghana for 4 years without knowing your course advisor or even head of department. I personally don't even know the senior tutor in my hall. They take the decisions without student knowledge".*

Another undergraduate participant stated:

"I see there is an excellent relationship at the faculty level, particularly between faculty and the students' body. However, we do not have direct contact with management. Management shows itself through the departments and faculties. So on the whole, I will say our relationship with faculty and management has been excellent".

From the discussions, it has been established that the students have good relations with their lecturers that enhance their academic performance; administrative staff offer unfair treatment to students, and sometimes the relationship between students and management becomes friendly when students tend to agree with them. This reinforces recent findings that students' fair treatment and perceptions of service quality depend both on engaging interpersonal relationships and effective systems (Lizzio, Wilson, and Hadaway, 2007).

6.3.5 Theme 5: Confidence and Trust in Authorities

Question 5: How do you assess your trust and confidence in authorities of your university in handling issues pertaining to academic and non-academic matters? (Probe: specific issues such as grading system, etc. and what their effects are on service quality).

Responses: The dominant factors that were regularly cited by participants in assessing trust and confidence in authorities of university institutions, which in turn impact their performance and perception of university service quality, include: transparency of grading system; pricing of tuition fees; behaviour of lecturers; and leadership of the institutions. The findings show that the trust engendered between students and various categories of authorities create environments that influence student performance. The opinion was widespread among the participants that even though lecturers are doing exceptionally good work, mistakes sometimes made by them in grading students' quizzes, term papers and examinations have affected students' academic performance, and this has resulted in their dissatisfaction with the institution. The comment below is an affirmation of that belief:

"…. lecturers sometimes make mistakes with the grading and awarding of marks for quizzes and exams and when you complain I see no one cares about anybody. I don't have trust and confidence in the grading system, and I feel strongly dissatisfied. People to supervise are not doing their work".

However, participants overwhelmingly agreed that they have trust and confidence in their lecturers when it comes to their availability to deliver academic work. A student who seemed happy and was clapping hands about the subject matter added that:

"…lecturers are available and accessible. From my point of view, the lecturers hardly absent themselves from lectures and even if they do, another date is set for the lecture to be held. I would say my level of trust and confidence in lecturers regarding teaching is excellent. This really makes me think that I'm in an academic environment where teaching and learning is intended to improve students' performance".

Further probing revealed that the minority of participants were of the view that the pricing mechanism used in determining tuition fees is not transparent and this, therefore, erodes their trust and confidence in the university. An obviously unhappy participant of a private university put it as follows:

"…In determining school fees there is no transparency in allocating the charges since students are not part of the decision making".

A common view expressed by participants indicates that the prerequisite for one to know an "influential person in authority" before one's concerns can be addressed has diminished participants' trust and confidence in the leadership of the institutions. This is how an undergraduate participant from the public university expressed his position:

"For this university if I am to grade my trust 1 out of 10, one being lowest level of trust and ten being highest, I will say my trust is 3.5. My reason is that if you do not have a personal relationship with somebody who can intervene on matters that concern you then you have to forget it".

A weak communication system has been identified as another lapse in system that affects students' trust. A participant declared:

"…I have less confidence and trust in authorities because you don't even know where to report an issue when you have a problem in this university environment".

Based on the above views expressed by participants, it may be possible that some selected student participants may be biased in their views because they may have "an axe to grind" with some staff. Nevertheless, it is obvious from the above discussion that students employ lecturers' availability during lecture hours, transparency of grading systems, pricing mechanism used in determining tuition fees as well as lecturers and leadership behaviours to assess their trust and confidence in authorities. This position is in tandem with views espoused in the literature that the level of trust between students and lectures determine the instructional climate in schools (Adams, 2013) while leadership behaviours contribute to student achievement (Louis et al., 2010).

6.3.6 Theme 6: Person-Based University

Question 6: Do you perceive the way your university is being governed as too much person-based**?** Do you agree with this and why**?** (Probe: if it is, then how does it affect university service quality).

Responses: Over a third of participants stated that the university they attend is not based on one person or a selected personality when it comes to decisions from authorities. They attributed this assertion to the fact that one person does not make the decision and even though the chancellor/vice-chancellor may have influence, it is only to an extent. A response in that direction coupled with reasons is captured in the statement below:

"*…the university is not person based because decisions are not taken by one person. Thus, a lot of people are managing affairs of the university. The chancellor, vice chancellor, and other authorities make decisions for the school. The vice chancellor is seen as taking the decision but that is not the case".*

Another postgraduate participant from the private university claimed:

"*When I look at the university structure, I see a little influence from the Chancellor. So, I will say the university is not person-based. The Chancellor has delegated most of the tasks to people who work on his behalf. Moreover, people manage the schools and faculties, and the Chancellor is not the sole decision-making body*".

Further probing unveiled that the university not being person-based allows decision making to be dispersed across a wide range of persons and creates an atmosphere of openness and trust in universities. According to the participants, this guarantees good student performance, thereby affecting the way they perceived the university service delivered to them.

"People manage the school and many people being involved create openness in the university. This breeds trust and confidence in me because I do not see the university as a one man show. I see many notable personalities involved in decision making in this university and this is helping to improve the university".

There were, however, a few participants, particularly from the private university sector, who believed that their university is person-based; nonetheless, they could not support their observations with examples or facts. Below is a typical comment in that direction:

"……. the university is person-based; and there are particular staff that are selected for various positions. So, if you are not related to the founder, you don't get certain appointment".

Thus, there is a dominant impression among participants that the decision making in the universities are not person-based. This suggests that the management of the two universities extend beyond the authority of a single person to the views and potential contributions of key stakeholders. However, findings from section 6.2.1 show that students most often were excluded from this decision making in these universities.

6.4 Summary of the Chapter

The analyses of the qualitative results have established some sets of variables that students considered important in their assessment of the quality of university governance and how it affected their perception of university service quality in Ghana. Results from focus group discussions showed that students, in assessing university governance, emphasised the importance of enhancing communication channels; coordination in the administration of the universities; reduction in duration in handling students' complaints; and inclusion of students in decision making regarding matters that concern them. In addition, there was consensus among participants that the two universities have nice facilities including lecture halls and libraries among others; however, the lack of a maintenance culture, cumbersome complaint handling procedures, unstable internet connections and inadequate books in the library affected students' performance as well as the perception of quality service delivery in these institutions.

Furthermore, the findings established a lack of transparency in the grading system; accountability in fixing fees; and unfair leadership behaviour such as not adequately resolving students' complaints and the phenomenon of knowing an influential person in authority before complaints can be resolved derailed students' trust and confidence in the authorities. The findings also affirmed that students' assessment of university governance acknowledged a good relationship between students and lecturers; however, participants were displeased with services provided by administrative staff. Lastly, it can be concluded from the discussions of findings that universities in Ghana are not person based. The issue of a university being person based was a perception of only a few student participants.

The researcher acknowledged that generalization of findings in this chapter may be a limitation of this study because the sample sizes in the focus group interviews were relatively small. The importance of the findings is that a set of measures or indicators derived from the themes have been generated to measure university governance from students' perspective. These indicators of the university governance construct are to be used in the questionnaire design together with other dimensions of service quality derived from extensive review of literature to measure university service quality in a large quantitative survey as demonstrated in Chapter Five. The summary of the set of measures of university governance generated via the focus group discussion was presented to participants in a separate follow up meeting to ensure the credibility of findings before an assessment of their content validity. Table 6.1 presents a summary of the set of measures of university governance participants considered to influence their perceived university service quality in the context of this qualitative study.

Table 6.1: Summary of indicators or measures of university governance that affect university service quality

1. Communication channels available in these universities are ineffective
2. There is ineffective coordination of activities in the administration of the universities
3. Duration in handling students' complaints in this university is long
4. Students are not included in decision making regarding matters that concern them
5. The universities have nice facilities including lecture halls, libraries etc.
6. There is a poor maintenance culture in the universities
7. Complaint handling procedures in the universities are cumbersome
8. There is unstable internet connections in the universities
9. There are inadequate books in the library of the universities
10.The grading system in the universities is not transparent
11. There is a lack of transparency in fixing fees in the universities
12. The university leadership demonstrates unfair behaviour such as not adequately resolving students' complaints
13.There is a good relationship between students and lecturers in the universities
14. Students are displeased with services provided by the administrative staff of the universities
15. Decision making in the universities extend beyond the authority of a single person i.e. universities in Ghana are not person based.

Source: Field Data, 2016

The next step involves the new measures or items generated representing the university governance construct to be evaluated for their content validity assessment prior to their use to design the draft questionnaire for the quantitative study. This is to ensure that each individual item is representative of an aspect of the university governance construct and the entire items as a set are collectively representative of the entire content domain of the university governance (MacKenzie et al., 2011) viewed from students' perspective as creating optimal conditions for their performance. The content adequacy of new measures of university governance generated has been explained and validated in the preceding chapter (Chapter Five, section 5.9.2 p.182). Content validity was achieved through subjective expert reviews and pilot testing (Hair et al., 2010).

The next chapter will cover the quantitative data analysis after survey data have been gathered to test research hypotheses of the study to see what relationships could be identified. This will help determine whether the university governance construct, as a potential first-order reflective latent construct, satisfies the criteria of both convergence and discriminant validity and, subsequently, has a significant impact on students' perceived service quality in Ghana's university industry. This will help draw the relevant conclusions and make appropriate recommendations in the last chapter of the study.

CHAPTER SEVEN

QUANTITATIVE DATA ANALYSIS

7.1 Introduction

This chapter provides information on the quantitative data analysis process and presents its findings on the survey data gathered from 800 student respondents in Ghana's public and private university sectors. The analysis focuses on an assessment of the background characteristics of the respondents, measurement model, structural model, mediation testing and how T-test is performed to compare service quality levels perceived by public and private university students. As stated previously, the measurement model of the study is represented by student perceived value, overall student satisfaction, and the five dimensions of perceived service quality. These five dimensions include teaching methodology, environmental adequacy in study factor, access, placement, and institutional or university governance.

This chapter is structured into eight sections with section 7.1 serving as the introduction. The second section (7.2) highlights the 10 proposed research hypotheses of the study. The third section (7.3) presents the respondents response rate and background characteristics. The fourth section (7.4) explains the method used for data analysis and how data is examined to justify the choice of PLS analytical tool to evaluate the measurement and structural models. Then, in the fifth section (7.5), an assessment of the measurement model using confirmatory factor analysis (CFA) within the framework of PLS Structural Equation Modelling (SEM) is carried out to establish reliability and validity of both reflective and formative latent variables of the measurement model. This is to determine whether the measurement model used in the study is not only valid and reliable but also justified to proceed to assess the structural model. So, the sixth section (7.6) examines the relationships, if any, between exogenous, intermediate, and endogenous variables of the structural model to determine their explanatory and predictive powers. It also presents testing of the mediation role of student perceived value on the relationship between perceived service quality and overall student satisfaction. These will permit the research hypotheses to be tested to address the study objectives and research questions. In the seventh section (7.7), a descriptive statistical analysis is performed using t-statistic and means to assess hypothesis H6 that compares public and private universities in terms of students' perceived service quality levels. The chapter then ends with a summary of the chapter as presented in eighth section (7.8).

7.2 Recalling the Hypotheses to be Tested from Chapter Four

H1a: Higher perceived level of teaching methodology leads to a higher perceived level of university service quality.

H1b: Higher perceived level of environmental change in study factor leads to a higher perceived level of university service quality.

H1c: Higher perceived level of access leads to a higher perceived level of university service quality.

H1d: Higher perceived level of placement leads to a higher perceived level of university service quality.

H1e: Higher perceived level of institutional (or university) governance leads to a higher perceived level of university service quality.

H2: Perceived service quality has a positive and significant effect on overall student satisfaction.

H3: Perceived service quality has a positive and significant effect on students' perceived value.

H4: Student perceived value has a positive and significant effect on overall student satisfaction.

H5: Student perceived value mediates the association between perceived service quality and overall student satisfaction.

H6: Perceived service quality is higher in Ghanaian private universities than public universities.

7.3 Response Rate and Respondents' Characteristics

7.3.1 Response Rate

A target of 800 questionnaires based on sample size requirements was administered to respondents in both public and private universities in Ghana. At the end of the data collection period, 778 usable questionnaires were received after carefully editing all returned questionnaires, representing an overall response rate of 97.3%. The details of the response rate per university are presented in Table 7.1 below.

Table 7.1: Response Rates

Type of University	Undergraduate	Postgraduate	Total	Response Rate
Public Universities				
1. University of Ghana	60	19	79	98.8%
2. Kwame Nkrumah University of Science and Technology	60	20	80	100%
3. University of Cape Coast	59	20	79	98.8%
4.University of Professional Studies Accra	60	19	79	98.8%
5. University of Education	55	18	73	91.3%
Private Universities				
1. Central University	60	20	80	100.0%
2. Valley View University	58	19	77	96.3%
3. Methodist University College	60	20	80	100.0%
4. Wisconsin University College	58	20	78	97.5%
5. Pentecost University College	56	17	73	91.3%
Total	**586**	**192**	**778**	**97.3%**

Source: Field data 2016

7.3.2 Respondents' Characteristics

Respondents' characteristics (gender, age group, programme of study, type of university being attended and academic level) are reported in Table 7.2. For gender, the majority (51.9%) of the respondents were males and the rest (48.1%) were females. This indicates a fair representation of both genders in the business schools of the ten selected universities in Ghana. With regards to age group, a very large majority of the respondents constituting a total of 85.2% were between the ages of 21 and 39 years. Specifically, respondents between 21 and 29 years of age accounted for 59.8%, while those between 30 and 39 years of age constitute 26.3%. Only 5.7% of respondents were 40 years and beyond.

An analysis of respondents' programmes of the study indicates that a high proportion of the students were undertaking marketing (26.1%) followed by human resource management (18.5%), accounting (15.6%), logistics & supply chain management (14.3%), banking & finance (13.4%) and management (11.2%). The least patronised programme is agribusiness (1%). Of all the respondents, half (50.1%) were selected from public universities, while the rest (49.9%) were chosen from private universities. This is to have a balanced perspective of students to facilitate a comparison of service delivery across public and private sectors (as indicated in Chapter Four).

Likewise, to ensure a proportional representation of academic levels of study in this research that may reflect overall student opinion, 75.1% of surveyed respondents are studying for a bachelor's degree, whereas 24.6% are pursuing master's degree programmes. This is consistent with the guidelines on Norms for Tertiary Education for Ghana, which specifies that postgraduate enrolment constitutes 25 percent of total student enrolment (NCTE, 2012). However, doctoral students were excluded from this study because none of the private universities are offering a doctoral programme at the postgraduate level.

Table 7. 2: Respondents' Characteristics

Variables	Frequency	Percent
Gender		
Male	404	51.9
Female	374	48.1
Age group		
18 to 20 years	71	9.1
21 to 24 years	263	33.8
25 to 29 years	195	25.1
30 to 34 years	117	15
35 to 39 years	88	11.3
40 years and above	44	5.7
Type of university		
Public university	390	50.1
Private university	388	49.9
Academic level		
Bachelor degree	588	75.6
Master degree	190	24.4
Programme		
Accounting	121	15.6
Agribusiness	8	1.0
Banking and Finance	104	13.4
Human resource management	144	18.5
Management	87	11.2
Marketing	203	26.1
Logistics & Supply Chain Management	111	14.3
Total	**778**	**100**

Source: Field data 2016

7.4 Data Analysis Method and Data Examination

The data analysis was undertaken using Structural Equation Modelling (SEM) in two steps as proposed in Chapter Five section 5.8.5.6. First, confirmatory factor analysis (CFA) within the framework structural equation modelling was performed to evaluate the measurement model to assess constructs' reliability and validity. Second, structural model analysis was undertaken to test the research hypotheses empirically (Hair et al., 2014; Ali et al., 2016). Specifically, SEM based on partial least squares (PLS) using SmartPLS version 3.2.6 software (Ringle, Wende and Becker, 2015) was used to perform the two-stage analysis. As was stated in Chapter Five section 5.8.5.3, PLS was adopted because it is an excellent method of analysis for larger samples (Hair et al., 2017) and under conditions when normality is not satisfied (Hair et al., 2013).

PLS also estimates each causal subsystem of paths separately (Gerbing and Anderson, 1988; Wold, 1982) thus making it less stringent than LISREL. Furthermore, PLS was adopted for this study due to the use of both reflective and formative measures in the structural equation modelling (Hair et al., 2014; Ledden et al., 2011; Vinzi et al., 2010; Lee et al., 2006; Nijssen and Douglas, 2008; Alpert et al., 2001). Accordingly, to proceed with PLS analysis, it is important to establish the suitability of sample data for the analysis.

7.4.1 Testing for the Suitability of the Data for Analysis

First, a test for non-response bias was undertaken by the researcher using the method proposed by Lings and Greenly (2010), notwithstanding an extremely high response rate achieved. A comparison of the mean value results for the scale items as detailed in Table 7.3 below revealed that there was no significant difference between early respondents (i.e., mean value of those who responded within the first three days) and late respondents (mean value of those who responded after follow-up), thus re-affirming the absence of non-response bias (Lings and Greenly, 2010). In Table 7.3 below, PSQTs, PSQEs, PSQAs, PSQPs and PSQIs refer to items relating to teaching methodology, environmental adequacy in study factor, access and institutional (or university) governance, respectively. Likewise, SVs and OSSs correspondingly represent measures of student perceived value and overall student satisfaction.

Table 7. 3: Mean Comparison of Early Respondents and Those who Responded After Follow-up

Item	Type of respondent	Number	Mean	Std. Deviation	Std. Error Mean
PSQT1	First 3 days	517	5.27	1.704	.075
	Followup	261	5.36	1.436	.089
PSQT2	First 3 days	517	5.57	1.394	.061
	Followup	261	5.59	1.176	.073
PSQT3	First 3 days	517	5.04	1.573	.069
	Followup	261	5.01	1.468	.091
PSQT4	First 3 days	517	5.67	1.455	.064
	Followup	261	5.53	1.391	.086
PSQT5	First 3 days	517	5.70	1.368	.060
	Followup	261	5.67	1.292	.080
PSQT6	First 3 days	517	5.32	1.524	.067
	Followup	261	5.49	1.335	.083
PSQT7	First 3 days	517	5.47	1.347	.059
	Followup	261	5.57	1.370	.085
PSQT8	First 3 days	517	5.28	1.417	.062
	Followup	261	5.28	1.365	.084
PSQE1	First 3 days	517	5.24	1.726	.076
	Followup	261	4.94	1.508	.093
PSQE2	First 3 days	517	4.62	1.833	.081
	Followup	261	4.80	1.573	.097
PSQE3	First 3 days	517	4.19	1.777	.078
	Followup	261	4.48	1.623	.100
PSQE4	First 3 days	517	4.12	1.904	.084
	Followup	261	4.18	1.823	.113
PSQE5	First 3 days	517	5.16	1.707	.075
	Followup	261	4.95	1.661	.103
PSQE6	First 3 days	517	4.79	1.786	.079
	Followup	261	4.75	1.729	.107
PSQA1	First 3 days	517	5.15	1.630	.072
	Followup	261	5.00	1.441	.089
PSQA2	First 3 days	517	5.12	1.687	.074
	Followup	261	4.81	1.583	.098
PSQA3	First 3 days	517	4.97	1.800	.079
	Followup	261	4.66	1.754	.109
PSQA4	First 3 days	517	5.09	1.549	.068
	Followup	261	5.05	1.401	.087
PSQA5	First 3 days	517	4.82	1.621	.071
	Followup	261	4.79	1.505	.093
PSQA6	First 3 days	517	4.75	1.570	.069
	Followup	261	4.78	1.479	.092
PSQP1	First 3 days	517	4.93	1.861	.082
	Followup	261	5.10	1.666	.103
PSQP2	First 3 days	517	4.82	1.632	.072
	Followup	261	5.06	1.417	.088
PSQP3	First 3 days	517	4.35	1.631	.072
	Followup	261	4.62	1.483	.092
PSQP4	First 3 days	517	4.38	1.623	.071
	Followup	261	4.59	1.508	.093
PSQP5	First 3 days	517	5.18	1.603	.070
	Followup	261	5.32	1.354	.084
PSQP6	First 3 days	517	4.93	1.487	.065
	Followup	261	5.06	1.362	.084
PSQP7	First 3 days	517	4.67	1.629	.072
	Followup	261	4.89	1.474	.091

PSQI1	First 3 days	517	2.74	1.635	.072
	Followup	261	2.89	1.740	.108
PSQI2	First 3 days	517	4.58	1.776	.078
	Followup	261	4.58	1.576	.098
PSQI3	First 3 days	517	4.11	1.956	.086
	Followup	261	4.23	1.832	.113
PSQI4	First 3 days	517	4.41	1.759	.077
	Followup	261	4.50	1.663	.103
PSQI5	First 3 days	517	4.68	1.788	.079
	Followup	261	4.90	1.572	.097
PSQI6	First 3 days	517	4.28	1.811	.080
	Followup	261	4.41	1.747	.108
PSQI7	First 3 days	517	4.48	1.683	.074
	Followup	261	4.50	1.633	.101
PSQI8	First 3 days	517	4.25	1.689	.074
	Followup	261	4.29	1.725	.107
PSQI9	First 3 days	517	4.47	1.636	.072
	Followup	261	4.55	1.599	.099
SV1	First 3 days	517	5.62	1.468	.065
	Followup	261	5.64	1.313	.081
SV2	First 3 days	517	5.89	1.258	.055
	Followup	261	5.89	1.194	.074
SV3	First 3 days	517	6.07	1.228	.054
	Followup	261	6.01	1.231	.076
SV4	First 3 days	517	5.74	1.388	.061
	Followup	261	5.69	1.289	.080
SV5	First 3 days	517	6.00	1.257	.055
	Followup	261	5.93	1.230	.076
SV6	First 3 days	517	5.93	1.162	.051
	Followup	261	5.81	1.235	.076
SV7	First 3 days	517	5.88	1.299	.057
	Followup	261	5.84	1.237	.077
SV8	First 3 days	517	5.45	1.462	.064
	Followup	261	5.44	1.362	.084
SV9	First 3 days	517	5.68	1.422	.063
	Followup	261	5.47	1.263	.078
SV10	First 3 days	517	5.63	1.332	.059
	Followup	261	5.33	1.327	.082
SV11	First 3 days	517	5.73	1.254	.055
	Followup	261	5.49	1.291	.080
SV12	First 3 days	517	5.88	1.314	.058
	Followup	261	5.89	1.212	.075
SV13	First 3 days	517	5.87	1.301	.057
	Followup	261	5.77	1.254	.078
SV14	First 3 days	517	5.86	1.349	.059
	Followup	261	5.82	1.217	.075
SV15	First 3 days	517	5.73	1.317	.058
	Followup	261	5.67	1.217	.075
SV16	First 3 days	517	5.57	1.480	.065
	Followup	261	5.51	1.346	.083
SV17	First 3 days	517	5.68	1.472	.065
	Followup	261	5.64	1.328	.082
SV18	First 3 days	517	4.68	1.950	.086
	Followup	261	4.70	1.851	.115
SV19	First 3 days	517	5.11	1.768	.078
	Followup	261	5.12	1.548	.096
SV20	First 3 days	517	5.24	1.729	.076

	Followup	261	5.42	1.640	.102
SV21	First 3 days	517	5.13	1.870	.082
	Followup	261	5.23	1.606	.099
SV22	First 3 days	517	5.2476	1.73558	.07633
	Followup	261	5.4330	1.64793	.10200
OSS1	First 3 days	517	5.17	1.578	.069
	Followup	261	4.98	1.446	.090
OSS2	First 3 days	517	5.66	1.395	.061
	Followup	261	5.46	1.213	.075
OSS3	First 3 days	517	5.31	1.488	.065
	Followup	261	5.26	1.245	.077
OSS4	First 3 days	517	5.05	1.621	.071
	Followup	261	5.05	1.430	.088
OSS5	First 3 days	517	4.55	1.909	.084
	Followup	261	4.77	1.627	.101
OSS6	First 3 days	517	5.26	1.551	.068
	Followup	261	5.22	1.368	.085
OSS7	First 3 days	517	5.58	1.508	.066
	Followup	261	5.48	1.363	.084

Source: Field data 2016

Second, because data were collected using a single survey method, steps were taken to address probable concerns about common method bias (Podsakoff et al., 2003). Procedural remedies adopted in the design of the survey questionnaire to prevent the bias comprised questions that were kept as simple and specific as possible to reduce item ambiguity to minimize acquiescence bias (Lings and Greenly, 2010; Podsakoff and MacKenzie, 2012). In addition, Harman's (1967) one-factor test based on the approach proposed by Andersson and Bateman (1997), Podsakoff et al. (2003) and Schriesheim (1979) was performed by testing the study's conceptual model using survey data from students to determine whether a common method variance bias exits. Extraction of only the first factor from the conceptual model using Harman's one-factor test showed that the factor accounted for about 33.4% of variance explained, which is less than 50% variance recommended by the authors; thus, suggesting that the data contain no substantial common method bias that poses a major threat for the data. Therefore, drawing from the above arguments, the data is considered appropriate for statistical analysis. Next, the suitability of PLS for data analysis was investigated via normality diagnosis.

