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**INFLUENCE OF SERVICE QUALITY, UNIVERSITY IMAGE,
RELATIONSHIP MARKETING AND ADOPTION OF
TECHNOLOGY INNOVATION ON LOYALTY IN NIGERIA**

UMAR USMAN



**DOCTOR OF PHILOSOPHY
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By



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Universiti Utara Malaysia,
In Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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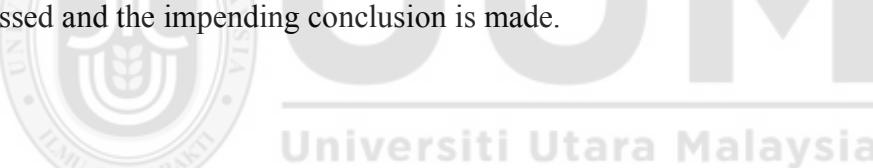
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Abstract

This study delves into the mediating effect of student satisfaction on the relationship that has been established between service quality, university image, commitment, trust and student loyalty, and the moderating role of technology innovation on the link between student satisfaction and loyalty in higher education institutions (HEIs) in Nigeria. Responding to the decline in HEIs funding, this study evaluated the factors that influence student loyalty in these institutions. Questionnaires were distributed to 535 students from various Nigerian federal universities. The Statistical Package for Social Sciences (SPSS 22) and the Partial Least Squares (PLS) served to check the hypotheses. The path analysis results lend support to the relationship between service quality, university image, commitment, trust, student satisfaction and student loyalty. In a similar manner, the mediating effect of student satisfaction was found on the relationship between university image, commitment, trust and student loyalty. Nonetheless, student satisfaction did not mediate the relationship between service quality and student loyalty. Additionally, technology innovation moderated the relationship between student satisfaction and loyalty. Findings of this study, therefore, imply that service quality, university image, commitment, trust, technology innovation influence the level of student satisfaction and loyalty positively. The main drawback of this study is that the basis of the findings only rests on post-graduate and undergraduate students from the Nigerian federal universities in Nigeria and excludes the private higher education institutions. The findings can help policy-makers within the HEIs to lay out strategic decisions that will improve students' satisfaction and loyalty. Next, the theoretical implications and suggestions for future research are discussed and the impending conclusion is made.



Universiti Utara Malaysia

Keywords: service marketing, relationship marketing, technology innovation,

Abstrak

Kajian ini memfokus kepada kesan perantara kepuasan pelajar ke atas perhubungan di antara kualiti perkhidmatan, imej universiti, komitmen, kepercayaan dan kesetiaan pelajar, dan peranan penyederhana inovasi teknologi ke atas perkaitan di antara kepuasan pelajar dan kesetiaan di pusat atau institusi pengajian tinggi (HEIs) di Nigeria. Sebagai maklumbalas kepada isu penurunan dana pusat pengajian tinggi, kajian ini mengkaji faktor-faktor yang mempengaruhi kesetiaan pelajar di pusat-pusat pengajian ini. Soal-selidik telah dijalankan ke atas 535 pelajar dari universiti-universiti persekutuan di Nigeria. *The Statistical Package for Social Sciences* (SPSS 22) dan *Partial Least Squares* (PLS) telah digunakan untuk menguji hipotesis kajian. Keputusan analisis laluan menyokong perhubungan di antara kualiti perkhidmatan, imej universiti, komitmen, kepercayaan, kepuasan pelajar dan kesetiaan pelajar. Seterusnya, kesan penyederhana kepuasan pelajar ada pada perhubungan di antara imej universiti, komitmen, kepercayaan dan kesetiaan pelajar. Walaubagaimanapun, kepuasan pelajar tidak menjadi perantara perhubungan di antara kualiti perkhidmatan dan kesetiaan. Tambahan lagi, inovasi teknologi menjadi penyederhana perhubungan di antara kepuasan pelajar dan kesetiaan. Dengan itu, dapatan kajian menunjukkan bahawa kualiti perkhidmatan, imej universiti, komitmen, kepercayaan, inovasi teknologi mempengaruhi aras kepuasan dan kesetiaan pelajar secara positif. Kekangan kajian yang utama ialah dapatan adalah berdasarkan kepada pelajar-pelajar pasca-siswazah dan pra-siswazah dari universiti-universiti persekutuan di Nigeria dan tidak termasuk Institusi Pendidikan Tinggi Swasta. Kajian ini boleh membantu para pembuat dasar dalam institusi-institusi pengajian ini membuat keputusan strategik yang akan meningkatkan lagi kepuasan dan kesetiaan mereka. Implikasi teoretikal dan cadangan untuk kajian akan datang dibincangkan dan satu keputusan telah dibuat.

Kata Kunci: pemasaran perkhidmatan, pemasaran perhubungan, inovasi teknologi,

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In the Name of Allah, Most Gracious