7.4.2 Testing for the Suitability of Partial Least Squares (PLS) for Data Analysis

To affirm the suitability of the PLS statistical measure to analyse the sample data, Kolmogorov-Smirnov and Shapiro-Wilk tests based on skewness and kurtosis of the observed variables were performed to assess the normality of the data distribution. For these two tests, it is recommended that a significant value less than 0.05 indicates a deviation from normality, while a significant value greater than 0.05 suggests the data is normal (Field, 2017; Yap and Sim, 2011; Hair et al., 2013, p71). Table 7.4 below details the results on normality diagnosis. An analysis of the results scale items used in the study questionnaire indicated that twenty-four items had kurtosis > ±1.0; whereas thirty-two items had skewness > ±1.0. More importantly, the Kolmogorov-Smirnov test of normality showed that $0.143<\alpha<0.274$; $p<0.01$ for all items. Similarly, the Shapiro-Wilk test of normality showed that $0.748<W< 0.935$; $p<0.01$ for all items. What is more, the Shapiro-Wilk test, which is the most powerful test of normality, had the values of all items less than 1, implying the absence of normality in the distribution (Razali and Wah, 2011)**.**

Equally**,** the items of the constructs were all measured using Likert-scale being an example of ordinal scales, thus suggesting nonparametric situations (Kaplan, 2009). The results, therefore, provide evidence that the data is not normally distributed, thus confirming the appropriateness of the use of PLS statistics. Consequently, it is possible to proceed with the evaluation of the measurement model using PLS.

Table 7.4: Normality Diagnostics

	Mean	Std. Deviation	Skewness		Kurtosis		Kolmogorov-Smirnov		
Items	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	Statistic	df	Sig.
PSQT1	5.3	1.619	-1.219	0.088	0.814	0.175	0.261	778	0
PSQT2	5.58	1.324	-1.375	0.088	2.043	0.175	0.253	778	0
PSQT3	5.03	1.537	-0.795	0.088	-0.007	0.175	0.201	778	0
PSQT4	5.62	1.434	-1.34	0.088	1.47	0.175	0.254	778	0
PSQT5	5.69	1.342	-1.359	0.088	1.74	0.175	0.271	778	0
PSQT6	5.38	1.465	-1.116	0.088	0.888	0.175	0.239	778	0
PSQT7	5.51	1.355	-1.202	0.088	1.443	0.175	0.251	778	0
PSQT8	5.28	1.399	-1.003	0.088	0.842	0.175	0.207	778	0
PSQE1	5.14	1.661	-0.942	0.088	0.182	0.175	0.202	778	0
PSQE2	4.68	1.751	-0.581	0.088	-0.599	0.175	0.187	778	0
PSQE3	4.28	1.732	-0.305	0.088	-0.726	0.175	0.143	778	0
PSQE4	4.14	1.877	-0.23	0.088	-1.065	0.175	0.149	778	0
PSQE5	5.09	1.693	-0.914	0.088	0.038	0.175	0.208	778	0
PSQE6	4.78	1.766	-0.653	0.088	-0.506	0.175	0.177	778	0
PSQA1	5.1	1.57	-0.919	0.088	0.244	0.175	0.207	778	0
PSQA2	5.01	1.658	-0.842	0.088	-0.104	0.175	0.211	778	0
PSQA3	4.87	1.79	-0.721	0.088	-0.477	0.175	0.201	778	0
PSQA4	5.07	1.5	-0.836	0.088	0.248	0.175	0.19	778	0
PSQA5	4.81	1.582	-0.723	0.088	-0.121	0.175	0.2	778	0
PSQA6	4.76	1.539	-0.627	0.088	-0.15	0.175	0.179	778	0
PSQP1	4.98	1.799	-0.772	0.088	-0.339	0.175	0.195	778	0
PSQP2	4.9	1.566	-0.797	0.088	0.133	0.175	0.191	778	0
PSQP3	4.44	1.587	-0.446	0.088	-0.34	0.175	0.163	778	0
PSQP4	4.45	1.588	-0.477	0.088	-0.341	0.175	0.158	778	0
PSQP5	5.23	1.525	-0.96	0.088	0.552	0.175	0.204	778	0
PSQP6	4.97	1.447	-0.646	0.088	0.196	0.175	0.178	778	0
PSQP7	4.74	1.581	-0.64	0.088	0.026	0.175	0.16	778	0
PSQI1	2.79	1.671	0.728	0.088	-0.402	0.175	0.188	778	0
PSQI2	4.58	1.711	-0.613	0.088	-0.403	0.175	0.165	778	0
PSQI3	4.15	1.915	-0.292	0.088	-1.083	0.175	0.192	778	0
PSQI4	4.44	1.727	-0.558	0.088	-0.594	0.175	0.179	778	0
PSQI5	4.75	1.72	-0.738	0.088	-0.262	0.175	0.186	778	0
PSQI6	4.32	1.79	-0.423	0.088	-0.693	0.175	0.169	778	0
PSQI7	4.49	1.665	-0.54	0.088	-0.435	0.175	0.176	778	0
PSQI8	4.26	1.7	-0.389	0.088	-0.762	0.175	0.162	778	0
PSQI9	4.5	1.623	-0.517	0.088	-0.477	0.175	0.173	778	0
SV1	5.62	1.417	-1.436	0.088	2.069	0.175	0.266	778	0
SV2	5.89	1.236	-1.611	0.088	3.037	0.175	0.274	778	0
SV3	6.05	1.229	-1.772	0.088	3.514	0.175	0.263	778	0
SV4	5.72	1.355	-1.358	0.088	1.777	0.175	0.25	778	0

SV5	5.98	1.248	-1.586	0.088	2.737	0.175	0.257	778	0
SV6	5.89	1.188	-1.462	0.088	2.564	0.175	0.258	778	0
SV7	5.86	1.278	-1.471	0.088	2.253	0.175	0.266	778	0
SV8	5.45	1.428	-1.1	0.088	0.942	0.175	0.227	778	0
SV9	5.61	1.373	-1.225	0.088	1.327	0.175	0.24	778	0
SV10	5.53	1.337	-1.169	0.088	1.332	0.175	0.244	778	0
SV11	5.65	1.27	-1.161	0.088	1.369	0.175	0.259	778	0
SV12	5.88	1.28	-1.505	0.088	2.54	0.175	0.245	778	0
SV13	5.83	1.286	-1.438	0.088	2.241	0.175	0.257	778	0
SV14	5.85	1.305	-1.551	0.088	2.714	0.175	0.253	778	0
SV15	5.71	1.284	-1.315	0.088	1.86	0.175	0.258	778	0
SV16	5.55	1.436	-1.263	0.088	1.44	0.175	0.241	778	0
SV17	5.67	1.424	-1.406	0.088	1.831	0.175	0.258	778	0
SV18	4.69	1.916	-0.648	0.088	-0.737	0.175	0.19	778	0
SV19	5.11	1.696	-0.986	0.088	0.186	0.175	0.217	778	0
SV20	5.3	1.701	-1.167	0.088	0.564	0.175	0.246	778	0
SV21	5.16	1.785	-1.04	0.088	0.071	0.175	0.246	778	0
SV22	5.31	1.707	-1.16	0.088	0.542	0.175	0.243	778	0
OSS1	5.11	1.537	-1.042	0.088	0.605	0.175	0.223	778	0
OSS2	5.59	1.34	-1.328	0.088	1.841	0.175	0.264	778	0
OSS3	5.29	1.41	-1.114	0.088	1.038	0.175	0.23	778	0
OSS4	5.05	1.559	-0.925	0.088	0.311	0.175	0.205	778	0
OSS5	4.62	1.821	-0.611	0.088	-0.718	0.175	0.196	778	0
OSS6	5.25	1.492	-1.104	0.088	0.915	0.175	0.23	778	0
OSS7	5.55	1.461	-1.384	0.088	1.731	0.175	0.255	778	0

Source: Field data 2016

7.5 Measurement Model Assessment

This section looks at the constructs of the measurement model, an assessment of reliability and validity for both reflective and formative constructs of the measurement model of the study.

7.5.1 Constructs of the Measurement Model

The measurement model in this study refers to the relationship between a latent variable and its indicators or "items" (Barroso et al., 2010). The latent variables are the various constructs (dimensions) conceptualised in the researcher's conceptual framework but cannot be measured directly. Specifically, the five dimensions of perceived service quality (teaching methodology; environmental adequacy in study factor; access; placement; and institutional or university governance), student perceived value and overall student satisfaction constitute the measurement model to be subjected to a statistical check for the validation of the measures/items. The five dimensions of perceived service quality are the independent (exogenous) variables and are treated as first-order reflective latent variables. The dependent (endogenous) variable is overall student satisfaction, and it is also treated as a first-order reflective latent variable. Meanwhile, intermediate variables include student perceived value and perceived service quality, which are treated as multi-dimensional first and second-order formative constructs, respectively.

The justification for each construct of the measurement model is provided in the researcher's Conceptual Framework in Chapter Four. All items used to measure the constructs constituting the measurement model and relevant sources are stated in section 5.9.2 of Chapter Five. A seven-point Likert scale was employed to measure the responses for all the constructs. Because CFA assists researchers to test analytically a conceptually grounded theory explaining how varied measured items represent important business, sociological and physiological measures (Hair et al., 2006), this study employed CFA to assess the reliability and validity of reflective latent constructs while a multicollinearity test was performed to determine the validity of the formative latent construct of the measurement model.

7.5.2 Confirmatory Factor Analysis (CFA) of Reflective Constructs

The researcher employed a first-order CFA within the framework of SmartPLS version 3.2.6 (Ringle, Wende and Becker, 2015) software to conduct a statistical check for the validation of the reflective latent constructs' measures. The reflective scale measures in the study that were subjected to this procedure as indicated earlier include teaching methodology, environmental adequacy in study factor, access, placement, institutional governance, and overall student satisfaction. A test of the psychometric properties of the reflective latent variables was assessed in terms of convergent validity and discriminant validity.

Convergent validity demonstrates the degree to which items of each specific construct share a high proportion of variance in common (Hair et al., 2006). This demonstrates the extent to which items converge to a particular construct. Convergent validity has been assessed through factor loadings, composite reliability and average variance extracted (AVE) (Hair et al., 2006; Ali et al., 2016). The composite reliability (CR) determines the extent to which the construct items indicate the latent construct, and the recommended minimum value is 0.7 (Gerbing and Anderson 1988; Hair et al., 1998). The average variance extracted (AVE) was estimated to establish the overall amount of variance in the items accounted for by the latent construct, and the recommended value is 0.5 or higher (Hair et al., 2006, 2016).

In contrast, the Discriminant validity measures the extent to which a specific construct is strictly different from another construct, which implies that the construct should relate strongly to its measure items than measure items of other constructs (Hair et al., 2006; Henseler et al., 2015). The discriminant validity in this study is proved via two different methods to affirm consistency of results, namely Fornell-Larcker criterion or through cross-loadings technique (Fornell and Larcker, 1981; Henseler et al., 2009) and heterotrait-monotrait ratio (HTMT) of correlations (Henseler et al., 2015). The convergence and discriminant validity tests are detailed below in the ensuing sections. Table 7.6 provides a summary of the convergent validity test while Tables 7.7and 7.8 highlight results of discriminant validity tests.

7.5.2.1 Convergence Validity

Teaching Methodology

The teaching methodology was measured using eight items. An examination of the initial loadings showed that items “PSQT1” (This university provides relevant curriculum), “PSQT3” (This university provides adequate learning support) and “PSQT8” (Lecturers of this university give helpful feedback) cross-loaded significantly into other constructs. The offending items were sequentially deleted, and the measurement model was re-run after each item deletion. The final retained items as displayed in Table 7.6 below achieved a Cronbach’s alpha of 0.842, composite reliability of 0.888 and average variance extracted (AVE) estimate of 0.613, all meeting the minimum suggested by Hair et al. (2016). Furthermore, each of the remaining item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). A bootstrapping is a procedure where samples of items under each construct are selected randomly, and the model is run for each sample then the value is calculated in SEM-PLS based on t-statistic to determine an item’s significance (Henseler et al., 2009). The item with the highest factor loading was the fact that lecturers at the universities have relevant theoretical knowledge, and the one with the least factor loading was the fact that the universities offer excellent teaching. All the removed items are exhibited in Table 7.5 below.

Environmental Adequacy in Study Factor

Environmental adequacy in study factor was measured using six items. A check of the initial loadings showed that item “PSQE6” (Academic activities such as workshops, overseas collaborations and seminars enrich the learning ambience of this university) cross-loaded significantly into other constructs. The offending item was removed, and the measurement model was re-run. The final retained items achieved a Cronbach's alpha of 0.840, composite reliability of 0.887 and average variance extracted (AVE) estimate of 0.611, all meeting the minimum recommended by Hair et al. (2016). Furthermore, each of the remaining item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). The item with the highest factor loading was the fact that the universities have good computer facilities, and the one with the least factor loading was the fact that the universities have good library facilities.

Access

Access was measured using six items. An inspection of the initial loadings revealed that items "PSQA1" (This university has operating hours convenient to all their students), "PSQA2" (This university has an ideal location with excellent campus layout) and "PSQA3" (This university has adequate parking facilities) cross-loaded significantly into other constructs. The offending items were deleted one after the other and the measurement model was re-run after each item deletion. The final retained items achieved a Cronbach's alpha of 0.861, composite reliability of 0.916 and average variance extracted (AVE) estimate of 0.784, all satisfying the minimum requirement proposed by Hair et al. (2016). Furthermore, each of the remaining item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). The item with the highest factor loading was the fact that lecturers at the universities allocate sufficient time for consultation, and the one with the least factor loading was the fact that lecturers at the universities are available for guidance.

Placement

The placement was measured using seven items. An examination of the initial loadings revealed that items "PSQP1" (This university ensures students undergo internship training), "PSQP2" (This university provides soft skills development in form of leadership, communication etc.) and "PSQP5" (A degree from this university is highly esteemed in the labour market) cross-loaded significantly into other constructs. The offending items were in sequence removed and the measurement model was re-run after each item deletion. The final retained items achieved a Cronbach's alpha of 0.786, composite reliability of 0.861 and average variance extracted (AVE) estimate of 0.609, all meeting the minimum requirement proposed by Hair et al. (2016). Furthermore, each of the remaining item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). The item with the highest factor loading was the fact that lecturers at the universities pay close attention to industry and university collaboration, and the one with the least factor loading was the fact that the graduates from the universities get good jobs.

Institutional (University) Governance

Institutional governance was measured using nine items. An examination of the initial loadings showed that items "PSQI1" (There exists good maintenance culture in this university), "PSQI2" (In this university decision making extends beyond the authority of a single person), "PSQI3" (The communication channels including internet connections available in this university are ineffective) and "PSQI5" (The grading system prevailing in this university is transparent) cross-loaded significantly into other constructs. The offending items were sequentially deleted, and the measurement model was re-run after each item deletion. The final retained items achieved a Cronbach's alpha of 0.852, composite reliability of 0.894 and average variance extracted (AVE) estimate of 0.629, all meeting the minimum suggested by Hair et al. (2016). Furthermore, each of the remaining item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). The item with the highest factor loading was the fact that the leadership of the universities demonstrate fair behaviour towards students, and the one with the least factor loading was the fact the university students are included in decision making regarding matters that concern them.

Overall Student Satisfaction

Overall student satisfaction was measured using seven items. The seven-item scale achieved a Cronbach's alpha of 0.899, composite reliability of 0.921 and average variance extracted (AVE) estimate of 0.623, all meeting the minimum suggested by Hair et al. (2016). Furthermore, each of the item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016; Tortosa et al., 2009). The item with the highest factor loading was the fact that they are satisfied with the service performance, and the one with the least factor loading was the fact that they are satisfied with the quality relative to price (fees).

The summary of deleted offending items for the respective constructs with significant cross-loadings with other construct or unacceptable loading is presented in Table 7.5 below.

Table 7.5: Deleted Construct Items

Constructs	Items Coding	Item Wording
Teaching Methodology	PSQT1	This University provides a relevant Curriculum.
	PSQT3	This University provides adequate learning support.
	PSQT8	Lecturers of this university give helpful feedback.
Environ. Adequacy in Study Factor	PSQE6	Academic activities such as workshops, overseas collaborations and seminars enrich the learning ambience of this university
Access	PSQA1	This University has operating hours convenient to all its students
	PSQA2	This University has an ideal location with an excellent campus layout
	PSQA3	This University has adequate parking facilities
Placement	PSQP1	This University ensures students undergo internship training.
	PSQP2	This University provides soft skills development in form of leadership, communication etc.
	PSQP5	A degree from this university is highly esteemed in the labour market.
Institutional/University Governance	PSQI1	There exists good maintenance culture in this university.
	PSQI2	In this university decision making extends beyond the authority of a single person.
	PSQI3	The communication channels including internet connections available in this university are ineffective.
	PSQI5	The grading system prevailing in this university is Transparent.

Source: Field Work 2016

Cronbach's alpha for each of the scales retained ranged from 0.786 to 0.899 and composite reliability (CR) values, ranging from 0.861 to 0.921, exceeding the recommended minimum value of 0.7 (Gerbing and Anderson 1988; Hair et al., 1998). Additionally, the average variance extracted (AVE) for each of the scales retained ranged from 0.609 to 0.784. The AVE also exceeded the recommended minimum value of 0.5 (Gerbing and Anderson, 1988; Hair et al., 2006; Hensler et al., 2009). These results show significant evidence that convergent validity for all the reflective constructs measures has been adequately established. Table 7.6 details the results of reliability and convergent validity for the reflective constructs.

Table 7.6: Reliability and Convergent Validity for Reflective Constructs

Factor	Initial, final number of scale items	Final item codes	Loading	t-value (Bootstrap 5000 sub-sample)	Cronbach's Alpha	Composite Reliability	AVE
Teaching Methodology	8,5	PSQT2	0.766**	31.854	0.842	0.888	0.613
		PSQT4	0.768**	35.429			
		PSQT5	0.814**	44.598			
		PSQT6	0.779**	39.528			
		PSQT7	0.788**	33.702			
Environ Adequacy	6,5	PSQE1	0.717**	31.616	0.840	0.887	0.611
		PSQE2	0.829**	58.832			
		PSQE3	0.811**	49.272			
		PSQE4	0.801**	54.993			
		PSQE5	0.746**	37.943			
Access	6,3	PSQA4	0.839**	54.588	0.861	0.916	0.784
		PSQA5	0.912**	110.131			
		PSQA6	0.903**	108.375			
Placement	7,4	PSQP3	0.789**	45.783	0.786	0.861	0.609
		PSQP4	0.809**	48.358			
		PSQP6	0.728**	29.877			
		PSQP7	0.791**	38.366			
Institutional Governance	9,5	PSQI4	0.740**	40.418	0.852	0.894	0.629
		PSQI6	0.755**	36.305			
		PSQI7	0.829**	62.332			
		PSQI8	0.811**	53.356			
		PSQI9	0.825**	57.487			
Overall Student Satisfaction	7,7	OSS1	0.770**	37.706	0.899	0.921	0.623
		OSS2	0.795**	39.865			
		OSS3	0.803**	41.974			
		OSS4	0.813**	48.839			
		OSS5	0.734**	35.743			
		OSS6	0.802**	41.259			
		OSS7	0.808**	40.597			
Student Perceived Value							
Get/Benefits							
Functional value	3,3						
Epistemic value	3,3						
Social value of referent others	2,2						
Social value of fellow students	3,3						
Emotional value	3,3						
Image	3,3						
Give/Sacrifices							
Money	2,2						
Time	3,3						

Note: **t-value is significant at 0.01 level of significance t>1.96

Source: Field data 2016

7.5.2.2 Discriminant Validity

The discriminant validity was first assessed by determining correlations between construct measures (Gerbing and Anderson, 1988) and using Fornell and Larker's (1981) criterion to determine the square root of average variance extracted (AVEs) estimates for each of the six reflective constructs. It is suggested that the square root of each AVE of the reflective constructs should be greater than the related inter-construct correlations in the construct correlation matrix (Peng and Lai, 2012). The results revealed that measures have low to moderate correlations between them, demonstrating that the discriminant validity condition has been met (Gerbing and Anderson, 1988). Furthermore, the square root of the AVE estimates (diagonal values) for each of the six reflective constructs is greater than the inter-construct correlations between them. This establishes that each construct is distinct and sufficiently differs from the other latent constructs in the measurement model, confirming adequate discriminant validity (Fornell and Larcker, 1981; Barclay et al., 1995). Table 7.7 below highlights detailed results.'

Table 7.7: Discriminant Validity of Reflective Constructs (Square root of AVEs in diagonal bold)

Factor	1	2	3	4	5	6
1. Teaching Methodology	**0.783**					
2. Environ. Adequacy in Study Factor	0.391	**0.782**				
3. Access	0.438	0.426	**0.885**			
4. Placement	0.400	0.413	0.505	**0.780**		
5. Institutional Governance	0.368	0.519	0.527	0.478	**0.793**	
6. Overall Student Satisfaction	0.496	0.444	0.459	0.444	0.565	**0.789**

Source: Field data 2016

To further investigate the discriminant validity of the reflective constructs, a more rigorous heterotrait-monotrait ratio (HTMT) of correlations method was used based on the recommendation of Henseler and his colleagues (2015). Specifically, employing SmartPLS version 3.2.6 (Ringle, Wende and Becker, 2015), the heterotrait-monotrait ratio (HTMT) was computed at the strict specificity ratio of 0.85 ($HTMT_{0.85}$). This means that to establish discriminant validity, the correlations among constructs should not exceed the 0.85 threshold (Henseler et al., 2016). As illustrated in Table 7.8, the results show correlations are well within the $HTMT_{0.85}$ threshold to confirm acceptable discriminant validity of constructs.

Table 7.8: Heterotrait-Monotrait Ratio (HTMT) of Reflective Constructs

	Access	Env. Adequacy Study	Institutional Governance	Overall Student Satisfaction	Placement	Teaching Methodology
Access						
Env. Adequacy Study	0.497					
Institutional Governance	0.614	0.608				
Overall Student Satisfaction	0.523	0.512	0.646			
Placement	0.610	0.498	0.578	0.527		
Teaching Methodology	0.515	0.464	0.431	0.568	0.492	

Source: Field data 2016

Furthermore, Table 7.9 reports the item cross-loadings of the reflective constructs in the model, following purification. The results reveal that all the remaining items per construct had loadings 0.7 or higher (Hair et al., 2016); moreover, the items had no significant cross-loadings thus supporting the fact that the six reflective latent constructs (teaching methodology, environmental adequacy in study factor, access, placement, institutional governance and overall student satisfaction) constituting the measurement model were deemed to demonstrate adequate composite reliability, convergent validity and discriminant validity.

Table 7.9: Item Cross Loadings of Reflective Constructs (Summary of Convergent and Discriminant Validity)

Items	tmed	environ	access	Placem	govern	satisfaction
PSQT2	0.7657	0.3297	0.3607	0.2648	0.3092	0.4205
PSQT4	0.7682	0.3099	0.3184	0.3243	0.2777	0.3754
PSQT5	0.8136	0.278	0.316	0.2839	0.2599	0.3837
PSQT6	0.7785	0.3169	0.3311	0.3593	0.3036	0.3541
PSQT7	0.7882	0.2931	0.3855	0.3317	0.2884	0.4057
PSQE1	0.3389	0.7174	0.2682	0.2275	0.3502	0.3763
PSQE2	0.289	0.8285	0.2971	0.2959	0.3893	0.3426
PSQE3	0.2402	0.8109	0.3155	0.3407	0.3765	0.2996
PSQE4	0.2656	0.8006	0.3929	0.3716	0.4396	0.3218
PSQE5	0.3904	0.7455	0.3772	0.3638	0.4627	0.3939
PSQA4	0.4377	0.3544	0.8391	0.4418	0.4329	0.4412
PSQA5	0.3669	0.3824	0.9122	0.4465	0.4808	0.4089
PSQA6	0.3604	0.394	0.9032	0.4522	0.4855	0.3709
PSQP3	0.2972	0.3799	0.4165	0.7894	0.3904	0.3385
PSQP4	0.3307	0.3697	0.4354	0.8091	0.443	0.3771
PSQP6	0.3218	0.2413	0.3344	0.7283	0.3045	0.3438
PSQP7	0.3019	0.283	0.3793	0.791	0.3404	0.3237
PSQI4	0.3656	0.4887	0.428	0.3961	0.7404	0.4292
PSQI6	0.2418	0.3455	0.3939	0.3474	0.7553	0.3965
PSQI7	0.3028	0.4201	0.439	0.3864	0.829	0.4591
PSQI8	0.2192	0.3983	0.3988	0.3652	0.8114	0.4454
PSQI9	0.318	0.3975	0.4255	0.3954	0.8249	0.5036
OSS1	0.3937	0.3935	0.3658	0.3709	0.5071	0.7696
OSS2	0.4514	0.2955	0.3504	0.362	0.3804	0.7947
OSS3	0.4099	0.3295	0.3626	0.3297	0.4347	0.8026
OSS4	0.3756	0.3914	0.3874	0.3531	0.502	0.8134
OSS5	0.3055	0.3722	0.3757	0.3356	0.498	0.7339
OSS6	0.4013	0.3665	0.3774	0.3345	0.43	0.8019
OSS7	0.3945	0.309	0.3194	0.3648	0.3754	0.808

Source: Field data 2016

7.5.3 Testing for Multicollinearity of Formative Construct - Student Perceived Value

Multicollinearity test is to examine the occurrence of high intercorrelations among two or more indicators (or items) of a formative latent construct and is a test of indicator validity showing path coefficients significance (Petter, Straub and Rai, 2007). Variance inflation factor (VIF), condition indices and coefficients variance matrix are tools that help identify the degree of multicollinearity. VIF statistic is used to determine if formative measures of constructs are too highly correlated (Petter et al., 2007) and VIF less than 5 is generally considered to show an absence of multicollinearity (Hair et al., 2014). Conditional index is the standard diagnostic that measures the relative amount of variance associated with an eigenvalue and its maximum value should be less than 30 to find no support for the existence of collinearity (Hair et al., 1995).

To assess whether the proposed 22 items that measure student perceived value construct formatively are statistically significant in the Ghanaian context, the researcher performed a multicollinearity test, following the recommendations of Hair et al. (2014). An examination of the variance inflation factor (VIF), conditional indices and the decomposition of the coefficients' variance matrix showed that multicollinearity is not a problem (Ledden et al., 2011; Hair et al., 1998). Thus, each of the 22 items under the student perceived value construct was statistically significant ($t>1.96$ at 0.05 level of significance). Appendix G in page 365 (comprising G1 & G2 in pages 365 and 367, respectively) present the detailed multi-collinearity diagnosis. Specifically, all items had VIF<5, which is consistent with the recommendations of the authors. As recent studies have reported, VIF is the most frequent method for establishing multicollinearity in data distribution (Peng and Lai, 2012). Having validated the reflective and formative measures, the results demonstrate the study's measurement model possesses quality statistical indices, and hence can predict structural model values. The next stage looks at the analysis of the structural model.

7.6 Structural Model Assessment - The Path Model and Hypothesis Testing

A structural model refers to the relationship between independent and dependent variables in the researcher's conceptual framework (Barroso et al., 2010). The main statistical measures that are employed to evaluate the path model, as stated in Chapter Five section 5.8.5.6, are coefficient of determination or predictive accuracy (R^2), path coefficients, predictive relevance (Q^2) and effect sizes (f^2). The R^2 is estimated for a dependent (endogenous) construct and it demonstrates the explanatory power of the independent construct(s) on the respective dependent construct. R^2 values of 0.67, 0.33, and 0.19 are considered substantial, moderate, and weak, respectively (Chin, 1998).

Predictive relevance shows how well the collected empirical data can be reconstructed with the help of the PLS parameters and it represents a synthesis of cross-validation and function fitting (Akter et al., 2011; Henseler et al., 2009). Predictive value above 0 suggests the model has predictive relevance and a value of less than 0 means there is a lack of predictive relevance (Chin, 2010; Henseler et al., 2009). According to Henseler et al. (2009), predictive relevance values of 0.35, 0.15 or 0.02 indicate a substantial, moderate, or weak impact of the prediction of the latent exogenous variable on the endogenous variable.

The effect size shows how much an exogenous or independent latent variable contributes to an endogenous or dependent latent variable's R^2 value (Wong, 2013). Thus, effect size assesses the strength of association between the latent variables. The effect size is computed using the formula: $f^2 = (R^2_{included} - R^2_{excluded}) / (1 - R^2_{included})$. Effect size values of 0.02, 0.15 or 0.36 indicate small, medium, or large effect of latent exogenous variable on the endogenous variable (Chin, 2010; Hair et al., 2016).

At this stage, the researcher examined relationships in the proposed conceptual model, if any, that exist between dimensions of perceived service quality, perceived service quality, student perceived value and overall student satisfaction using SmartPLS version 3.2.6 to determine the model's explanatory power and the significance of the hypothesized paths in the conceptual model (Lings and Greenly, 2010).

7.6.1 Model Efficiency

The results of the model's predictive accuracy (R^2), predictive relevance (Q^2) and effect sizes (f^2) are highlighted in Table 7.10. It was found that all the exogenous constructs showed strong explanatory power on respective endogenous constructs. Specifically, the outcomes revealed that teaching methodology, environmental change in study factor, access, placement, and institutional governance perfectly explained the variance in perceived service quality since the construct was treated as a formative construct comprising the five measures (dimensions). Furthermore, the results of the PLS analysis showed that perceived service quality and student value explained about 57.4% of the variance in overall student satisfaction. Additionally, perceived service quality explained about 35% of the variance in student value. All these results exceeded the moderate level of 33% recommended by Chin (1998), demonstrating fairly good explanatory power.

Beside the assessment of the R^2, this study also utilized the Stone-Geisser's (Q^2) cross-validated redundancy, a blindfolding procedure in PLS, setting omission distance of 7 as a criterion for predictive relevance (Chin, 2010; Hair et al., 2016). These tests revealed that Q^2 -values for student perceived value and overall student satisfaction were all greater than 0 showing predictive relevance (Chin, 2010; Hair et al., 2016). This implies that the impact of perceived service quality in predicting student value is fairly moderate, whereas overall student satisfaction is highly affected by perceived service quality.

Table 7.10: Predictive Accuracy (R2), Predictive Relevance (Q2) and Effect Sizes (f2)

Constructs	R^2	Q^2	f^2(Overall Student Satisfaction)
Perceived Service Quality	_	_	0.157(Medium)
Student Value	0.350	0.118	0.354(Large)
Overall Student Satisfaction	0.574	0.352	_

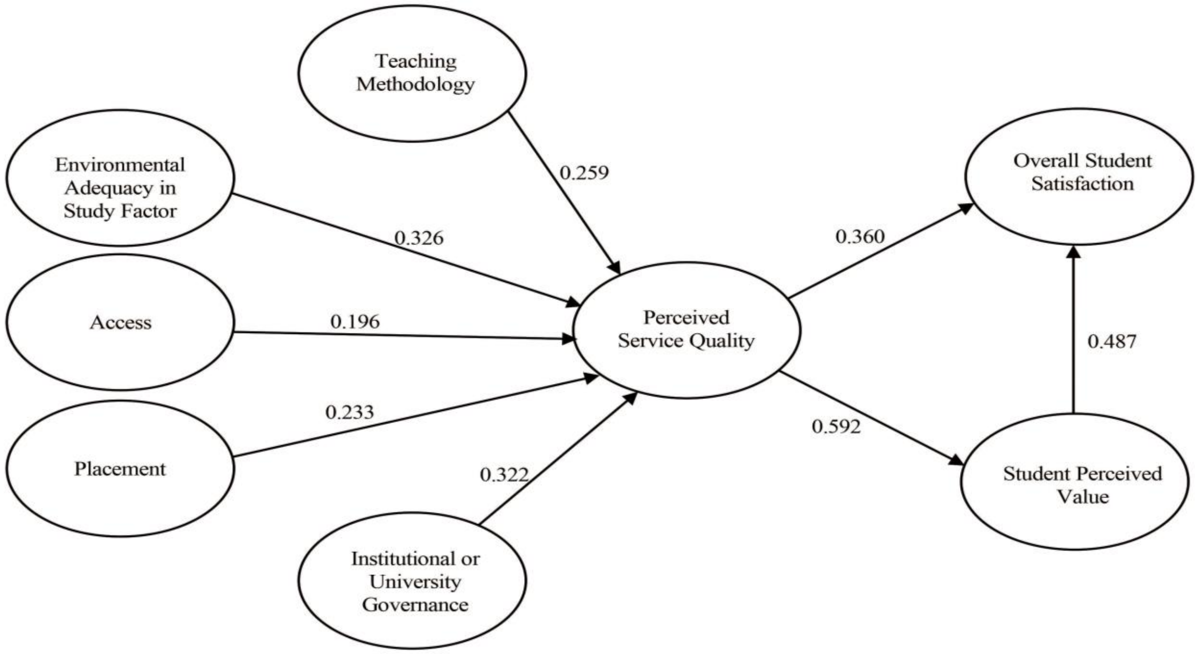
Source: Field data 2016

As indicated in Table 7.10, this study computed the effect sizes (f^2) of each of the exogenous constructs in the model to determine the magnitude of their effect on the R^2 value of the overall student satisfaction denoting the endogenous construct. The study obtained medium effect sizes for the effect of perceived service quality on overall student satisfaction, and large effect size on the effect of student perceived value on overall student satisfaction.

7.6.2 Hypotheses Testing and Results

Next, the hypothesised relationships in the structural model were tested. The researcher used bootstrapping procedures (5000 sub-samples) to estimate the statistical significance of each path coefficient. Table 7.11 below summarizes the results on bootstrap t-values that were used to estimate the statistical significance of each path coefficient. Additionally, it can be seen in Figure 7.1 that the structural model test indicating regression weights demonstrates all paths were statistically significant and follow the hypothesised direction, providing strong evidence to support the study's conceptual model and related hypotheses. All paths were significant using $t \geq 1.96$ (two-tailed test) that is testing at $p < 0.01$. The results revealed that environmental change in the study factor is the most significant determinant of perceived service quality. This is followed by institutional governance, teaching methodology, placement, and access, respectively.

Figure 7.1: Path Diagram for the Dimensions of Service Quality, Student Value and Overall Student Satisfaction-Showing Regression Weights



Source: Field data 2016

Summing up the results from the structural path analysis relating to Figure 7.1 and Table 7.11, the following hypotheses conclusions were drawn:

H1a: Higher perceived level of teaching methodology leads to a higher perceived level of university service quality.

The results revealed that a higher perceived level of teaching methodology will lead to a higher perceived level of university service quality (H1a: $\beta = 0.259$, $t = 34.76$, $p<0.01$). This confirms that a positive and significant association exists between teaching methodology and perceived service quality. This means that the more highly students evaluate teaching methodology attributes such as class group interaction, lecturers' theoretical and practical knowledge, the more highly they tend to evaluate university service quality. Hence, hypothesis H1a is supported in the present context.

H1b: Higher perceived level of environmental adequacy in study factor leads to a higher perceived level of university service quality.

Similarly**,** the results revealed that a higher perceived level of environmental adequacy in the study factor will lead to a higher perceived level of university service quality (H1b: $\beta = 0.326$, t = 43.39, p<0.01). These results affirmed that a positive and significant relationship exists between environmental adequacy in study factor and perceived service quality. It can therefore be concluded that the more highly students evaluate their university facilities that create a conducive environment for study, the more highly they tend to evaluate university service quality. Therefore, hypothesis H1b is supported in the present context.

H1c: Higher perceived level of access leads to a higher perceived level of university service quality.

The results revealed that a higher perceived level of access will lead to a higher perceived level of university service quality (H1c: $\beta = 0.196$, $t = 39.86$, $p<0.01$). These results confirmed that a positive and relatively significant association exists between access and perceived service quality. This means that the more highly students evaluate access issues such as lecturers' availability to provide guidance, and set sufficient and convenient time for consultation, the more they tend to rate university service quality high. Therefore, hypothesis H1c is supported in the present context.

H1d: Higher perceived level of placement leads to a higher perceived level of university service quality.

The results showed that a higher perceived level of placement will lead to a higher perceived level of service quality in universities (H1d: $\beta = 0.233$, $t = 40.14$, $p<0.01$). These results confirm that a positive and significant association exists between placement and perceived service quality. This implies that the more highly students evaluate placement related factors such as graduates from their university get good jobs and the existence of a strong linkage between their university and industry, the more they tend to rate university service quality high. Therefore, hypothesis H1d is supported in the present context.

H1e: Higher perceived level of institutional (or university) governance leads to higher perceived level of university service quality.

The results revealed that a higher perceived level of institutional (or university) governance will lead to a higher perceived level of university service quality (H1e: $\beta = 0.322$, $t = 45.70$, $p<0.01$). These results confirm that a positive and significant association exists between institutional governance and perceived service quality. This implies that the more highly students assess institutional governance factors that affect their performance, the more they tend to rate university service quality high. Therefore, hypothesis H1e is supported in the present context.

H2: Perceived service quality has a positive and significant effect on overall student satisfaction.

The results revealed that a positive and significant relationship exists between perceived service quality and overall customer satisfaction in Ghanaian universities (H2: $\beta = 0.360$, $t = 9.14$, $p<0.01$). Specifically, about 13% (that is the square of the regression weight 0.36*100%) of the variance in customer satisfaction is explained by perceived service quality. This indicates that the more positively students evaluate service quality, the more they tend to be satisfied. Therefore, hypothesis H2 is supported in the present context.

H3: Perceived service quality has a positive and significant effect on students' perceived value.

The results of the study showed that perceived service quality has a positive and significant effect on students' perceived value (H3: $\beta = 0.592$, $t = 21.56$, $p<0.01$). Specifically, about 35% (0.592*0.592*100%) of the variance in student perceived value is explained by perceived service quality. This implies that the more positively students evaluate service quality, the more positively they evaluate perceived value. Therefore, hypothesis H3 is supported in the present context.

H4: Student perceived value has a positive and significant effect on overall student satisfaction.

The results revealed that student perceived value has a positive and significant influence on overall student satisfaction (H4: $\beta=0.487$, $t=12.14$, $p<0.01$). Specifically, about 23.7% (0.487*0.487*100%) of the variance in overall student satisfaction is explained by student perceived value. It can therefore be concluded that the more positively students evaluate the perceived value, the more they tend to be satisfied. Accordingly, hypothesis H3 is supported in the present study.

To conclude, a summary of the tests of the hypotheses conducted alongside conclusions reached are presented in Table 7.11 below.

Table 7.11: PLS Output for Structural Path Estimates

Hypo-thesis	Structural Path	Path coeffici-ent	t-value (Bootst-rap - 5000)	Hypotheses results
H1a	Teaching Methodology ⟶ Perceived Service Quality	0.259**	34.759	Supported
H1b	Environmental Adequacy ⟶ Perceived Service Quality	0.326**	43.394	Supported
H1c	Access ⟶ Perceived Service Quality	0.196**	39.859	Supported
H1d	Placement ⟶ Perceived Service Quality	0.233**	40.134	Supported
H1e	Institutional Governance ⟶ Perceived Service Quality	0.322**	45.700	Supported
H2	Perceived Service Quality ⟶ Overall Student Satisfaction	0.360**	9.139	Supported
H3	Perceived Service Quality ⟶ Student Perceived Value	0.592**	21.558	Supported
H4	Student Perceived Value ⟶ Overall Student Satisfaction	0.487**	12.140	Supported
Note: **t-values are significant at p< 0.01				

Source: Field data 2016

This section has presented the analysis of the measurement and structural model. The next two sections are devoted to the analysis of mediation of the student perceived value and comparison of public and private universities based on perceived service quality using t-statistic and means.

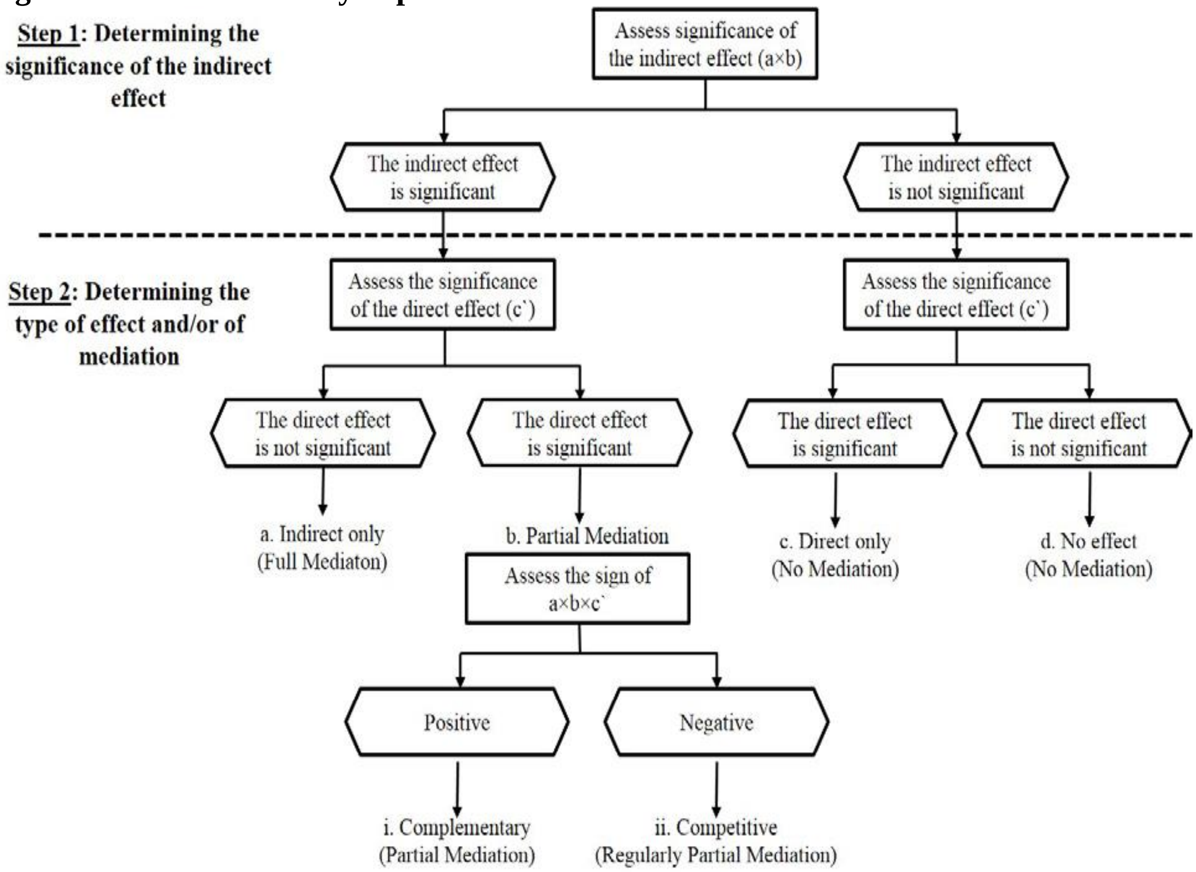
7.6.3 Testing Mediation Role of Student Perceived Value

This section presents the analysis of the mediating role of student perceived value on the association between perceived service quality and overall student satisfaction. According to Hayes, Preacher and Meyers (2011), "the effect of some independent variable *X* on an outcome variable *Y* is *mediated by M* if *M* is causally situated between *X* and *Y* such that changes in *X* cause changes in *M*, which in turn cause changes in *Y*". From the conceptual model proposed in Figure 4.1 in Chapter Four, student perceived value plays a mediating role between the relationship of perceived service quality and overall student satisfaction. In other words, the effect of perceived service quality (the independent variable/construct) on overall student satisfaction (the dependent variable/construct) is mediated by a third variable, student perceived value (the mediating variable or mediator). It is imperative therefore to perform mediation tests to explain the effect of the mediating variable on the independent-dependent variable relationship as displayed in Figure 7.1. The study for this purpose hypothesises that:

H5: Student value mediates the association between perceived service quality and overall student satisfaction

Baron and Kenny’s (1986) approach to mediation analysis using Sobel’s tests (Sobel, 1982) has been widely used in marketing research and other empirical studies. Howbeit, this approach has witnessed considerable challenges (Preacher and Hayes, 2004, 2008) in recent years, with authors calling for new procedures that address shortcomings in the conventional approach (Nitzl, Roldan and Capeda, 2016). The study adopted the PLS-SEM approach proposed by Nitzl et al. (2016) to examine the mediation, which is more superior, using PLS Version 3.2.6 and proceeded to conduct mediation analysis following the guidelines outlined by Zhao, Lynch and Chen (2010) depicted in Figure 7.2 below. The test of significance of the indirect effect is estimated by bootstrapping (5000 subsample) for all subsamples run using the standard error (SE) computed for the two paths along with the indirect effect, while the SE derived from the bootstrap statistic is used to compute the t-test. Variance Accounted For (VAF) value was computed as the ratio of the indirect effects to total effects, and it estimates the magnitude or proportion of the mediation (Nitzl et al., 2016). VAF determines the extent to which the mediation process explains the dependent variable’s variance (Nitzl et al., 2016). Results of the mediation test are shown in Table 7.12 below.

Figure 7.2: Mediator analysis procedure in PLS



Source: Zhao et al. (2010)

Table 7.12: Mediation test Results for Perceived Service Quality ->Student Perceived Value -> Overall Student Satisfaction

	Path Coefficient	t-statistic	p-value	Significance
Indirect Effect (the effect of perceived service quality on overall satisfaction indirectly through student value) - a*b	0.281	7.795	0.000	Significant
Direct Effect (the effect of perceived service quality on overall satisfaction in the presence of student value) - c^l	0.424	9.292	0.000	Significant
Total Effect (the effect of perceived service quality on overall satisfaction in the absence of student value) - c	0.715	35.708	0.000	Significant
Note ** t-values are significant at $p \leq 0.01$ The magnitude of Mediation (Variance Accounted for as the ratio of indirect effect to total effect)	0.3930			

Source: Outcome of Field Work 2016 as Depicted in Figure 7.2

It is noted that the indirect effect of perceived service quality on overall student satisfaction through the mediating variable (student perceived value) is significant at $p \leq 0.01$ ($\beta = 0.281$, t-stat = 7.795). This provides strong evidence that mediation exists. The further assessment shows the direct effect (of perceived service quality on overall satisfaction in the presence of the mediating variable student perceived value) is also significant at $p \leq 0.01$ ($\beta = 0.424$, t-stat = 9.292). This implies that indeed student perceived value partially mediates the relationship between perceived service quality and overall satisfaction. This suggests that students' perception of university service quality can have both direct and indirect effect on overall student satisfaction.

To determine whether the partial mediation by student value is complementary or competitive, the direction (positive or negative) of the indirect and direct effects is assessed (Nitzl et al., 2016). If both the indirect and direct effects are in the same direction (positive or negative), then the partial mediation is complementary, else if they differ in direction, then the partial mediation is competitive (Baron and Kenny, 1986; Nitzl et al., 2016). Results show that both the indirect ($\beta = 0.281$) and direct ($\beta = 0.424$) effects are positive, hence in the same direction. This confirms complementary partial mediation. It can therefore be concluded that a portion of the impact of perceived service quality on overall student satisfaction is mediated through student perceived value, whereas perceived service quality still explains a portion of overall student satisfaction that is independent of student perceived value.

The variance accounted for (VAF) computed as the ratio of the indirect effect to the total effect is 0.3830. Nitzl et al. (2016) and Hair et al. (2016) classified VAF as zero mediation when VAF is less than 20%, partial mediation when VAF is larger than 20% but less than 80% and full mediation when VAF is above 80%. Thus, from the mediation analysis, it is found that 38.69% of the overall satisfaction from perceived service quality is attained through student value as an intervening variable, thus justifying partial mediation. Hence from the aforesaid discussion, hypothesis H5, which states that student perceived value mediates the association between perceived service quality and overall student satisfaction, is supported in the present context.

7.7 T-Test: Testing of Hypothesis H6

This section of the analysis seeks to compare whether there are any significant differences apparent between Ghanaian public and private universities in terms of students' views of service quality delivery in these two sectors. For this research, the factors (or dimensions) for deciding the quality of university service perceived by students are teaching methodology, environmental adequacy in study factor, access, placement and institutional governance.

Therefore, to distinguish between private and public universities relating to students' rating of perceived service quality, the study hypothesized that:

H6: Perceived service quality is higher in Ghanaian private universities than in public universities.

A comparison of the students' ratings of dimensions of perceived service quality between public and private universities was performed using independent samples T-Test and means. In testing these dimensions of perceived service quality, t-values are deemed significant at $p < 0.05$ and $t \geq |1.96|$ (two-tailed test), which is generally accepted by social science researchers. The results of the T-Test are presented in Table 7.13.

Table 7.13: Students Ratings of Perceived Service Quality - Comparing Public with Private Universities in Ghana

PSQ Items	Category	N	Mean	S.D	T	p
Teaching Methodology	Public university	390	5.64	1.09	2.30	0.02*
	Private university	388	5.47	1.07		
	Total	778	5.55	1.08		
Environmental Adequacy in Study Factor	Public university	390	4.66	1.49	-0.12	0.91
	Private university	388	4.67	1.23		
	Total	778	4.67	1.36		
Access	Public university	390	4.89	1.43	0.08	0.94
	Private university	388	4.88	1.30		
	Total	778	4.88	1.36		
Placement	Public university	390	4.73	1.23	1.77	0.07+
	Private university	388	4.58	1.19		
	Total	778	4.65	1.21		
Institutional Governance	Public university	390	4.27	1.38	-2.70	0.00*
	Private university	388	4.53	1.30		
	Total	778	4.40	1.35		
Overall Perceived Service Quality	Public university	390	4.84	1.01	0.12	0.91
	Private university	388	4.83	0.89		
	Total	778	4.40	1.35		
Aggregate (Composite) Value	Total	778	4.84	0.95		

Note: **t-value is significant at $p < 0.01$ level of significance.
*t-value is significant at $p < 0.05$ level.
+t-value is significant at $p < 0.10$ level

Source: Field data 2016

Teaching Methodology

It is apparent from Table 7.13 that a significant difference exists between public and private students with regards to students' ratings of teaching methodology ($p< 0.05$). Specifically, a mean of 5.64 (Agree) was obtained for public university students, which is significantly higher than a mean of 5.47 (Somewhat agree) obtained for private university students' rating of teaching methodology. This implies public university students rate teaching methodology more positively than private university students.

Environmental Adequacy in Study Factor

Table 7.13 demonstrates that no significant difference exists between public and private university students' rating of environmental adequacy in the study factor, because the p-value (0.91) is far higher than the acceptable significance level (0.05). This shows that students' rating of environmental adequacy in study factor is similar in both public and private universities in Ghana.

Access

Table 7.13 likewise proves that no significant difference exists between public and private university students' rating of access dimension of perceived service quality, because the p-value (0.94) is far higher than the acceptable significance level (0.05). This indicates that students' rating of access dimension is similar in both public and private universities in Ghana.

Placement

It is evident from Table 7.13 that a significant difference exists between public and private university students' rating of placement dimension, because the p-value (0.07) is lower than the acceptable significance level (0.10). Specifically, a mean of 4.73 was obtained for public university students, which is significantly higher than a mean of 4.58 (Somewhat agree) obtained for private university students' rating of placement. This suggests that public university students' rate placement more favourably than private university students in Ghana.

Institutional Governance.

Table 7.13 above shows that a significant difference exists between public and private students with regards to students' ratings of institutional governance ($p< 0.01$), which is lower than the acceptable confidence level (0.05). Specifically, a mean of 4.27 (Neutral) was obtained for public university students, which is significantly lower than a mean of 4.53 (Somewhat agree) obtained for private university students' rating of institutional governance. This implies that private university students rate institutional governance more positively than public university students.

Overall Perceived Service Quality

Finally, Table 7.13 proves that no significant difference exists between public and private university students' rating of overall perceived service quality, because the p-value (0.91) is far higher than the acceptable significance level (0.05). This shows that students' rating of overall perceived service quality is similar in both public and private universities in Ghana. By looking at the mean values, the private university respondents' perceptions of service quality dimensions in ascending order of importance are institutional governance, placement, environmental adequacy in study factor, access and teaching methodology. The most favourable rating was for teaching methodology (mean = 5.47) while the lowest mean value 4.53 was for institutional governance. For the Ghanaian public university, if ranked in ascending order of importance, student respondents' perceptions of service quality dimensions are institutional governance, environmental adequacy in study factor, placement, access and teaching methodology. Again, teaching methodology has the highest mean value of 5.64 whereas the lowest mean value 4.27 was for institutional governance. This suggests that in both private and public universities in Ghana, institutional governance has the lowest perception among the student respondents, whilst teaching methodology is perceived as one of the most important indicators of the quality of a university. This means positive institutional governance was perceived to be the most lacking in the universities, irrespective of public or private.

As earlier indicated, when compared, the mean rating of each perception of dimensions of service quality among private and public university students showed no significant difference for environmental change in study factor and access. This is because the significant value for each dimension is far higher than the acceptable significance level (0.05). Above all, no significant difference exists between public and private university students' ratings of overall perceived service quality. However, the results showed that a significant difference exists between public and private students with regards to students' ratings of teaching methodology, placement and institutional governance dimensions. The results demonstrate that public universities outperform private universities in terms of teaching methodology and placement dimensions, whereas private university respondents' rate institutional governance more favourably than public university students. This implies that private university sector was superior in terms of delivering a better governance practices and policies compared to the public sector. This suggests that there is partly significant difference in the perception among the private and public university students about the quality of service received so far. Therefore, hypothesis **H6** is partly supported in the present context.

7.8 Summary of the Chapter

This chapter has provided a detailed analysis of quantitative data gathered from students and findings of the study. The analysis of respondents' background characteristics was presented before the main analysis, and it revealed that there was fair representation of both genders, 85.2% of respondents had ages between 19 and 39 years, and both university sectors were equaly represented. Data was analysed using CFA within the framework of SmartPLS Version 6.2.3 software. The assessment of first-order reflective latent variables of the measurement model through composite reliability, convergent validity and discriminant validity, met all the minimum requirements. Therefore, all reflective constructs yielded satisfactory reliability and validity tests. The first-order reflective latent variables include five dimensions of perceived service quality (teaching methodology, environmental adequacy in study factor, access, placement and institutional or university governance) and overall student satisfaction. Similarly, student perceived value, which was conceptualised as a first-order formative construct (with 22 items) in the present study, was also statistically significant and valid when subjected to a multi-collinearity test.

Structural path analysis of the study's conceptual framework in this chapter using SmartPLS Version 6.2.3 employing bootstrap t-values (5000 sub-samples) revealed that all the constructs showed strong explanatory power while all paths were statistically significant and follow the hypothesised direction. Specifically, the eight research hypotheses of this study (H1a, H1b, H1c, H1d, H1e, H2, H3, & H4) subjected to path analysis in this chapter were supported. In addition, the mediation role of student perceived value between the relationship of perceived service quality and overall student satisfaction was tested, and the hypothesis H5 was supported in the present context. Thus, the indirect effect of perceived service quality on overall student satisfaction via student perceived value was significant, providing strong evidence that partial mediation exists. A *t*-test was used to test for significant differences across the private and public university sectors in terms of students' perceived service quality, and the results revealed that the public and private universities differ on teaching methodology, placement and university governance dimensions; however, private universities were only superior to public universities in respect of university governance. It is therefore evident from this chapter that hypothesis H6 (perceived service quality is higher in Ghanaian private universities than public universities) was partly supported in the present context.

Based on the research hypotheses test findings and the outcome of the *t*-test used in the current study, the next chapter will present the discussion of the findings and their implications as well as establish the extent to which extant literature aligns with the findings. It will then validate the empirical conceptual model for perceived service quality for Ghana's university industry.

CHAPTER EIGHT
DISCUSSION OF FINDINGS

8.1 Introduction

The chapter discusses findings of current research in light of previous research works, the study's objectives and research questions. Although both qualitative and quantitative strands of research were undertaken in this study, as earlier indicated in Chapter Five, the initial qualitative study was only used to derive measures for the "university governance" construct, which subsequently was then used together with other measures of the study's constructs to develop a survey questionnaire for the quantitative study. Accordingly, triangulation of qualitative and quantitative findings is not deemed appropriate in the context of discussion of findings of the study. It is also important to state that the study did not construct a hypothesized relationship between demographic variables and the study's constructs; therefore, there will be no further discussion on those variables in this chapter.

The chapter is structured into six sections with the introduction as section 8.1. Section 8.2 presents a discussion of dimensions of university service quality and their relationships with perceived service quality. The relationship between perceived service quality; student perceived value; and overall student satisfaction in the university sector are discussed in the third section (8.3). The fourth section (8.4) compares perceived service quality in the public and private universities in Ghana. The fifth section (8.5) focuses on validation of the conceptual model proposed in Chapter Four. The sixth and final section (8.6) provides a summary of the chapter.

Before proceeding to discuss the findings of the study in subsequent sections of the chapter, it is apt to restate that the study is designed to achieve the underlisted specific objectives:

- RO1: To identify and evaluate the influence that each of the underlying country-specific dimensions of university service quality unique to Ghanaian culture has on perceived service quality, and the importance of the dimensions to students in Ghana;
- RO2: To determine whether students' experience of university governance affect their perception of university service quality in Ghana;
- RO3: To determine the relationships between perceived service quality and student value and subsequently overall student satisfaction with respect to university institutions in Ghana;

- RO4: To compare the public and private Ghanaian universities in terms of students' perception of service quality; and
- RO5: To develop a valid and reliable service quality measurement scale for universities in Ghana.

To address these study objectives, the study sought answers to the following research questions:

- RQ1: Does each of the underlying country-specific dimensions of university service quality influence perceived service quality in the Ghanaian universities, and how important is each dimension to students in Ghana?
- RQ2: Does a student's experience of university governance affect their perception of university service quality in Ghana?
- RQ3: What are the strengths of relationships between perceived service quality and student perceived value and, subsequently, overall satisfaction of students in Ghana?
- RQ4: How do Ghanaian public and private universities compare in terms of students' perceptions of service quality?
- RQ5: What is the appropriate measurement scale that could be used to measure students' perceptions of university service quality in Ghana?

In addition, the ensuing 10 hypotheses were formulated for the purpose of the study:

H1a: Higher perceived level of teaching methodology leads to higher perceived level of university service quality.

H1b: Higher perceived level of environmental adequacy in study factor leads to higher perceived level of university service quality.

H1c: Higher perceived level of access leads to higher perceived level of university service quality.

H1d: Higher perceived level of placement leads to higher perceived level of university service quality.

H1e: Higher perceived level of institutional (or university) governance leads to higher perceived level of university service quality.

H2: Perceived service quality has a positive and significant effect on overall student satisfaction.

H3: Perceived service quality has a positive and significant effect on students' value.

H4: Perceived student value has a positive and significant effect on overall student satisfaction.

H5: Student perceived value mediates the association between perceived service quality and overall student satisfaction.

H6: Perceived service quality is higher in Ghanaian private universities than public universities.

8.2 Dimensions of University Service Quality and Perceived Service Quality

This study examines service quality from the student perspective in the Ghanaian university sector; and how it impacts on overall student satisfaction via student value. Recapitulating the literature on measuring service quality in higher education institutions (HEIs), researchers have not settled on a single measurement scale that can be used to evaluate the students' perceptions of service quality provided by these institutions (de Jager and Gbadamosi, 2010). Although many researchers have employed similar measurement scale rooted in the SERVQUAL model, the analysis has resulted in varied dimensions of university service quality.

Recently, there has been clarion calls towards developing a more creative models of service quality that are country/culture specific in order to capture measures that are unique to individual country settings (e.g., Karatepe et al., 2005; Martinez and Martinez, 2010; Frimpong and Wilson, 2013). The author believes that the identification of relevant underlying country-specific dimensions of university service quality must capture overall education experience that brings value to the stakeholders, particularly students. This study has identified five service quality dimensions defined and built through analysis of the literature. These dimensions have been linked to the perceived service quality (PSQ) construct, which in turn has been linked to both students' perceived value and overall student satisfaction to test if there is any significant impact of these dimensions on PSQ.

The empirical findings revealed that university service quality in Ghana can be conceptualized and measured as a five-dimensional construct comprising: environmental adequacy in study factor (EA); institutional (or university) governance (UG); teaching methodology (TM); placement (PL); and access (AC). While some previous studies (e.g., Senthilkumar and Arulraj, 2011; Teeroovengadum et al., 2016) did not use the same name for the dimensions as this research has, the variables or items in the dimensions are alike.

The EA, UG and TM dimensions are each made up of five items; PL is made up of four items, while three items make up the AC dimension. The measurement items for these dimensions demonstrated high internal consistency reliability and satisfy the rigorous conceptual and empirical criteria for construct validity including content, convergent, discriminant, and nomological validity. The five first-order dimensions contribute significantly to forming second-order perceived service quality.

Students consider EA as the dimension contributing most towards their overall perceived service quality of the university. The EA relates to facilities that promote quality teaching and learning, including a conducive environment that supports learning. UG that promotes student performance is the second important dimension that drives a satisfactory service quality to students. Furthermore, TM is the third significant dimension suggesting that management of universities should invest in training and recruiting knowledgeable faculty who are courteous and reliable. PL is the fourth most important dimension; however, it has the propensity to mar students' experience of quality education if they consider that the graduates from their university do not get jobs and there is no linkage between their university and industry. The AC dimension, ranked fifth in this study, demonstrates the importance of promoting a successful and consistent faculty interaction with students in the service encounter.

Notwithstanding that these dimensions have different levels of significance to the students; they re-enforce each other. A student's perception is based on the entirety of the service experience and not on single component parts. Accordingly, a deficiency in the performance of any of the dimensions that emerged in this study adversely impacts on students' overall perceived service performance. To attract new students or retain existing students, management should emphasize service delivery that considers all five service quality dimensions. Each of these dimensions is sequentially discussed below.

8.2.1 Environmental Adequacy in Study Factor (EA)

The empirical findings revealed that a higher perceived level of EA significantly leads to a higher perceived level of university service quality. The findings suggest that the more highly students evaluate the attributes of EA, the more highly they are to rate university service quality. The attributes of the EA dimension of university service quality were made up of tangibles within the university setting, particularly physical facilities, serenity, and ambience. For instance, the higher students perceive good library facilities, computer facilities, laboratory facilities, recreational facilities, and excellent conducive environment for study in the university setting, the higher level of perception of service quality will be received.

Extant literature supports EA as a dimension of perceived service quality in Ghana’s university sector. Senthilkumar and Arulraj (2011) and Sumaedi et al. (2012) asserted that the university facilities dimension makes the most contribution to the service quality perceptions in the higher education context. As aptly stated by Tsinidou et al. (2010), Kimani et al. (2011), Sultan and Wong (2014), Icli and Anil (2014), and Teeroovengadum et al. (2016), infrastructural facilities (i.e., support infrastructure, general infrastructure and learning setting) constitute a significant dimension of perceived service quality, thereby determining the satisfaction indicator for the university.

This study also finds support in Dura and Isac (2014), who stated that the university campus should offer conditions for a pleasant and active student life through its physical facilities and must comply with the standards imposed by the necessity of carrying out a high-quality education process. Corroborating this, Lizzio, Wilson and Simons (2002, p. 43) emphasized that “a good teaching environment influence students towards deep approaches to studying, and conversely, students’ perceptions of a bad teaching environment influence them towards surface approaches to studying”. The findings of this will be beneficial to campus facilities’ managers to prioritise student satisfaction factors and identify the areas of the quality improvements. Moreover, this evidence can be used widely, for example, in the campus development, facilities management and improvement of the university services.

8.2.2 Institutional (or University) Governance (UG)

In consideration of the potential impact of a student’s experience of university governance on their perceived service quality, this study has demonstrated that good university governance is indispensable in aiding higher education institutions to improve quality of service rendered to students in Ghana. Statistically, findings from structural equation modelling analysis found that a higher perceived level of UG leads to a higher perceived level of university service quality. This means that, in Ghana’s university sector, the more highly students evaluate institutional governance attributes, the more they tend to rate university service quality highly. The attributes of UG were determined through qualitative study and were subject to statistical analysis that comprised of inclusion of students in decision making regarding matters that concern them; transparency in fixing fees in the university; leadership of the university demonstrating fair behaviour towards students; administrative staff delivering services in a responsive manner to students; and effective coordination of activities in the administration of the university.

The findings of this research align with Monyoncho's (2015) findings that governance measures impact on the quality of services in a university. Further, Abugre (2018) maintains that weakness in institutional policies of higher education in Ghana largely impact on efficient delivery of academic teaching and research. Institutional factors such as leadership behavior towards students, transparency in administration and students' involvement in decision making affects individual demand for higher education, and these factors ultimately influence the perception of education received; therefore, this researcher argues in support of Sarpkaya (2010) and Icli and Anil (2014).

Extant literature indicates some good governance criteria for management of institutions include effective decision making, transparency in dealing with issues, and an effective grievance redress system that demonstrate fair behaviours (Mathew, 2014). These findings collaborate elements of the UG dimension in the current study. Achieving this finding has expanded knowledge frontiers of service quality in the higher education context. Therefore, identifying the potential of UG as a determinant of perceived service quality may encourage future researchers to devote greater attention to investigate whether different types of attributes of university governance (e.g., transparency in fixing fees or inclusion of students in decision making) influence students' level of satisfaction in different ways or to various extents.

8.2.3 Teaching Methodology (TM)

From the quantitative findings, it is evident that a higher perceived level of TM leads to a higher perceived level of university service quality. This result confirms the potential influence of TM on perceived service quality. That is, students who have a higher level of perceived TM attributes in a university will be more inclined to have a higher level of university service quality. This suggests that universities that ensure delivery of excellent tuition, encourage class group interaction, and possess faculty that exhibit both contemporary theoretical and practical knowledge would be assessed by students as delivering superior service.

The result of this study agrees with previous studies that found a significant positive relationship between perceived service quality and students' preference for lectures to be interactive, practical, advancing knowledge and current (Senthilkumar and Arulraj, 2011; Sultan and Wong, 2014). This finding is somewhat supported by Butt and Rehman (2010) and Thomas (2011), who found a positive relationship between quality teaching provided by knowledgeable academicians and student satisfaction. Kashif and Ting (2014) specifically posited that the focus of students on quality dimensions related to faculty signifies the role of instructors in contributing towards perceived service quality.

8.2.4 Placement (PL)

The study has proved empirically that a higher perceived level of PL leads to a higher perceived level of university service quality. This suggests that the more highly students evaluate placement related attributes, the more they tend to rate university service quality highly; and this, in turn, strengthens the effect university performance has on overall student satisfaction. Specifically, placement (or career opportunities) related attributes that drive students' perception of service quality include the university maintaining constant interaction with its alumni, graduates from their university secure good jobs, and evidence that the university forges a strong collaboration with industry.

The results of this research are consistent with a study by Icli and Anil (2014) on universities in Turkey where it was found that providing career opportunities influence students' perceived performance of their university. Earlier, a study by Arambewela et al. (2005) found that career opportunities are very influential on students' perceptions of service quality. An extant study by Senthilkumar and Arulraj (2011) on universities in India has empirically proved that placement is a mediating factor in service quality in HEIs. The output from these studies confirms findings from the current study.

In recent times, graduate employment has become a big issue in Ghana. Apart from the fact that there are simply not enough jobs for the number of graduates Ghana produces each year (Alabi, 2017), the mindset of students is not towards entrepreneurship, but towards immediate employment. Anecdotal evidence indicates several students now rate universities based on career opportunities they provide for their students. It is therefore not surprising that placement emerged as a significant service quality dimension in this study. Thus, to encourage superior service delivery to students, universities in Ghana should maintain constant interaction with their alumni, develop strategies that ensure graduates from their university secure good jobs, and that they continue to strengthen university-industry collaboration.

8.2.5 Access (AC)

In relation to the AC construct, the quantitative findings revealed that a higher perceived level of AC leads to a higher perceived level of university service quality. This suggests that when students found that their lecturers are not only available for guidance but also allocate sufficient and convenient time for consultation, they tend to rate the perceived service performance of the university higher.

The significant positive relationship between AC dimension and perceived service quality in this study is consistent with the findings of Athiyaman (1997), Clemes et al. (2001), DeShields et al. (2005), Sultan and Wong (2010a), and Ushantha et al. (2016). Abdullah (2006c) specifically intimated that the AC variables consist of items that relate to approachability; ease of contact of the university; availability of academic staff for guidance and advice; and convenience. He further asserted that AC is the dominant factor that influences students' perceptions of SQ in HEIs, in Malaysia. Moreover, Thomas (2011) stated that good access to lecturers is perceived to be the most important variable influencing students' satisfaction.

Confirmation of Hypotheses H1a, H1b, H1c & H1d, Objective RO1 (To identify and evaluate the influence each of the underlying country-specific dimensions of university service quality has on perceived service quality and the importance of the dimensions to students in Ghana) and **Research Question RQ1** (Does each of the underlying country-specific dimensions of university service quality influence perceived service quality in the Ghanaian universities, and how important is each dimension to students in Ghana?)

Based on the findings of the study, hypotheses H1a, H1b, H1c and H1d are supported in Ghana's university sector. These hypotheses are represented in Table 8.1 below.

Table 8.1: University Service Quality Dimensions and Perceived Service Quality Hypotheses

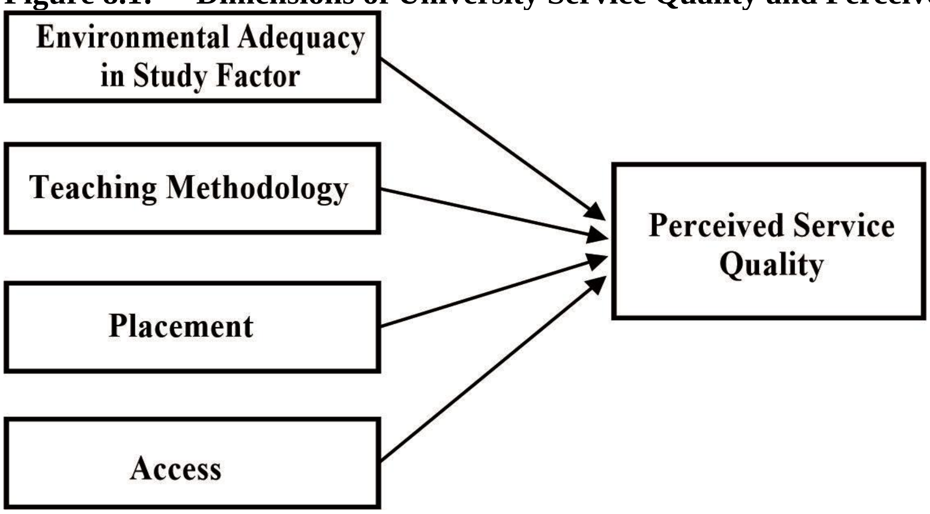
Hypothesis	Significance	Result
H1a: Higher perceived level of teaching methodology leads to higher perceived level of university service quality.	High	Supported
H1b: Higher perceived level of environmental adequacy in study factor leads to higher perceived level of university service quality.	High	Supported
H1c: Higher perceived level of access leads to higher perceived level of university service quality.	High	Supported
H1d: Higher perceived level of placement leads to higher perceived level of university service quality.	High	Supported

Source: Fieldwork, 2016

The findings help to address research objective RO1 and accordingly provides a response to the research question RQ1, which sought to identify and evaluate underlying country-specific dimensions of university service quality in Ghana and the importance of each dimension to students. It is apparent from the findings that “environmental adequacy in study factor”, “teaching methodology”, “access”, and “placement” were identified as important dimensions that contribute to perceived service quality in universities in Ghana.

Based on the study results, the following parts of the conceptual model proposed in Chapter 4 (Figure 4.1) are confirmed by Figure 8.1, in that “environmental adequacy in study factor”, “teaching methodology”, “access”, and “placement” dimensions have a positive significant influence on perceived service quality in Ghana’s university sector.

Figure 8.1: Dimensions of University Service Quality and Perceived Service Quality



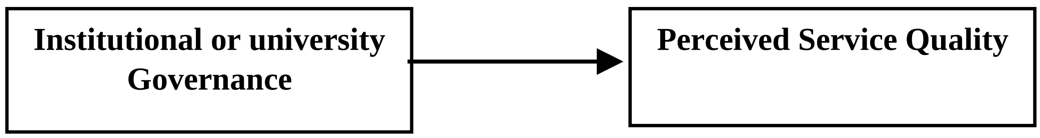
Source: Fieldwork, 2016

Confirmation of Hypothesis H1e, Objective RO2 (To determine whether students’ experiences of university governance affect their perception of university service quality in Ghana**)** and **Research Question RQ2 (**Does a student’s experience of university governance affect their perception of university service quality in Ghana?**)**

With respect to these findings, it can be stated that hypothesis H1e, which indicates that a higher perceived level of “university governance” leads to a higher perceived level of university service quality in Ghana’s university sector, is supported. The findings help to accomplish research objective RO2, and consequently provides a response to research question RQ2, which sought to determine whether a student’s experience of “university governance” affect their perception of university service quality. It is evident from the findings that "institutional or university governance" is a significant dimension that contributes to university students' perceived service quality in Ghana.

Based on the study results, the following parts of the conceptual model proposed in Chapter 4 (Figure 4.1) are confirmed by Figure 8.2, in that the university governance dimension has a positive significant influence on perceived service quality in Ghana's university sector.

Figure 8.2: Institutional Governance Dimension and Perceived Service Quality



Source: Fieldwork, 2016

Response to Objective RO5 and Research Question RQ5

The study results help to achieve research objective RO5, and thus provides a response to research question RQ5, which sought to develop the appropriate scale that could be used to measure students' perception of university service quality in Ghana. It is evident from the results that a final scale of a 22-item measurement instrument (anchored on 7-point Likert scale) has been developed after purification (i.e., removal of some items) to measure students' perceptions of university service quality in Ghana. Table 8.2 below explicitly delineates the university service quality dimensions and their respective indicators.

Table 8.2: Measurement Scale to Measure Students' Perceptions of University Service Quality in Ghana

1=Strongly disagree	**2=Disagree**	**3=Somewhat disagree**
4=I can't decide	**5=Somewhat agree**	**6=Agree**
7= Strongly agree		

Teaching Methodology	**My level of agreement**						
This university offers excellent teaching	**1**	**2**	**3**	**4**	**5**	**6**	**7**
This university encourages class group interaction	1	2	3	4	5	6	7
Lecturers at this university have relevant theoretical knowledge	1	2	3	4	5	6	7
Lecturers at this university have relevant practical knowledge	1	2	3	4	5	6	7
Lecturers at this university are up to date in their subject	1	2	3	4	5	6	7

Environmental Adequacy in Study Factor	**My level of agreement**						
This university has good library facilities	1	2	3	4	5	6	7
This university has good computer facilities	1	2	3	4	5	6	7
This university has good recreational facilities	1	2	3	4	5	6	7
This university has good laboratory facilities	1	2	3	4	5	6	7
This university has excellent conducive environment for study	1	2	3	4	5	6	7

Access	**My level of agreement**						
Lecturers at this university are available for guidance	1	2	3	4	5	6	7
Lecturers at this university allocate sufficient time for consultation	1	2	3	4	5	6	7
Lecturers at this university allocate convenient time for consultation	1	2	3	4	5	6	7

Placement	**My level of agreement**						
The university maintains constant interactions including networking with alumni	1	2	3	4	5	6	7
The university pays close attention to industry and university collaboration	1	2	3	4	5	6	7
The graduates from the university get good jobs	1	2	3	4	5	6	7
There is a linkage between this university and industry	1	2	3	4	5	6	7

Institutional or university governance	**My level of agreement**						
In this university students are included in decision making regarding matters that concern them	1	2	3	4	5	6	7
There is transparency in fixing fees in this university	1	2	3	4	5	6	7
The leadership of this university demonstrates fair behaviour towards students e.g., adequately resolving student's complaints	1	2	3	4	5	6	7
Students are pleased with services provided by administrative staff of this university	1	2	3	4	5	6	7
There is effective coordination of activities in the administration of this university	1	2	3	4	5	6	7

Source: Fieldwork, 2016

8.3 Relationship between Perceived Service Quality, Student Perceived Value and Overall Student Satisfaction

This section discusses the relationship between the perceived service quality construct, student perceived value and overall student satisfaction that emerged in the study regarding university institutions in Ghana. The findings confirm that both perceived service quality and student perceived value explained about 57.4% of the total variance in overall student satisfaction, demonstrating good explanatory power. This suggests that perceived service quality and student perceived value moderately contributes to the explanation of overall student satisfaction. Furthermore, the model reveals a high predictive relevance (Q^2=0.352), which demonstrates that perceived service quality and student perceived value have a substantial impact in predicting overall student satisfaction in Ghanaian universities.

8.3.1 Perceived Service Quality and Overall Student Satisfaction

A large body of extant studies has demonstrated that customers' perception of service quality has a positive and significant effect on customer satisfaction across many sectors (see e.g., Sultan and Wong, 2012; Howat and Assaker, 2013; Mohamed and Azizan, 2015; Hapsari et al., 2016; Gupta and Kaushik, 2018; Hallak et al., 2018). Specifically, Sultan and Wong (2014, p. 498) described student satisfaction as a psychological state of happiness resulting from the performance evaluation of the service attributes in the context of higher education. While students' perceptions of service quality are cumulative or long period overall evaluation of the cognitive process, student satisfaction is the outcome overall evaluation, with overall satisfaction having a strong affective orientation concerning students' or customers' overall experience with a service (Baker and Crompton, 2000).

Various extant studies in the higher education sector have established that the more positively students evaluate service quality, the more they tend to be satisfied (Brown and Mazzarol, 2006; Hasan et al., 2009; Gounaris et al., 2010; Kimani et al., 2011; Mansori et al., 2014; Sultan and Wong, 2012, 2014; Annamdevula and Bellamkonda, 2016; Subrahmanyam, 2017; Chandra et al., 2018). Thus, students' educational experience in a competitive higher educational milieu can be a critical determinant of their satisfaction (Al-Alak, 2009). Howbeit, Brown and Mazzarol (2009) contend that, in the higher education context, service quality affects satisfaction via perceived value.

Quantitative findings from PLS-SEM analysis indicate perceived service quality has a significant positive impact on overall student satisfaction in Ghanaian universities (β=0.360, p<0.01). Besides, the study revealed that perceived service quality has a medium effect size on overall student satisfaction (f^2=0.157). The implication of this is that perceived service quality has a significant impact on overall student satisfaction. This finding of the study aligns with a study on service quality in Nigerian private universities by Famutimi and Kabuoh (2021) who suggested that service quality has a positive and significant effect on student satisfaction for Bachelor of Science in marketing degree programmes. Similarly, Borishade and his peers (2021) conducted a study on the relationship among service quality, student satisfaction and loyalty in Nigeria and reported that if students perceived the quality of service to be high, then their satisfaction level will be high; and this will unfailingly result in student loyalty. As such, they suggest that the delivery of quality services should be aimed towards satisfying the student as this will eventually result in building the loyalty of the student to the institution. Based on the study results, this study finds that perceived service quality has a positive and significant effect on overall student satisfaction in Ghanaian universities.

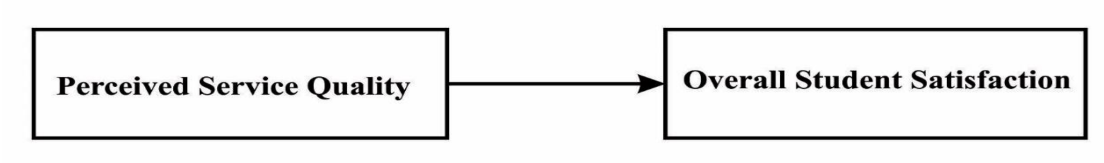
Interesting, the study results suggest that the overall student satisfaction of service quality in Ghanaian universities is influenced by "environmental adequacy in study factor", "teaching methodology", "access", "placement" and "university governance". Therefore, management of universities and policy makers of tertiary institutions should not overlook these dimensions in their daily operations because perceived service quality has been proved to significantly influence students' satisfaction level, which probably may influence their intention to come back to pursue further education, and/or their likelihood to recommend their universities to others. The results support prior studies and provide a useful foundation on which further theoretical and empirical research can be built in the field of university service quality. Although some studies have not employed similar names for the constructs as this study, the items or indicators of the constructs are alike. Thus, present study supports the literature that advocates perceived service quality to play a more important role than just being a notable antecedent to overall student satisfaction.

Confirmation of Hypothesis H2, Objective RO3 and Research Question RQ3

The findings of this study therefore support hypothesis H2, which indicates that in Ghana's university sector perceived service quality has a positive and significant effect on overall student satisfaction. The findings help address research objective RO3 and, accordingly, provides answers to research question RQ3, which sought to investigate the strength of the relationship between perceived service quality and overall satisfaction of students in Ghanaian universities. It is evident from the findings that students' overall evaluation of university quality would determine how they rate their overall satisfaction with the institution's service delivery.

In respect of these findings, the following part of the conceptual model proposed in Chapter 4 (Figure 4.1) is confirmed by Figure 8.3, which shows that, in Ghana's university sector, perceived service quality positively and significantly influences overall student satisfaction.

Figure 8.3: Perceived Service Quality and Overall Student Satisfaction



Source: Fieldwork, 2016

8.3.2 Perceived Service Quality and Student Perceived Value

Extant literature has indicated that a positive and significant relationship exists between perceived service quality and customer perceived value (Shukla, 2010; He and Li, 2011; Yu et al., 2011; Uddin and Akhter, 2012; Howat and Assaker, 2013; Dlacic´ et al., 2014; Hallak et al., 2018; Hamenda, 2018; Ng'ang'a. K., 2020). This suggests that a higher level of perceived service quality will result in a higher level of perceived value by customers. Earlier, Cronin et al. (2000) posited that value of a service product is largely defined by perceptions of service quality. Another recent study by Zhang et al. (2016) in sport management programs has also proved that educational service quality directly and positively influences students' perceived value.

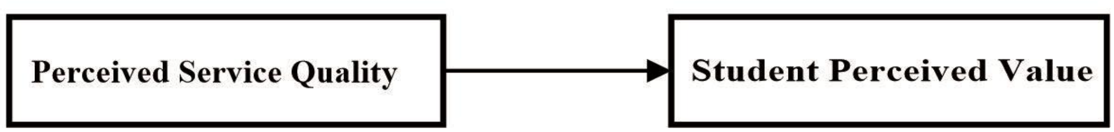
Similarly, the positive relationship between overall educational service quality and students' perceived value has been well established in extant studies (see e.g., Hayduk, 2003; Brown and Mazzarol, 2006; Hasan et al., 2009; Sultan and Wong, 2012; Mansori et al., 2014; Prentice et al., 2018). In a study in the higher education context by Ledden et al. (2011) it was proved empirically that perceived service quality is an antecedent of perceived value. Sureshchander et al. (2002) aptly captures this by stating that service quality is a key determinant of value for graduates of higher education institutions in the job market.

The empirical findings from PLS-SEM analysis showed that perceived service quality has a significant positive impact on students' perceived value in Ghana's university industry. Specifically, the research findings indicated that 35% of the variance in student value was accounted for by perceived service quality, indicating good explanatory power. The test results further revealed that the impact of perceived service quality in predicting student value is moderate (Q2= 0.118). As such, this study has demonstrated that perceived service quality is a significant determinant of student perceived value in Ghana's university sector. Anecdotal evidence suggests that Ghanaian students consider the benefits they are likely to derive and sacrifices they must make before choosing a particular university in Ghana's competitive tertiary education landscape. As such, this research has enriched the available literature by urging management of HEIs in Ghana that a higher perceived service quality has a stronger positive effect on students' perceived value.

Confirmation of Hypothesis H3, Objective RO3 and Research Question RQ3

Based on the empirical findings that emerged from this study, it can be stated that hypothesis H3, which indicates that perceived service quality has a positive and significant effect on students' perceived value is supported in Ghana's university sector. The findings help to address research objective RO3 and, accordingly, provides answers to research question RQ3, which sought to investigate the strength of the relationship between perceived service quality and student value in Ghanaian universities. It is evident from the findings of this study that higher perceived service quality experienced by students in Ghanaian universities results in a stronger positive impact on value received. In respect to these findings, the following part of the conceptual model proposed in Chapter 4 (Figure 4.1) is confirmed by Figure 8.4, which shows that, in Ghana's university sector, perceived service quality has a positive and significant effect on student value.

Figure 8. 4: Perceived Service Quality and Student Perceived Value



Source: Fieldwork, 2016

8.3.3 Student Perceived Value and Overall Student Satisfaction

It has been widely reported by researchers that perceived value has a positive direct impact on customer satisfaction (see e.g., Uddin and Akhter, 2012; Howat and Assaker, 2013; Yu et al., 2014; Hallak et al., 2018; Hamenda, 2018). On the hand other hand, Gallarza et al. (2011) reported that perceived value is an antecedent to customer satisfaction, and not vice versa. According to Wang, Lo, Chi and Yang (2004) and Alves (2011), a higher perceived value leads to higher customer satisfaction.

Several prior studies in higher education have reached the same conclusions that students who more favourably perceive the value of an education programme are more probable to experience higher levels of satisfaction (see. e.g., Cronin Jr. et al., 2000; Altbach et al., 2009; Brown and Mazzarol, 2009). These findings agree with more recent extant studies that reported perceived value as an antecedent of student satisfaction (Mansori et al., 2014; Zhang, Wang, Min and Chen, 2016).

The empirical findings from PLS-SEM analysis of this study established that student perceived value has a significant positive effect on overall student satisfaction in Ghana's university sector (β=0.487, $p<0.01$). What is more, the study obtained a large effect size of perceived student value on overall student satisfaction (f^2=0.354). This demonstrates student value has a positive and significant effect on overall student satisfaction in the context of this study. This evidence aligns with the position of Shukla (2010), and Moosmayer and Siems (2012) that value leads to satisfaction. Furthermore, Ledden et al. (2011) contended that perceptions of value have been a driver of satisfaction, the ultimate outcome of which is word-of-mouth recommendation.

Confirmation of Hypothesis H4, Objective RO3 and Research Question RQ3

These findings support hypothesis H4, which states that student perceived value has a positive and significant effect on overall student satisfaction in Ghana's university sector. The findings help to achieve research objective RO3 and, accordingly, provides answers to research question RQ3, which sought to investigate the strength of the relationship between student perceived value and overall student satisfaction in Ghanaian universities. It is evident from the findings that student perceived value is a significant predictor of overall student satisfaction in Ghanaian universities. In respect of these findings, the following part of the conceptual model proposed in Chapter 4 (Figure 4.1) is confirmed by Figure 8.5, which shows that, in Ghana's university sector, student perceived value has a positive and significant effect on overall student satisfaction.

Figure 8. 5: Student Perceived Value and Overall Student Satisfaction

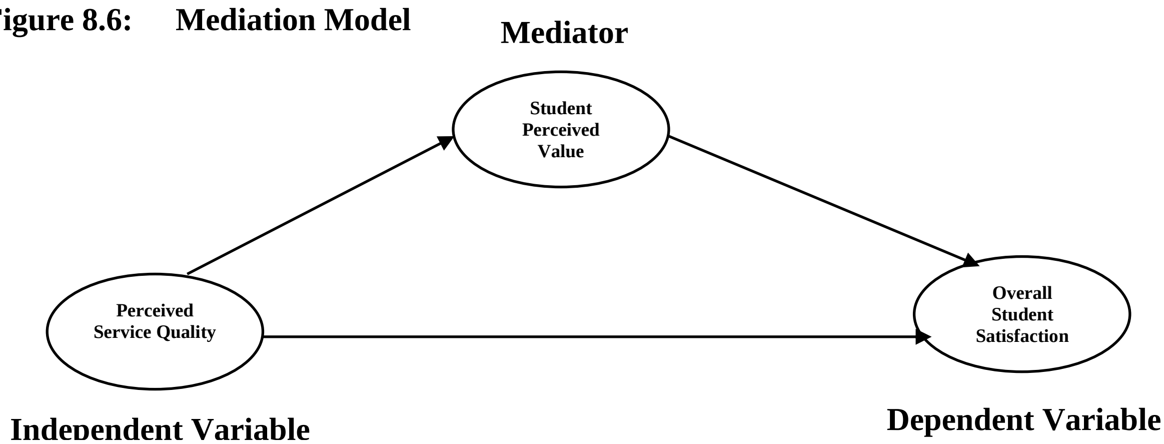
Source: Fieldwork, 2016

8.3.4 Mediation of the Student Perceived Value

One major gap to be filled by this study was to investigate the mediating role of student perceived value on the nexus between perceived service quality and overall student satisfaction in Ghana's university sector. Therefore, a hypothesis on mediation was built and tested (H5): Student perceived value mediates the association between perceived service quality and overall student satisfaction. The indirect influence of the perceived service quality on overall student satisfaction through student perceived value, as shown in Figure 8.6 below, was tested using the PLS-SEM approach proposed by Nitzl et al. (2016), following the guidelines outlined by Zhao, Lynch and Chen (2010).

The results established that the mediation effect of student perceived value between perceived service quality and overall student satisfaction was significant at $p \leq 0.01$ ($\beta = 0.281$, t-stat = 7.795). The mediation analysis also revealed that 38.69% of the overall student satisfaction from perceived service quality is attained through student perceived value as an intervening variable, thus justifying partial mediation. Hence, hypothesis (H5) was supported. However, the results also confirm that the direct effect of perceived service quality on overall student satisfaction is greater than the indirect effect. In particular, the findings indicated that both the indirect ($\beta = 0.281$) and direct ($\beta = 0.424$) effects are positive and in the same direction, therefore confirming complementary partial mediation. The result of the mediation analysis suggests that students' perceptions of university service quality dimensions in Ghana can have both direct and indirect effect on their overall satisfaction level. This implies that managers of higher education can achieve better overall student satisfaction through service quality than to use perceived service quality to enhance student perceived value before improving overall student satisfaction.

Figure 8.6: Mediation Model



Source: Fieldwork, 2016

Largely, the result of this analysis supports recent studies that reported perceived service quality as having an indirect effect on customer satisfaction through perceived value. Thus, it was also proved empirically by Hapsari et al. (2016) and Hamenda, (2018) that there is partial mediation of perceived value of the relationship between service quality and customer satisfaction, however the intensity of mediation was not reported. Malik (2012), in a study of the service sector of Pakistan, also found perceived value acts as a partial mediating variable in the relationship between perceived service quality and customer satisfaction. Another study by Oriade (2013) confirms that perceive value mediates the perceived quality attributes-visitor satisfaction relationship in UK attractions services. The outcome of this study aligns with those available in the literature notwithstanding it provides it in another context, which is higher education sector.

Nonetheless, to the best of this researcher’s knowledge there is limited empirical evidence of student perceived value mediating the relationship between perceived service quality and overall student satisfaction in higher education sectors. The outcome of Yunus et al.’s (2009) study at a public university in Malaysia confirms that perceive value partially mediates the relationship between service quality and student satisfaction. A recent study conducted by Ledden et al. (2011) in the UK higher education sector has established that students who perceived high levels of service quality were more likely to have superior value, and that in turn influences students’ overall satisfaction positively. All relationships in the model showed statistical significance; but mediation testing was not carried out in the study.

Accordingly, the findings of this research have enhanced the literature of service quality in the university sector. Meanwhile, management of universities in both public and private sectors in Ghana needs to be aware that a portion of the effect of practices of perceived quality dimensions on overall student satisfaction is mediated student value, whereas perceived service still drives student satisfaction that is independent of student value. Satisfaction may stir a student’s desire to remain with or leave the college, and their inclination to provide word-of-mouth recommendations (Khao et al., 2017). Therefore higher education institutions should evaluate service quality to improve the service quality to ensure student satisfaction, which will in turn drive higher student retention rates. Although a high level of students perceived that service quality can lead to high customer satisfaction and perceived value, the effect of perceived service quality on perceived value can be offset by high perceived sacrifice. There are occasions in which students’ satisfaction level with perceived service quality may tend to be high, but their perceptions of its value may be low due to the high costs incurred in obtaining higher education. Therefore, when they learn that another institution is delivering a superior value service, their probability to switch is high.

8.4 Comparison of Public and Private Universities in Ghana in Terms Perceived Service Quality

A major focus of this study was to examine the differences between the public and private university sectors in Ghana by comparing perceived service quality from the perspective of students. In order to establish whether perceived service quality is higher in Ghanaian public universities than private universities, descriptive statistical analysis was performed using t-statistic and means to compare students' ratings of service quality dimensions between public and private universities. As indicated earlier, the dimensions of perceived service quality identified in this study comprise "teaching methodology", "environmental adequacy in study factor", "access", "placement" and "institutional or university governance".

The empical findings of the study showed that a significant difference exists between public and private universities with regard to students' rating of three dimensions comprising teaching methodology ($t=2.30$, $p<0.01$), placement ($t=1.77$, $p<0.05$) and institutional or university governance ($t= -2.70$, $p<0.01$). The results indicate the public university sector was superior in terms of delivering teaching methodology and placement dimensions, whereas the private sector was only superior to the public sector in the delivering university governance dimension. One marked observation to emerge from the data comparison was that the biggest difference is related to the university governance dimension followed by teaching methodology and then placement dimension.

However, the findings also offer crucial evidence that public and private university students' ratings of "environmental adequacy in study factor" and "access" dimensions are not essentially different in this study. In addition, the findings disclosed that, comparatively, the dimension that received the most favourable ratings was teaching methodology. This was followed by access, next placement, environmental adequacy in study factor, and then university governance. This suggest that university governance was the least rated dimension by students, implying good university governance was perceived to be least satisfactory in both public and private university sectors in Ghana. The following sections below present discussions on the differences and similarities in rating these dimensions in the two university sectors in Ghana.

8.4.1 Differences in Teaching Methodology (TM) Dimension in Public and Private Universities

As indicated, the result in this study has shown a difference in rating of the teaching methodology dimension by students in public and private universities in Ghana. The measures used in rating the TM dimension in this study, as stated earlier, involve exceptional teaching (i.e., pedagogical approach), class group interaction, lecturers' relevant theoretical and practical knowledge, and lecturers' up to date knowledge of the courses they deliver to students. Specifically, the findings of the statistical analysis of the study revealed that public university students rate teaching methodology (mean=5.64) more positively than private university students do (mean=5.47). A plausible explanation for this result is that there are more professors and senior lecturers in public universities than in private universities in Ghana (NCTE, 2018). The reason, as intimated by Kumar (2019), is that public universities employ professors, assistant professors and associate professors through a rigorous and competitive selection process meaning that they try to take the best from the options available. Therefore, the quality of teaching that is being offered in public universities may be perceived generally to be good.

It is also more likely that the public sector students may have relied more on the reputation and expertise of their professors in rating their theoretical and practical knowledge higher as compared to private sector students. This assertion is supported by Mazumder (2014) who reported that students value qualifications of the professors as an important determinant of quality. Additionally, public university lecturers have much more opportunities to participate in both local and international professional developmental workshops and training events compared to their counterparts in private universities (Scheper, 2013) because they have more funding support for such programmes compared to those in private universities. This could have impacted on their possible use of teaching methodologies that caused the students to give them a higher rating compared to lecturers in private universities.

Besides, the population of students in public universities in many instances is known to be higher compared to private universities. Even though large class sizes over the years have been known to have negative consequences, the large class sizes in public universities promote adequate group or social interaction that has been proven to impact positively on learning. For example, Hurst, Wallace and Nixon (2013) found that higher education students perceive social or class interaction to be an important element for effective teaching and learning and therefore recommend it as an important teaching strategy. This might be one of the plausible reasons contributing to the higher rating of this dimension by public university students compared to the private sector students.

This study's findings however disagrees with what was found in Malaysia by Naidu and Derani (2016), where lecturers of private universities were rated to be much more capable in teaching compared to those from public universities. The reason for the variations in the results of the Malaysian study and this present study is the differences in the components used in measuring service quality. Whereas this study used teaching methodology as one of the dimensions of perceived service quality identified in Ghana, the Malaysian study applied the SERVQUAL model to measure service quality in terms of lecturer capability.

8.4.2 Differences in Placement Dimension in the Public and Private Universities

Further observation of the study's empircial findings revealed that public university students rate placement (mean=4.73) more positively than private university students (mean=4.58). Results showed that the rating of placement dimension is influenced by university maintaining constant interaction with its alumni, graduates from their university securing good jobs due to placement guidance and training, and evidence that the university forges a strong collaboration with industry via internship programmes. This finding is supported by the views of Kumar (2019) that most public universities provide placement guidance to students and train students in interview skills; hence their ability to perform well in job placement interviews compared to their counterparts from private universities. Accordingly, Mamum (2011) suggests that to satisfy employers' concerns about the preparation of graduates, private universities must guarantee a high-quality education.

The probable difference in rating the placement dimension by students in public university sector higher than private universities may be due to public university students' substantial reliance on well established alumini networks to secure more job appointments compared to newly established alumni in the private sector. On the other hand, most of the students at Ghanaian private universities are gainfully employed in various organisations, are businesspersons with established businesses and some occupying high political and social positions while doing top up programmes in order to gain university certificates to achieve academic recognition in society (Banahene, Kraa, and Opuni, 2018). This partly justifies why placement may not be of much interest to private university students compared to public sector students.

Contrary to the findings of this present study, a study in Bangladesh found more graduates from private universities receiving more job placements compared to those from public universities (Wadud, 2019). The difference between these two studies is that whilst this present study assessed the perceptions of students, the Bangladesh study looked at the actual counts or numbers of graduate students from public universities who landed jobs compared to those from private universities in a given time period after graduating.

8.4.3 Differences in University Governance Dimension in the Public and Private Universities

The empirical findings of this study revealed that private university students rate institutional governance (mean=4.53) more positively than public university students (mean=4.27). This therefore suggests that students from private universities rated institutional governance on a higher scale compared to their counterparts from the public universities. Possible reasons for this conspicuous difference in rating could be explained by the fact that private universities compared to public sector universities may tend to emphasise more university governance variables such as the leadership of the universities exhibiting fair behaviours towards students and inclusion of students in decision making in the delivery of programmes and other services. Other plausible reasons may include transparency of administration in dealing with students particularly fixing of fees; there is an effective coordination of activities; and administrative support services please students in their universities as compared to the public university sector.

This present study's finding is in support Garwe and Tirivanhu-Gwatidzo (2016) who found that the institutional governance of private higher educational institutions is better than that of their public counterparts because of ownership reasons and the need to remain financially afloat. As private tertiary institutions charge higher fees compared to those owned by the state (Felsman et al., 2015), to achieve value for money and ensure student satisfaction, private universities go an extra mile to put systems in place to ensure that their students are involved in decision making, especially regarding the matters that concern them, and authorities also ensure that administrative procedures and systems are clearly communicated to students. Further, this finding aligns with Usman (2014) who found that the private university sector boards portray a more efficient system of institutional governance compared to the public sector boards that lack autonomy and are under strong political influence.

8.4.4 Similarities in Environmental Adequacy in Study Factor Dimension in the Public and Private Universities

Recalling, the findings of the study revealed that there are no significant differences in public university students' rating (mean=4.66) and students at private universities rating (mean=4.67) of environmental adequacy in study factor in terms of physical facilities such as library facilities, computer facilities, laboratory facilities, recreational facilities and alike, as well as conducive environment that support teaching and learning process in the university. The finding is inconsistent with findings by Anim and Mensah (2015) who found that students' perceived quality of tangibles, principally physical facilities and equipment in a public university, to be lesser than their counterparts in the private university. However, in both sectors students' perception of physical facilities was found to be very low, and their study was anchored on the SERVQUAL model. A recent study has shown that provision of infrastructure and facilities at all levels of education in Ghana remains a matter of national concern, of which inadequate educational infrastructure at tertiary level is perceived to be a major barrier to the provision of quality education (Badu et al., 2018). Therefore, it will be worthwhile for public and private tertiary institutions to improve on their physical facilities as well as their environment setting because good school infrastructure has a strong impact on a student's perception of quality, satisfaction, and wellbeing (Cuyvers et al., 2011).

8.4.5 Similarities in Access Dimension in the Public and Private Universities

The results indicated that students evaluate access dimension of university service quality in terms of lecturers of availability for guidance, lecturers' allocation enough and convenient times for consultation. This present study found students from both private and public universities rating access dimension of perceived service quality at almost similar scale levels with no statistically significant difference observed in the measurement. This kind of evidence would seem to argue for the absence of differentiated service provision by the faculty concerning student guidance and support mechanisms as well as availability for consultation in universities from the two sectors in Ghana. The similarity of rating access dimension experienced by students of public and private universities can be explained by the private universities' substantial reliance on moonlighting senior faculty members of public universities (Barsoum, 2017). Therefore, the adjunct faculty workload together with the lecturer's teaching and research responsibility may likely account for similar lecturers' output in terms of providing students' guidance and consultation services in both sectors, hence leading to similar rating of access dimension by students in both public and private universities.

In addition, it is possible that because most junior full-time faculty members of private universities were trained in the same Ghanaian public university system, they tend to provide similar students' guidance and consultation services as was provided to them while they were pursuing their degree courses. Different from this present study, a Malaysian study by Naidu and Derani (2016) found a statistically significant difference between public and private university students perceived quality in terms of the capability of lectures in providing support for students in difficulties. Even though Naidu and Derani (2016) described the SERVQUAL model in their paper, they measured perceived quality using 'capability of lectures' as one of the dimensions, and private university students perceived this dimension better than public sector counterparts.

Confirmation of Hypothesis H5, Objective RO4 and Research Question RQ4

Even though the empirical findings have established that there was no signifiant difference in rating how well the students in public (mean=4.84) and private (mean=4.83) universities perceived service quailty provided to them by their universities, it is obvious from the findings as previously stated that there are significant differences between Ghanaian public and private university sectors regarding the three identified dimensions of perceived service quality taken together. Nevertheless, the private university sector was only superior to the public university sector with respect to university governance but with the biggest difference compared to teaching methodology and placement dimensions.

Based on these findings, it can be stated that hypothesis H5, which indicates that perceived service quality is higher in Ghanaian private universities than public universities, is partly supported. The findings help achieve research objective RO4 and, accordingly, provides answers to research question RQ4, which sought to investigate how Ghanaian universities compare in terms of students' perception of university service quality. It is evident from the findings that there was no significant difference between the overall student satisfaction of public and private university students. However, with regards to student value, public university students appear to have higher student value than their private university counterparts ($p<0.01$). The current study has shed light on the state of service quality in public and private universities in Ghana, and thus provides direction towards quality improvement initiatives.

8.5 Confirmation of Conceptual Model

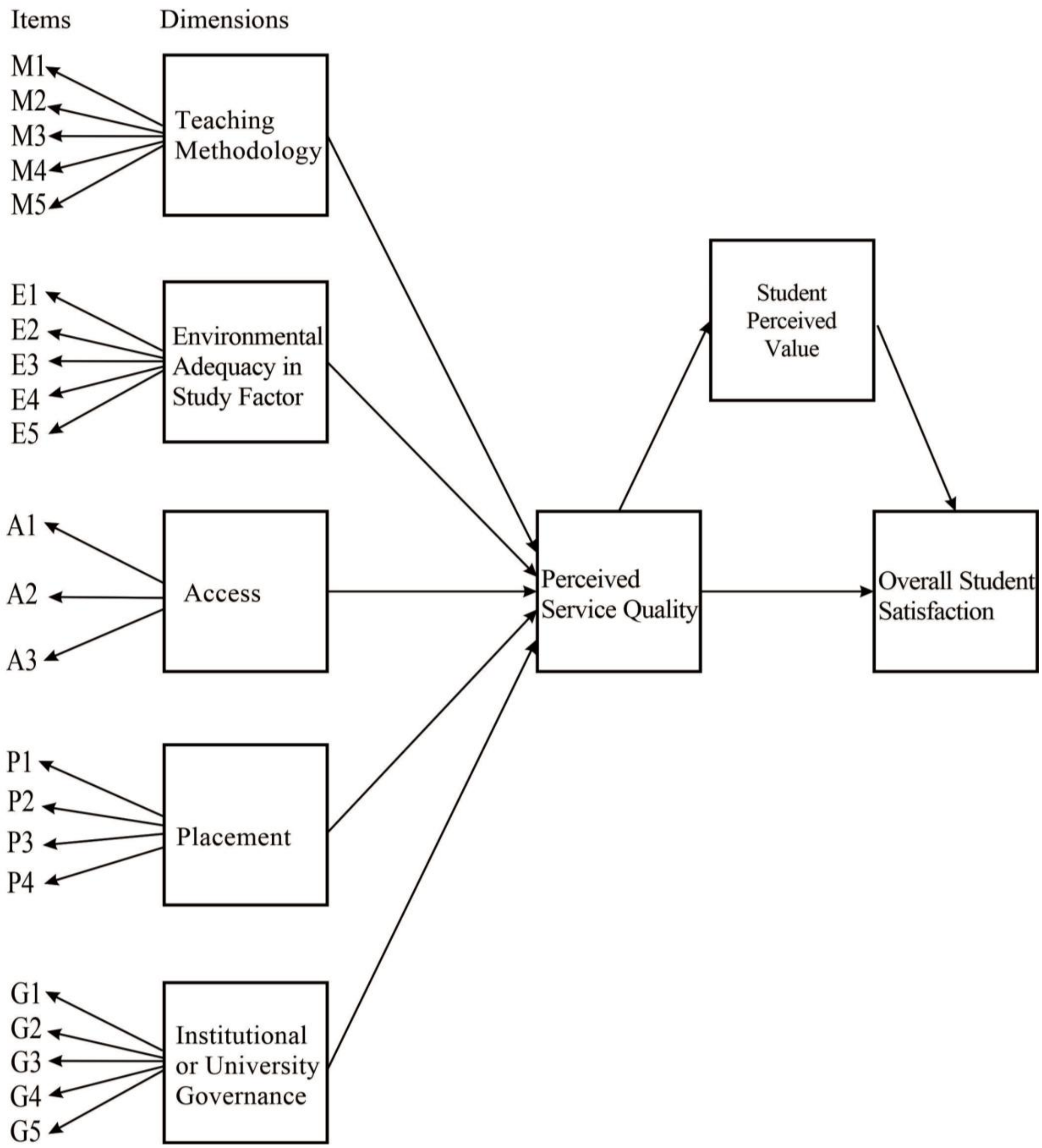
This study proposed a hierarchical, multidimensional model of university service quality and examined a comprehensive model for the structural relationships among the hypothesized hierarchical constructs of perceived service quality, student value and overall student satisfaction, in the context of higher education in Ghana. The perceived service quality, which is a second-order construct in this study, comprised of five first-order university service quality dimensions: teaching methodology; environmental adequacy in study factor; access; placement; and institutional (or university) governance, with each measured by a set of between three and five quality attributes. The starting point for the model is the attributes related to the dimensions of university service quality that are linked to perceived service quality.

The conceptual model underpinning this study is shown in Figure 4.1 in Chapter Four of the study. The model depicts that the dimensions of university service quality serve as determinants of perceived service quality, which in turn is an antecedent of student value and overall student satisfaction. However, student perceived value is hypothesized to have a moderating effect on the relationship between perceived service quality and overall student satisfaction. Figure 8.6 establishes an empirical model for perceived service quality in Ghana's university sector, its dimensions and consequences and an evaluation of the dimensions of perceived service quality by students based on the results of the study and extant studies.

On the left portion of the empirical model (Figure 8.6), all the five dimensions in the proposed conceptual model in Chapter Four were found to have a significant positive relationship with perceived service quality in Ghana's university sector. Accordingly, the empirical model identifies teaching methodology, environmental adequacy in study factor, access, placement, and institutional (or university) governance as dimensions of perceived service quality in Ghana's university sector. The right section of the empirical model (Figure 8.7) establishes student perceived value and overall student satisfaction as consequences of perceived service quality in Ghana's university sector. The study's findings revealed that perceived service quality had a significant positive direct relationship with both student perceived value and overall student satisfaction. In addition, student perceived value moderates the relationship between perceived service quality and overall student satisfaction.

Based on the above findings it is apparent that there is no difference between the researcher's conceptual model and the empirical model established in this study. The empirical model the study established confirms the conceptual model proposed in Chapter Four (Figure 4.1).

Figure 8.7: Empirical Model of Perceived Service Quality for Ghana's University Sector



Source: Fieldwork, 2016

8.6 Summary of the Chapter

This chapter has discussed the findings of the study and linked them to the extant literature. The discussion of findings was also done within the context of research objectives and questions of the study. The five dimensions of perceived service quality that emerged from the study findings were discussed and found to be consistent with extant studies. The relative significance of each of the university service quality dimensions was likewise discussed. Thus, the environmental adequacy in study factor emerged as the most significant university service quality dimension in this study. This finding demands that managers of institutions must prioritise campus physical facilities and teaching and learning environment as they all affect students' perceived service quality and constitute a key satisfaction indicator of a university.

Considering the limited empirical studies available linking university governance to perceived service quality, this study has made a substantial contribution to the available literature on university service quality. The benefit from this is that it may encourage future researchers to investigate whether different attributes of the university governance construct influence student satisfaction in different ways and country contexts. From the management and policy perspectives, strategies and appropriate practices need to be developed to maintain and improve teaching methodology, access and placement dimensions, as they influence students' perception of university quality. A measurement scale consisting of 22 items based on the five dimensions was developed to measure university service quality in Ghana and will help gain standing in a competitive higher education market.

This chapter also discussed the relationship between perceived service quality, student value and overall student satisfaction in Ghana's university sector and found that perceived service quality had a significant positive effect on both student value and overall student satisfaction. Howbeit, the impact of perceived service quality on student perceived value was far higher than overall student satisfaction. This requires management of HEIs to focus attention on delivering higher quality service to students that would inure to stronger value perception by students and ultimately drive higher student satisfaction and retention rates. The mediation analysis and discussion in this chapter, however, indicated that managers of universities can accomplish better overall student satisfaction via service quality than to use perceived service quality to enhance student perceived value before improving student satisfaction.

A comparative assessment of public and private universities in Ghana in terms of which sector delivers higher perceived service quality to students was undertaken. Although the empical findings of the study showed that a significant difference exists between public and private students with regards to students' ratings of institutional governance, teaching methodology and placement, the study revealed that there was no signifiant difference in how well the students in public and private universities perceived environmental adequacy in study factor and access dimensions of university service quailty. Plausible explanations for these variations and similarities in students' ratings were provided. The chapter revealed that the empirical model the study established validates the conceptual model proposed (Figure 4.1) in Chapter Four.

The discussion of the results in this chapter offers a basis in the following final chapter of the thesis, Chapter Nine, to present the summary of the main findings of the study, research contribution and recommendations, and to draw the reader's attention to the limitations and direction for future research.

CHAPTER NINE

SUMMARY, CONTRIBUTIONS AND RECOMMENDATIONS

9.1 Introduction

This study aimed at examining the perceived service quality of the Ghanaian tertiary education industry to determine its impact on the overall satisfaction of students via perceived value. Its main focus is to develop a new measurement scale that will be used to assess overall service quality in the university sector; and to establish service quality parity between public and private universities in the country. This final chapter of the thesis presents the summary of key results, contributions and research recommendations that arise from the discussion of the study's findings, and is divided into seven sections. After this brief introduction, the second section (9.2) provides the main thrust of the study, while the third section (9.3) presents the main findings of the study. The fourth section (9.4) reports the theoretical, methodological, managerial and policy contributions of the study. The fifth section (9.5) details the recommendations made from the study including its implications. The sixth section (9.6) provides the limitations of the study and then possible avenues of future research grounded on the findings of the study, whereas the seventh and last section (9.7) gives a summary of the chapter.

9.2 Main Thrust of the Study

The tertiary education sector contributes significantly to the socio-economic and cultural development of Ghana and is crucial to the world economy at large. However, the sector is becoming a more dynamic and increasingly competitive industry. Amid the unprecedented competition in Ghana's tertiary education landscape mainly due to the proliferation of private universities and expansion of public universities, the sector has been beset with more challenges comprising inadequate physical facilities, insufficient placement opportunities, and large class sizes among others, thus affecting quality service provision in universities. Furthermore, the literature discloses that service delivery by universities in Sub-Saharan Africa including Ghana is affected by governance practices (e.g., Akintayo and Onabanjo, 2008; Shawa, 2013; Shattock, 2014; Frimpong, 2018). The situation is further compounded by the fact that students and other stakeholders are ever more demanding for the provision of quality teaching and learning as well as support services in their service encounters and experiences (Vaikunthavasan, Jebarajakirthy, and Shankar, 2019).

Researchers have intimated that service quality assessment by customers would speedily help identify problems, improve service performance, and better evaluate consumer satisfaction (Manhas and Tukamushaba, 2015). However, to effectively address the challenges associated with service provision in HEIs, Abili et al. (2011), Iuliana and Cristina (2019) and Latif et al. (2019) have argued for the use of students to assess service quality for the better strategic management of institutions. Overwhelmingly, most studies on measurement of service quality in the tertiary education sector have tended to focus on the use of existing generic scales (e.g., SERVQUAL scale) and industry-specific research instrument (e.g., HedPERF scale) developed for advanced economies to improve upon the quality of the educational programmes to meet the expectations of students and other stakeholders. But de Jager and Gbadamosi (2010) noted that to adequately address the higher education issues about quality, it is more important to employ country-specific scales to measure perceived service quality of institutions. In fact, various others have argued for conducting research on service quality in different environmental settings because perceived service quality could be influenced by the environmental and cultural factors of the country/setting (e.g., Furrer et al., 2000; Dedic and Pavlovic, 2011; Sultan and Wong, 2013a).

This study was thus motivated to provide more insight into the country-specific determinants of service quality that would help improve upon the quality of services offered in Ghanaian universities as there are no empirical studies so far to the best of the researcher's knowledge. In addition, there is a lack of comprehensive studies on models for service quality measurement that incorporated institutional (or university) governance as a dimension of university service quality, despite concerns of the impact of institutional governance practices on service delivery performance in universities in Ghana. Thus, a major thrust of the research was to conceptualise a service quality model that identifies country-specific dimensions including institutional governance that affects students' perceived service quality in Ghana's university setting. The study therefore aligns with Mattila (1999), Karatepe et al. (2005) and Martinez and Martinez (2010) that researchers must pay attention to the need to develop service quality measures that are country/culture specific, because the measures that are developed in one culture may not be appropriate in a diverse cultural setting.

Furthermore, the Ghanaian public and private university sectors are competing directly against each other in a highly competitive market to gain new students, and retain and adequately prepare them for the job market, although the number of new enrolments coming, particularly to the private university sector, continue to decline (Anabila et al., 2020). Thus, it is necessary to investigate if there exist any major differences between the two sectors in terms of students' perceptions of service quality. However, there is a noticeable absence of discourse on comparing students' perceptions of quality service delivery in public and private universities in Ghana based on country-specific dimensions. This therefore presents an existing scholarly gap, which this study seeks to fill. Accordingly, one major thrust of the study was to establish service quality parity between public and private universities in the Ghanaian competitive tertiary education milieu.

Equally relevant to this research is the fact that service quality and perceived value are two constructs that cannot be disconnected from the customer satisfaction evaluation process. Despite the abundance of prior studies on the interrelationship among service quality, perceived value, and customer satisfaction, most of the studies focused on different industries and countries (e.g., Yu et al., 2014; Hallak et al., 2018; Ng'ang'a. K et al., 2020), while the empirical studies in the tertiary education sector were contextualised in the developed economies (e.g., Ledden et al., 2011; Prentice et al., 2018). Therefore, for scholarly disquisition, there was the need for a related empirical study to investigate the mediating role of perceived value on the relationship between service quality and overall student satisfaction by contextualising the study in Ghana's university industry, thus this has provided a motivation for the study, where the work does not appear to be studied in the country. The main objectives in the thesis were therefore:

- RO1: To identify and evaluate the influence each of the underlying country-specific dimensions of university service quality has on perceived service quality and the importance of the dimensions to students in Ghana;
- RO2: To determine whether students' experience of university governance affect their perception of university service quality in Ghana;
- RO3: To determine the relationships between perceived service quality and student perceived value and, subsequently, overall student satisfaction concerning university institutions in Ghana;
- RO4: To compare the public and private Ghanaian universities in terms of students' perceptions of service quality; and
- RO5: To develop a valid and reliable service quality measurement scale for universities in Ghana.

9.3 Main Findings of the Study

9.3.1 Dimensions of University Service Quality and Perceived Service Quality

The findings of the study in respect of the dimensions of university service quality in Ghana addressed both the first research objective RO1 and the second research objective RO2. The research findings established five factors as country-specific dimensions of university service quality in Ghana. These are environmental adequacy in study factor (EA); institutional (or university) governance (UG); teaching methodology (TM); placement (PL); and access (AC). The findings confirm that the five dimensions of university service quality were all positive and significantly related to perceived service quality. Thus, a student's perception is based on the entirety of the service experience and not on single component dimensions. Table 9.1 below depicts the ranking of these dimensions based on their weighted contributions towards students' perceived service quality.

Table 9.1: Ranking of Dimensions

Dimensions of Perceived Service Quality	Path Coefficient (β values) at P<0.01	Ranking Showing Significant Contribution Toward Perceived Service Quality
Environmental Adequacy in Study Factor	**0.326**	**1st**
University Governance	**0.322**	**2nd**
Teaching Methodology	**0.259**	**3rd**
Placement	**0.233**	**4th**
Access	**0.196**	**5th**

Source: Field Work, 2016

From the findings, EA emerged as the most important and strongest dimension contributing significantly towards students' overall perceived service quality of the university. The attributes of EA, according to the findings, include the tangibles within the university setting, particularly physical facilities such as good library facilities, computer facilities, laboratory facilities, recreational facilities and serenity and ambience in terms of an excellent conducive environment for study in the university setting. The findings suggest that the more highly students evaluate these attributes, the more highly they are to rate university service quality. Thus, the findings affirm that EA is the most important dimension to students and hypothesis H1b (Higher perceived level of environmental support for study factor leads to higher perceived level of university service quality) was supported.

The research findings disclosed that UG is the second significant dimension that drives students' perceived service quality in universities. It was also found that the more highly students evaluate their inclusion in decision making regarding matters that concern them, transparency in fixing fees in the university and university leadership demonstrating fair behaviour towards them, the more they tend to rate university service quality highly. Findings further revealed that university governance measures comprising administrative staff delivering services in a responsive manner to students; and effective coordination of activities in the administration of the university also affect students perceive service quality. Hence, the results highlight that the second important dimension to students is UG and hypothesis H1e (Higher perceived level of institutional (or university) governance leads to higher perceived level of university service quality) was supported. Thus, the research findings validate the assertion that students' experience of university governance affects their perception of university service quality in Ghana.

It is evident from the findings that TM is the third most important dimension that contributes significantly to students' perceived service quality. From the findings a higher perceived level of TM attributes leads to a higher perceived level of university service quality. This suggests that universities that ensure delivery of excellent tuition, encourage class group interaction, and possess faculty that exhibit both contemporary theoretical and practical knowledge would be assessed by students as delivering superior service. Therefore, the third most important dimension to students is TM and hypothesis H1a (Higher perceived level of teaching methodology leads to higher perceived level of university service quality) was supported.

It was also found that PL is the fourth most significant dimension that contributes to students' perceived service quality. The study empirically proved that the more highly students evaluate placement attributes comprising the university maintaining constant interaction with its alumni, graduates from their university securing good jobs, and evidence that the university pays close attention to university-industry collaboration and the university forges linkage with industry, the more highly they tend to rate university service quality. Therefore, the research findings confirm that hypothesis H1d (Higher perceived level of placement leads to higher perceived level of university service quality) was supported and placement is the fourth most important dimension to students.

Also significant is the finding that the AC dimension, ranked fifth in this study, had the lowest contribution towards students' perceived service quality. Although AC dimension obtained the minimum score in respect of its impact on perceived service quality, it was significant enough to be worthy of consideration. It was evident that when students found out that their lecturers are not only available for guidance, but also allocate sufficient and convenient time for consultation, they tend to rate the perceived service performance of the university higher. Thus, the results affirm that hypothesis H1c (Higher perceived level of access leads to higher perceived level of university service quality) was supported, and AC is the least important dimension to students in Ghana's universities.

9.3.2 Relationship among Perceived Service Quality, Student Perceived Value and Overall Student Satisfaction

The research findings in respect of the above-named constructs addressed the third research objective, RO3: To determine the relationships between perceived service quality and student perceived value and, subsequently, overall student satisfaction concerning university institutions in Ghana. The results indicate that both perceived service quality and student perceived value contribute about 57% of the total variance in overall student satisfaction. Additionally, the model shows a high predictive relevance (Q^2=0.352) suggesting that perceived service quality and student perceived value have a significant impact in predicting overall student satisfaction in Ghanaian universities.

9.3.2.1 Perceived service quality and overall student satisfaction

From the research findings, perceived service quality has a significant positive impact on overall student satisfaction in Ghanaian universities (β=0.360, $p<0.01$). Furthermore, the study revealed that perceived service quality has a medium effect size on overall student satisfaction (f^2=0.157). The implication of this is that perceived service quality has a significant impact on overall student satisfaction. Therefore, hypothesis H2 (Perceived service quality has a positive and significant effect on overall student satisfaction) was supported.

9.3.2.2 Perceived service quality and student perceived value

The study findings showed that perceived service quality has a significant positive impact on students' perceived value in Ghana's university industry. Thus, the results indicated that 35% of the variance in student value was accounted for by perceived service quality, indicating good explanatory power. The results further revealed that the impact of perceived service quality in predicting student value is moderate (Q^2= 0.118). As such, the results have demonstrated that perceived service quality is a significant determinant of student perceived value in Ghana's university sector. Thus, hypothesis H3 (Perceived service quality has a positive and significant effect on students' perceived value) was supported.

9.3.2.3 Student perceived value and overall student satisfaction

The study established that student perceived value has a significant positive effect on overall student satisfaction in Ghana's university sector (β=0.487, $p<0.01$), and the link in the opposite direction does not apply to this study. What is more, the study revealed a large effect size of perceived student value on overall student satisfaction (f^2=0.354). Thus, the results demonstrate that hypothesis H4 (Perceived student value has a positive and significant effect on overall student satisfaction) was supported.

9.3.2.4 Mediating role of student perceived value on the relationship between service quality and overall student satisfaction

One of the gaps to be filled by this study was to determine student perceived value has proved its role of mediating the relationship between perceived service quality and overall student satisfaction in Ghana's university sector. Accordingly, the research findings involving student perceived value mediates the association between perceived service quality and overall student satisfaction revealed that perceived service quality has both direct and indirect effect on the overall student satisfaction level. Besides, it was found that the mediation effect of student perceived value on the relationship between perceived service quality and overall student satisfaction was significant at $p \leq 0.01$ ($\beta = 0.281$, t-stat = 7.795). The mediation analysis further showed that 38.69% of the overall student satisfaction from perceived service quality is attained through student perceived value as an intervening variable, thus justifying partial mediation.

However, the findings based on PLS-SEM analysis proposed by Nitzl et al. (2016) established that the direct effect of perceived service quality on overall student satisfaction is greater than the indirect effect. Specifically, the results revealed that both the indirect ($\beta = 0.281$) and direct ($\beta = 0.424$) effects are positive and in the same direction, therefore confirming complementary partial mediation. This implies that managers of higher education in Ghana could achieve a better overall student satisfaction through perceived service quality than to use perceived service quality to enhance student perceived value before improving overall student satisfaction. Therefore, from the established findings, hypothesis H5 (Student perceived value mediates the association between perceived service quality and overall student satisfaction) was supported.

9.3.3 Comparison of Public and Private Universities in Ghana in Terms of Perceived Service Quality

One of the major objectives set for this study was to compare the public and private Ghanaian universities to establish if there are significant differences between the two sectors in terms of service quality levels as perceived by students. It is noteworthy to state that the descriptive statistical analysis using t-test statistic and means were employed in this study to compare students' ratings of the five dimensions of perceived service quality in the Ghanaian public and private universities. As stated earlier, the five country-specific dimensions of perceived service quality identified in this study included "teaching methodology", "environmental adequacy in study factor", "access", "placement" and "institutional or university governance". The findings from the t-test analysis and means helped to address the fourth research objective RO4 of the study (To compare the public and private Ghanaian universities in terms of students' perception of service quality).

The study findings revealed that public universities are significantly different from private universites on three dimensions, namely teaching methodology, placement and institutional governance. Specifically, the mean measure results revealed that students of public universities had better perceptions than students of private universities regarding two dimensions of perceived service quality (i.e. teaching methodology and placement), while private university students had better perceptions than students at public university with respect to university governance. Further, the results revealed that the public university sector was superior to the private university sector in terms of delivering teaching methodology and providing placement opportunities to students; whereas the private sector was only superior to the public sector in ensuring better university governance practices. The findings also indicated that the biggest difference is related to the university governance dimension followed by teaching methodology and then the placement dimension.

However, it is evident from the findings that both public and private university students' ratings of "environmental adequacy in study factor" and "access" dimensions are not essentially different in this study. Therefore, it is apparent from the findings, as earlier indicated, that there are significant differences between Ghanaian public and private university sectors regarding three identified dimensions of perceived service quality taken together.

However, the private university sector was only superior to the public university sector with respect to only university governance but with the biggest difference compared to teaching methodology and placement dimensions, thus hypothesis H6 (Perceived service quality is higher in Ghanaian private universities than public universities) was partly supported.

9.3.4 Measurement Scale to Measure Students' Perceptions of University Quality in Ghana

The study sought to address the fifth research objective. RO5 is to develop a valid and reliable service quality measurement scale for universities in Ghana. The findings showed that university service quality in Ghana can be conceptualised and measured as a five-dimensional construct involving: environmental adequacy in study factor; university governance; teaching methodology; placement; and access, as earlier stated. The five university service quality dimensions comprised 22-items or variables. Environmental adequacy in study factor; institutional (or university) governance; and teaching methodology had the largest number of measures with 5 items each. Placement had four items and access had three items. The sub-scales of each of the dimensions exhibited a high degree of internal consistency, composite reliability and average variance extracted (AVE). The study further revealed that Cronbach's alpha for each of the scales retained ranged from 0.786 to 0.899 and composite reliability (CR) values, ranged from 0.861 to 0.921, exceeding the recommended minimum value of 0.7 (Gerbing and Anderson 1988; Hair et al., 1998).

Specifically, access had the highest internal consistency and composite reliability (CR), registering 0.861 Cronbach's alpha score and 0.961 CR value, whilst university governance registered the second highest Cronbach's score of 0.852 and corresponding CR value of 0.894. Teaching methodology, environmental adequacy in study factor and placement registered alpha scores of 0.842, 0.840 and 0.786, respectively, whereas CR values were 0.888, 0.887 and 0.861, correspondingly. Additionally, the results revealed that average variance extracted (AVE) for each of the scales retained ranged from 0.609 to 0.784. The AVE also exceeded the recommended minimum value of 0.5 (Gerbing and Anderson, 1988; Hensler et al., 2009). Besides, the findings established that the correlations or cross loadings among the five-dimensions were not beyond the recommended 0.85 threshold when the discriminant validity assessment was undertaken using heterotrait-monotrait ratio (HTMT) (Henseler et al., 2016). It was also found that each of the dimensions' item loadings was statistically significant using bootstrap t-values (5000 sub-samples) (Hair et al., 2016). Thus, the findings provide significant evidence that these five dimensions are reliable, valid, and apposite for the effective assessment of service quality within the university milieu, because they amply displayed high internal consistency reliability and the convergent validity and discriminant validity for the dimensions have been adequately established.

9.4 Contribution of Research

Phillips and Pugh (2015) posit that the originality of a PhD thesis and the contributions it makes to research may comprise: carrying out empirical work that has not been done before; making a new synthesis that has not been tried before; trying out something in a geographical area, such as a country, that has not been carried out in that area before; adding to knowledge in a way that has not been tried before; and introducing substantial new evidence to an old issue among others. In this regard, the findings of this thesis make the following contributions to theory, methodology and practice of university management comprising managerial and policy contributions.

9.4.1 Theoretical Contributions of Research

The thesis makes three contributions to theory as discussed below.

9.4.1.1 New synthesis that has not been tried before

The study reviewed contemporary literature on various conceptual areas including service quality and, particularly, service quality in the university industry; student satisfaction; and student perceived value. The outcome of these reviews was synthesised and integrated into a conceptual model of university service quality derived from extensive review of literature, which ultimately is like the grafting of an existing modified HedPERF (Abdullah, 2006) and the SQM-HEI (Senthilkumar and Arulraj, 2011) models. The conceptual model identified five country-specific dimensions that are relevant for university service quality in the Ghanaian context, and incorporated university governance as an additional dimension. As earlier indicated, inclusion of university governance as an additional dimension stems from concern that the delivery of quality service by university institutions in Sub-Saharan Africa including Ghana is affected by governance (Akintayo and Onabanjo, 2008; Shawa, 2013; Shattock, 2014; Frimpong, 2018); however, this was empirically untested. Thus, this thesis is a pioneering effort to explore that university governance practices influence students' perceptions of service quality in an emerging economy. Again, the model conceptualised the relationship between the perceived university service quality construct and overall student satisfaction and student perceived value.

The strength of this model lies in the fact that it is informed by the output of a comprehensive review of relevant theoretical and conceptual areas. Prior works on service quality in the university industry have tended to rely on the SERVQUAL and SERVPERF instruments, industry-specific instruments, and extant literature on service quality to inform their studies. This research will thus make a novel empirical contribution to knowledge in university service quality as it synthesises literature in a manner that enables an effective conceptualisation of university service quality dimensions and their impact on student satisfaction. This does not appear to be the situation in previous studies.

9.4.1.2 New geographical area

Literature on service quality linked with student value and satisfaction in the university industry is dominated by studies contextualised in the UK, Australia, other western European countries, USA, and other parts of Asia (e.g., Ledden et al., 2011; Sultan and Wong, 2012; Prentice et al., 2018). Research in university service quality to determine context specific relationships between the perceived dimensions of service quality and overall student satisfaction mediated by student perceived value in the developing economies in general and in Sub-Saharan Africa in particular, is rather scanty. Ghana is no exception. There is a paucity of such comprehensive studies in the tertiary education sector in Ghana, more so, in the university sub-sector. This study thus makes empirical contribution to literature on university service quality by contextualising the study in Ghana where the work is perhaps the first of its kind in the country.

Another important contextual contribution is the investigation of the differences between the public and private universities in Ghana, in terms of service quality levels as perceived by students. The importance and uniqueness of this contribution comes from the fact that this was the first attempt in Ghana to examine these differences based on country-specific dimensions of university service quality. Therefore, this will help management, particularly of private university to understand and appreciate the most important dimensions of service quality to university students to enable them to reverse the declining trend of new enrolments coming to their institutions (Anabila et al., 2020).

9.4.2 Methodological Contribution to Research

This research developed a new, reliable, and valid measurement scale to measure, firstly, overall service quality in the general university sector; and secondly, juxtapose the public against private universities. This thus contributes to research in creating a new knowledge in the field of conceptualisation and measurement of service quality. It is also expected that this instrument would contribute to advancing a methodological pathway to understand how much will be needed and how much is available to develop a service quality measurement scale for a specific country/culture setting.

9.4.3 Managerial and Policy Contributions to Research

The findings of this study provide important managerial and policy implications that would contribute to an understanding of dimensions of university service quality that are of priority to university students in Ghana; and would undoubtedly help inform managers of university institutions in Ghana to which dimension (s) of university service quality they should invest in or allocate resources to in a more efficient and effective manner. This will assist the universities to attract students and improve their attitudes towards the universities, thereby helping them gain the sustainable competitive edge they are searching for in Ghana's tertiary education landscape.

Furthermore, the study will help managers and policymakers of universities in Ghana to have a clear understanding of the university service quality dimensions and their associated variables that contribute to overall student satisfaction. This would help them to incorporate service quality issues into their strategic planning to assist design systems and formulate policies that effectively address the dimensions that university students use to assess quality of higher education delivery. Besides, the study has significant implications for tertiary institutions, particularly managers of public and private universities to align actions with emerging areas of the research outcomes to develop marketing, operational, and human resource strategies that could aid delivery of superior quality service to ensure student satisfaction, delight, and loyalty.

In addition, tertiary education regulatory bodies in Ghana such as the Ghana Tertiary Education Commission (GTEC) can benefit from this study's findings and may utilise the conceptualised service quality model as an "educational service quality measuring scale" for the industry. Likewise, the scale developed may be valuable for application in contexts and countries in Sub-Saharan Africa with a like national and university culture as Ghana.

9.5 Recommendations

The study has evidently established five service quality dimensions that had a significant positive effect on students' perceived service quality in universities in Ghana. These dimensions, which consist of 22 service quality attributes, imply that service quality in universities is an amalgamation of a number of service quality dimensions and several attributes. Accordingly, it is important that management of universities have a clear understanding of how students assess these factors and attributes as identified in the study, and how it contributes to their perceived service quality, which in turn impact on their overall satisfaction and perceived value. As such, management of universities should ensure that these dimensions and indicators are adequately taken care of. It is thus recommended that universities should consistently improve the service quality attributes in respect of dimensions of perceived service quality in this study to ensure a high degree of student satisfaction and delight.

The research evidence has demonstrated that environmental adequacy in study factor emerged as the most significant dimension to influence students' perceptions of university service quality. However, it is obvious from the findings that both public and private university students' ratings of this dimension are not largely different in this study. It is thus recommended that universities who want to outperform similar or competing universities in delivery of superior service quality should ensure that their physical facilities including library facilities, computer facilities, laboratory facilities, recreational facilities and the like are outstanding compared to competitors' facilities. Again, serenity and ambience in terms of an excellent conducive environment in respect of university setting should be exceptionally enhanced.

The five dimensions of university service quality and its variables established in this study provide relevant literature to assist to resolve challenges affecting service quality delivery in the Ghanaian tertiary education sector. It is therefore recommended that the relevance of the multi-item scale developed for evaluating service quality in universities in Ghana would be empirically tested in other types of tertiary education institutions and in different country contexts such as West African region with a similar culture to Ghana to determine how it may help improve service quality delivery to students. This would also help improve the scale's context-specific psychrometric properties.

An anecdotal evidence suggests that students consider the benefits they are likely to derive and sacrifices they must make before choosing a particular university in Ghana's competitive tertiary education landscape. The findings of this study have demonstrated otherwise that universities in Ghana could achieve a better overall student satisfaction through service quality than to use perceived service quality to enhance student perceived value before improving overall student satisfaction. Therefore, managers in Ghana's public and private university sectors will thus be motivated to accept service quality as a major strategic tool for helping them to exert a greater influence on overall student satisfaction with their programmes and other service offerings in order to become market oriented.

9.6 Limitations of the Study and Directions for Future Research

Regardless of the scientific approach adopted, this study should still be seen in the light of a few limitations that may provide direction for further research. One research limitation of the study is that the cross-sectional data made it difficult to generalise the findings because perceptions of service quality are dynamic processes and a cross-sectional approach may not be statistically suitable and more rigorous for testing causal relationships among the study constructs (Rindfleisch, Malter, Ganesan, and Moorman, 2008). A longitudinal design could have provided a greater evolutionary perspective to the study by tracking change over a longer period to ensure that any effect is not just a temporary and fleeting phenomenon (Editors' Comments, 2017; Marimon et al., 2019). Therefore, a longitudinal study in future research is suggested to investigate the evolution of students' perceptions of service quality in different levels of study of their university life and be able to establish greater confidence in inferring causal relationships among perceived service quality, student perceived value and overall student satisfaction.

Another limitation of the study is that geographical location of the study sites are in the southern and middle belts of Ghana, and the study only considered student respondents from public and private universities in Ghana. Students at Technical Universities, degree awarding Colleges of Education as well as foreign operated universities having campuses in Ghana such as Lancaster University Ghana Campus, Webster University Ghana Campus and the like were excluded from the study. This is because during the period of data collection these institutions were just elevated to degree awarding institutions and foreign operated universities were newly allowed to participate in Ghana's tertiary education sector. Thus, it is recommended that future work on students' perceptions of quality of university service delivery be extended to cover all categories of universities, including technical universities, in the country. Besides, the sample size selected for this study was not sufficiently large to represent the current entire student population in Ghana; so, in future, it is suggested that a study should be conducted with a larger sample to facilitate a strong examination of dimensions of service quality.

As a limitation, the variables developed for assessment of university governance practices in this study are only representative of public and private university systems in Ghana and not exhaustive considering technical universities and foreign operated universities in the country. Thus, it is recommended that alternative measures of institutional governance from students' perspectives can be further explored for other types of higher education in Ghana, including technical universities, in further studies.

Furthermore, the present study has only gathered data from undergraduate and postgraduate business students at public and private universities to facilitate comparison across the two sectors because business programmes are dominant and common to public and private university sectors in Ghana, particularly during the period of data collection. It was also emphasized in the thesis that the study did not construct a hypothesized relationship between demographic variables and the study's constructs. Therefore, an extension of this research to examine the role of gender and other demographic variables in the service quality perceptions and its outcome variables as well as inclusion of students from other programmes such as nursing and computer science presently mounted by both public and private university sectors may have provided interesting results.

It is further recommended that a study on a multi-group analysis that could examine the role of gender and other demographic variables in the service quality perceptions and its outcome variables using a measurement procedure that appropriately controls for student heterogeneity would have provided a better insight in the evaluation of expected service quality in the tertiary education industry in Ghana. Above all, it is worthy of note that these limitations are, even so, not considered significant enough to minimize the value of the findings of this research study.

9.7 Summary of the Chapter

This thesis has investigated service quality delivery in Ghana's tertiary education context, particularly public and university sectors, and has determined its impact on student satisfaction and student perceived value. Overall, this chapter has further demonstrated that the country's culture and environmental factors affect how students perceived service quality in both public and private university sectors in Ghana. The five dimensions of service quality that seemed to influence students' perception of university include environmental adequacy in study factor, university governance, teaching methodology, placement and access. Environmental adequacy in study factor and university governance appeared to be the two major dimensions of service quality that significantly influence the perceptions of university service quality. In addition, it was established that perceived service quality impacts directly on overall student satisfaction and indirectly through student perceived value.

This chapter has provided how this study contributed to theory as regards to conceptualising a university service quality model that incorporated university governance as an additional dimension; to methodology in terms of development of a new, reliable and valid measurement scale; and to managerial policy, implications and actions. This chapter furthermore made appropriate recommendations, and closes with the limitation and future research direction. The list of references, and appendices consisting of the focus group discussion guide (Appendix A); students' consent form (Appendix B); demographic information of focus groups (Appendix C); content validity assessment form (Appendix D); students' survey questionnaires (Appendix E), letter introducing the researcher to participating universities (Appendix F) and multi-collinearity diagnostics (Appendix G) are presented in later pages.

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APPENDICES

Appendix A: Focus Group Discussion Guide

Introduction and warm-up

Objective of the discussion

This session is intended to explore participants' views concerning the governance of their universities and how it affects their perception of university service quality.

Explain that their feedback is important, no "right" or "wrong" answers/discussions; all views are valued and that they should speak their mind; and they should not worry if they differ from other people present in the sessions.

Participants to sign consent forms and participants' gender, age, name of your university, level of study, programme of study, duration of study at the university and nationality should be captured.

Warm up intended to break the ice

Participants to introduce themselves – first their first name and any other exciting or interesting thing about themselves or university they would want to share

<u>The Questions for Discussion</u>

1. What is your view about university's system of decision making, particularly complaints handling? *(**Probe: Tell us a summary of the complaints of any sort you or any friend have made and whether it (they) affect your perception of university service quality)***
2. What channels of communication are available at your university?
   Do you think there is any link between the effectiveness of the communication process and your perception of university service quality?
3. As a student what observations have you made so far with respect to provision of resources for teaching and learning in your university?
   (Probe: how it affects their performance and perception of their university quality service delivery)
4. How would describe your relationship with lecturers, administrative staff and management of your university? In your opinion does it enhance your performance as a student?
5. How do you assess your trust and confidence in authorities of your university in handling issues pertaining to academic and non-academic matters?

(Probe: specific issues such as grading system, etc. and what their effects are on service quality.)

6. Do you perceive the way your university is being governed as too much person-based**?** Do you agree with this and why**?** (**PROBE: if it is then how does it affect university service quality)**

Appendix B: Consent Form for Focus Group Study

I confirm that I have read and understood the information sheet dated for the above study.

I have had the opportunity to ask questions and understand that my participation is optional.

I am free to withdraw at any time, without giving reason.

I agree to take part in this study.

I agree to the focus group discussion being audio record and direct quotes included in the thesis.

Name…………………………………………………………………………………………………
…

Signature………………………………. Date……………………….

Appendix C: Demographic Information of Focus Group Participants

Groups	Code for Participants	Gender	Age (Years)	Level of Study	Programme of Study	Duration of Study at the University
CU/A1-CU/A6	CU/A1	Female	25	Under Graduate	Marketing	36 Months
	CU/A2	Male	30	Under Graduate	Accounting	24 Month
	CU/A3	Male	22	Under Graduate	Human Resource	Over 2 Years
	CU/A4	Male	25	Under Graduate	Business Studies	Over 3 years
	CU/A5	Male	27	Under Graduate	Marketing	Over 3 years
	CU/A6	Male	42	Under Graduate	Management	Over 3 years
CP/B1-CP/B9	CP/B1	Female	30	Master's	Finance	15 Months
	CP/B2	Female	33	Master's	Marketing	15 Months
	CP/B3	Male	29	Master's	Accounting	14 Months
	CP/B4	Male	31	Master's	Human Resource	14 Months
	CP/B5	Male	35	Master's	Accounting	14 Months
	CP//B6	Male	32	Master's	Marketing	14 Months
	CP/B7	Male	38	Master's	Finance	14 Months
	CP/B8	Male	36	Master's	Human Resource	14 Months
	CP/B9	Male	29	Master's	Finance	14 Months
UU/C1-UU/C6	UU/C1	Male	22	Under Graduate	Accounting	Over 2 Years
	UU/C2	Male	19	Under Graduate	Business Studies	Over 2 Years
	UU/C3	Male	21	Under Graduate	Management Information	Over 2 Years
	UU/C4	Male	21	Under Graduate	Human Resource	Over 3 years
	UU/C5	Male	18	Under Graduate	Marketing	Over 3 years
	UU/C6	Female	21	Under Graduate	Accounting	15 Months
UP/D1-UP/D6	UP/D1	Male	45	Master’s	Marketing	Over 2 years
	UP/D2	Male	37	Master’s	Marketing	Over 3 years
	UP/D3	Female	35	Master's	Human Resource	15 Months
	UP/D4	Male	30	Master's	Health Administration	15 Months
	UP/D5	Male	33	Master's	Finance	15 Months
	UP/D6	Male	29	Master's	Accounting	15 Months

Groups	Code for Participants	Gender	Age (Years)	Level of Study	Programme of Study	Duration of Study at the University
CU/A1-CU/A6	CU/A1	Female	25	Under Graduate	Marketing	36 Months
	CU/A2	Male	30	Under Graduate	Accounting	24 Month
	CU/A3	Male	22	Under Graduate	Human Resource	Over 2 Years
	CU/A4	Male	25	Under Graduate	Business Studies	Over 3 years
	CU/A5	Male	27	Under Graduate	Marketing	Over 3 years
	CU/A6	Male	42	Under Graduate	Management	Over 3 years
CP/B1-CP/B9	CP/B1	Female	30	Master's	Finance	15 Months
	CP/B2	Female	33	Master's	Marketing	15 Months
	CP/B3	Male	29	Master's	Accounting	14 Months
	CP/B4	Male	31	Master's	Human Resource	14 Months
	CP/B5	Male	35	Master's	Accounting	14 Months
	CP//B6	Male	32	Master's	Marketing	14 Months
	CP/B7	Male	38	Master's	Finance	14 Months
	CP/B8	Male	36	Master's	Human Resource	14 Months
	CP/B9	Male	29	Master's	Finance	14 Months
UU/C1-UU/C6	UU/C1	Male	22	Under Graduate	Accounting	Over 2 Years
	UU/C2	Male	19	Under Graduate	Business Studies	Over 2 Years
	UU/C3	Male	21	Under Graduate	Management Information	Over 2 Years
	UU/C4	Male	21	Under Graduate	Human Resource	Over 3 years
	UU/C5	Male	18	Under Graduate	Marketing	Over 3 years
	UU/C6	Female	21	Under Graduate	Accounting	15 Months
UP/D1-UP/D6	UP/D1	Male	45	Master’s	Marketing	Over 2 years
	UP/D2	Male	37	Master’s	Marketing	Over 3 years
	UP/D3	Female	35	Master's	Human Resource	15 Months
	UP/D4	Male	30	Master's	Health Administration	15 Months
	UP/D5	Male	33	Master's	Finance	15 Months
	UP/D6	Male	29	Master's	Accounting	15 Months

Appendix D: Content Validity Assessment Form

This inventory contains 15 items related to the domain of students' perception on university governance and its effect on their perceived service quality. We need your expert judgement on the degree of relevant of each item to the measured domain. Your review should be based on the definition provided below. Please be as objective and constructive as possible in your review and use the following rating scale:

Degree of relevance:

1 = the item is not relevant to the measured domain
2 = the item is somewhat relevant to the measured domain
3 = the item is quite relevant to the measured domain
4 = the item is highly relevant to the measured domain

Definition: University governance in the context of this study is operationalised as institutional process that create optimal conditions for student performance in terms of how a university's systems of decision making, communication roles, resource allocation and the relationship of a university with its students are influencing their perceptions and trust in the university.

Communication channels available in these universities are ineffective	1 ◯	2 ◯	3 ◯	4 ◯
There is ineffective coordination of activities in the administration of the universities	1 ◯	2 ◯	3 ◯	4 ◯
Duration in handling students' complaints in this university is long	1 ◯	2 ◯	3 ◯	4 ◯
Students are not included in decision making regarding matters that concern them	1 ◯	2 ◯	3 ◯	4 ◯
The universities have nice facilities including lecture halls, libraries etc.,	1 ◯	2 ◯	3 ◯	4 ◯
There exists poor maintenance culture in the universities	1 ◯	2 ◯	3 ◯	4 ◯
Complaint handling procedures in the universities are cumbersome	1 ◯	2 ◯	3 ◯	4 ◯
There exist unstable internet connections in the universities	1 ◯	2 ◯	3 ◯	4 ◯
There are inadequate books in the library of the universities	1 ◯	2 ◯	3 ◯	4 ◯
The grading system in the universities is not of transparency	1 ◯	2 ◯	3 ◯	4 ◯

There is lack of transparency in fixing fees in the universities	1 ◯	2 ◯	3 ◯	4 ◯
The university leadership demonstrates unfair behaviours such as not adequately resolving students’ complaints	1 ◯	2 ◯	3 ◯	4 ◯
There exists good relationship between students and lecturers in the universities	1 ◯	2 ◯	3 ◯	4 ◯
Students are displeased with services provided by administrative staff of the universities	1 ◯	2 ◯	3 ◯	4 ◯
Decision making in the universities extend beyond the authority of a single person i.e., universities in Ghana are not person based.	1 ◯	2 ◯	3 ◯	4 ◯

Thank you

Appendix E: Survey Questionnaire for Students

PART 1: INTRODUCTION

This questionnaire seeks your perception on the state of service delivery in your university in order to measure overall service quality in the general university sub-sector, and also to establish service quality parity between public and private universities in Ghana. It is also intended to determine the specific relationship between perceived service quality and overall student satisfaction, mediating by student value. This research is being conducted as part of the researcher's PhD Thesis. Participation is voluntary and your willingness as well as cooperation to complete this questionnaire would be highly appreciated. There is no right or wrong answer and the accuracy of results of this research project is utterly dependent on how honest you can be. Please be assured that all information provided is purely for academic purpose and will be treated with the utmost confidentiality.

Please read each of the statements carefully and answer all questions by circling, ticking, or writing as required. You will find a number of statements with a set of responses such as 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = I can't decide, 5 = somewhat agree, 6 = agree, 7 = strongly agree. If you would like to provide any further comments, please do so at the end of the questionnaire. Thank you.

PART 2: PERCEIVED SERVICE QUALITY

Q1. In relation to the service that you experience in your university/institute/college, please answer in the following five tables by indicating the extent to which you agree or disagree with each of the following statements that best reveals your opinion of such a service.

Teaching methodology

	Strongly disagree		***I can't decide***			***Strongly agree***	
This university provides relevant curriculum.	1	2	3	4	5	6	7
This university offers excellent teaching.	1	2	3	4	5	6	7
This university provides adequate learning support.	1	2	3	4	5	6	7
This university encourages class group interaction.	1	2	3	4	5	6	7
Lecturers at this university have relevant theoretical knowledge.	1	2	3	4	5	6	7
Lecturers at this university have relevant practical knowledge.	1	2	3	4	5	6	7
Lecturers at this university have up to date in their subject.	1	2	3	4	5	6	7
Lecturers at this university give helpful feedback	1	2	3	4	5	6	7
The course material for various courses in this university is sequentially presented	1	2	3	4	5	6	7
The courses that are taught in this university are stimulating.	1	2	3	4	5	6	7
Exams written in this university are representative of courses taught.	1	2	3	4	5	6	7

Environmental change in study factor

	Strongly disagree		***I can't decide***			***Strongly agree***	
This university has good library facilities.	1	2	3	4	5	6	7
This university has good computer facilities.	1	2	3	4	5	6	7
This university has good laboratory facilities.	1	2	3	4	5	6	7

This university has excellent conducive environment for study.	1	2	3	4	5	6	7
Academic activities such as workshops, overseas collaborations and seminars enrich the learning ambience of this university.	1	2	3	4	5	6	7

Access

	Strongly disagree		***I can't decide***			***Strongly agree***	
This university has operating hours convenient to all their students	1	2	3	4	5	6	7
This university has an ideal location with excellent campus layout	1	2	3	4	5	6	7
This university has adequate parking facilities	1	2	3	4	5	6	7
Lecturers at this university are available for guidance	1	2	3	4	5	6	7
Lecturers at this university allocate sufficient time for consultation	1	2	3	4	5	6	7
Lecturers at this university allocate convenient time for consultation	1	2	3	3	4	5	7
Administrative staff of this university are always available to help students	1	2	3	4	5	6	7
Administrative staff are too busy to respond to students request promptly	1	2	3	4	5	6	7
The opening hours for administrative offices are personally convenient for me	1	2	3	4	5	6	7

Placement

	Strongly disagree		***I can't decide***			***Strongly agree***	
This university ensures students undergo internship training.	1	2	3	4	5	6	7
This university provides soft skills development in form of leadership, communication etc.	1	2	3	4	5	6	7
This university maintains constant interaction including networking with its alumni.	1	2	3	4	5	6	7
This university pays close attention to industry and university collaboration.	1	2	3	4	5	6	7
This university provides jobs on campus to students	1	2	3	4	5	6	7
A degree from this university is highly esteemed in the labour market.	1	2	3	4	5	6	7
The graduates from this university get good jobs.	1	2	3	4	5	6	7
There is a linkage between this university and industry.	1	2	3	4	5	6	7

Institutional/University governance

	Strongly disagree		*I can't decide*			*Strongly agree*	
In this university students are not included in decision making regarding matters that concern them.	1	2	3	4	5	6	7
In this university decision making extends beyond the authority of a single person.	1	2	3	4	5	6	7
The procedures for handling students' complaints in this university are cumbersome, long, etc	1	2	3	4	5	6	7
The communication channels including internet connections available in this university are ineffective.	1	2	3	4	5	6	7
There exists poor maintenance culture in this university	1	2	3	4	5	6	7
There are inadequate books in the library of this university	1	2	3	4	5	6	7
The grading system prevailing in this university is not transparent	1	2	3	4	5	6	7
There is lack of transparency in fixing fees in this university	1	2	3	4	5	6	7
The leadership of this university demonstrates unfair behaviours towards students e.g. not adequately resolving students' complaints	1	2	3	4	5	6	7
There exist good relationship between students and lecturers in this university	1	2	3	4	5	6	7
Students are displeased with services provided by administrative staff of this university	1	2	3	4	5	6	7
There is ineffective coordination of activities in the administration of this university	1	2	3	4	5	6	7

PART 3: STUDENT VALUE

Q2. With reference to the value of the education you received from your university/college in return for what you give, please indicate to what extent you agree or disagree with the following statements. (Please circle the appropriate answer that ranges from 1 = strongly disagree to 7 = strongly agree

	Strongly disagree		*I can't decide*			*Strongly agree*	
My degree will allow me to earn a good/better salary.	1	2	3	4	5	6	7
My degree will allow me to achieve my career goals.	1	2	3	4	5	6	7
My degree is a good investment for my future.	1	2	3	4	5	6	7
The content of courses under my programme keeps me interested.	1	2	3	4	5	6	7
I learn new things from my programme.	1	2	3	4	5	6	7
The programme content contributes to the high value of my education.	1	2	3	4	5	6	7
People who are important to me think that taking my programme is a good thing to do.	1	2	3	4	5	6	7
People who influence what I do think that taking my programme is a good idea.	1	2	3	4	5	6	7

Working in groups has been a beneficial part of my programme.	1	2	3	4	5	6	7
The support provided by my fellow students has been important in helping me through the programme.	1	2	3	4	5	6	7
The social interaction with fellow students on my programme makes my studies more interesting.	1	2	3	4	5	6	7
I feel proud that I am taking my programme.	1	2	3	4	5	6	7
Taking my programme of study has boosted my self-confidence.	1	2	3	4	5	6	7
Taking my programme of study has given me a sense of self-achievement.	1	2	3	4	5	6	7
I believe that employers would have positive things to say about my university	1	2	3	4	5	6	7
I have heard positive things about my university.	1	2	3	4	5	6	7
I believe that my university has a good reputation	1	2	3	4	5	6	7
The fees I pay for the programme are reasonable	1	2	3	4	5	6	7
The money I spend on the programme is worth it	1	2	3	4	5	6	7
My studies have reduced the time I spend with my friends	1	2	3	4	5	6	7
My studies have reduced the time I spend with my family	1	2	3	4	5	6	7
I have had to give up some other interests of mine in order to do this course	1	2	3	4	5	6	7

PART 4: OVERALL STUDENT SATISFACTION

Q3. Regarding your overall satisfaction towards your university, please state how much you agree or disagree with the following statements below. (Please circle as applicable)

	Strongly disagree		***I can't decide***			***Strongly agree***	
My feelings towards the university's services is good	1	2	3	4	5	6	7
Overall, it is a good university	1	2	3	4	5	6	7
Overall, this university fulfils my needs	1	2	3	4	5	6	7
Overall, I am satisfied with the service performance	1	2	3	4	5	6	7
Overall, I am satisfied with the quality relative to price (fees)	1	2	3	4	5	6	7
Overall, this university provides satisfaction compared to an alternate higher education institution	1	2	3	4	5	6	7
It has been a good decision to select this university	1	2	3	4	5	6	7

PART 5: STUDENT PERSONAL INFORMATION

Please tick the following personal information as applicable.

Q4. Please indicate your gender.

- ❑ Male
- ❑ Female

Q5. Please indicate which of the following age brackets you belong to.

- ❑ 18 to 20 years
- ❑ 21 to 24 years
- ❑ 25 to 29 years
- ❑ 30 to 34 years
- ❑ 35 to 39 years
- ❑ 40 years and above

Q6. Please indicate type of university you are currently attending.

- ❑ Public university
- ❑ Private university

Q7. What is your level of study?

- ❑ Diploma
- ❑ Bachelor degree
- ❑ Master degree

Q8. Please indicate the programme you are pursuing in your university.

- ❑ Accounting and finance
- ❑ Agribusiness
- ❑ Banking & Finance
- ❑ Human Resource Management
- ❑ Management
- ❑ Marketing
- ❑ Hospitality Management
- ❑ Others (please indicate) ……………………….

If you intend to make any further comments/suggestions, please do so below.

……………………………………………………………………………………………
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Thank you very much for your co-operation.

Appendix F: Letter to Institutions

6th October 2014.

The Registrar
Central University
Tema- Ghana

Dear Sir/Madam,

PERMISSION TO USE FACILITIES AND GATHER DATA FROM YOUR STUDENTS

I am presently undertaking PhD studies with Guildhall School of Business and Law of London Metropolitan University, U.K. My area of investigation is **Quality Service Delivery in Tertiary Institutions in Ghana: A Comparative Study of Public and Private Universities**

As part of the PhD programme I am pursuing, I may be undertaking two focus group discussions with your undergraduate and postgraduate students of School of Business between November and early December this year using one of your lecture rooms. The focus group discussion would take less than one and half hours, and would be arranged at a time convenient to your students. It would be taped and notes taken. This would be followed by quantitative survey using a questionnaire between December 2015 and May 2016 and would take less than 30 minutes. All data gathered in both cases will be collected in the strictest confidence, and will be reported anonymously.

I would therefore be grateful you will permit me to use the facilities and students in the School of Business. The institution will benefit from the outcome of my studies since it will help in providing a clear understanding of the university service quality dimensions and their associated variables that contribute to overall student satisfaction in Ghana.

I am therefore counting on your usual cooperation.
Thank you.

Yours Sincerely,

Clemence Alomenu
Mobile Telephone: 00233-(0) 243-420-600
Email:calomenu@yahoo.com/cla0181@my.londonmet.ac.uk

Appendix G: Multi-Collinearity Diagnostics

G1: Collinearity Diagnostics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.142	.193		5.911	.000		
	My degree will allow me to earn a good/better salary	.123	.032	.145	3.886	.000	.473	2.115
	My degree will allow me to achieve my career goals	-.066	.047	-.068	-1.407	.160	.285	3.503
	My degree is a good investment for my future	-.028	.042	-.029	-.659	.510	.352	2.841
	The content of courses under my programme keeps me interested	.023	.034	.026	.694	.488	.456	2.194
	I learn new things from my programme	-.064	.043	-.067	-1.491	.136	.326	3.069
	The programme content contributes to the high value of my education	.153	.045	.152	3.424	.001	.338	2.957
	People who are important to me think that taking my programme is a good thing to do	.027	.035	.029	.777	.437	.470	2.127
	People who influence what I do think that taking my programme is a good idea	.002	.030	.002	.065	.948	.503	1.987
	Working in groups has been a beneficial part of my programme	.000	.037	.000	.006	.995	.358	2.794
	The support provided by my fellow students has been important in helping me through the programme	.040	.036	.045	1.116	.265	.409	2.445
	The social interaction with fellow students on my programme makes my studies more interesting	.006	.039	.006	.146	.884	.380	2.632
	I feel proud that I am taking my programme	-.040	.044	-.042	-.893	.372	.294	3.406
	Taking my programme of study has boosted my self-confidence	-.012	.042	-.013	-.291	.771	.331	3.017
	Taking my programme of	.058	.043	.063	1.357	.175	.305	3.276

study has given me a sense of self-achievement							
I believe that employers would have positive things to say about my university	-.002	.041	-.003	-.059	.953	.337	2.964
I have heard positive things about my university	.179	.038	.215	4.749	.000	.322	3.101
I believe that my university has a good reputation	.126	.036	.150	3.517	.000	.365	2.742
The fees I pay for the programme are reasonable	.132	.022	.211	5.901	.000	.519	1.928
The money I spend on the programme is worth it	.104	.027	.148	3.844	.000	.446	2.241
My studies have reduced the time I spend with my friends	.005	.025	.007	.202	.840	.536	1.865
My studies have reduced the time I spend with my family	-.010	.023	-.014	-.413	.680	.554	1.804

Source: Field data 2016

G2: Bootstrap t-values for the Formative Scale - Student Value

Formative items-student value	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
sv1	0.62	0.6115	0.0404	0.0404	15.3487
sv2	0.6088	0.6001	0.042	0.042	14.4915
sv3	0.5293	0.5218	0.0454	0.0454	11.6522
sv4	0.5568	0.5494	0.0457	0.0457	12.1707
sv5	0.5279	0.52	0.0485	0.0485	10.8751
sv6	0.5954	0.5866	0.046	0.046	12.9336
sv7	0.5493	0.5417	0.0457	0.0457	12.0114
sv8	0.5338	0.5262	0.0467	0.0467	11.4259
sv9	0.6072	0.5993	0.0395	0.0395	15.3594
sv10	0.561	0.5533	0.0431	0.0431	13.0082
sv11	0.6138	0.6048	0.0399	0.0399	15.4028
sv12	0.5823	0.5736	0.0425	0.0425	13.705
sv13	0.5487	0.5405	0.0471	0.0471	11.6397
sv14	0.5822	0.5736	0.0431	0.0431	13.4999
sv15	0.6581	0.6486	0.0403	0.0403	16.343
sv16	0.8142	0.803	0.0269	0.0269	30.2637
sv17	0.7647	0.7537	0.0298	0.0298	25.6273
sv18	0.719	0.7099	0.0332	0.0332	21.6513
sv19	0.7062	0.6967	0.0354	0.0354	19.9686
sv20	0.3856	0.3798	0.0485	0.0485	7.9497
sv21	0.3484	0.3431	0.0492	0.0492	7.0765
sv22	0.3861	0.3918	0.0475	0.0475	7.8496

Source: Field data 2016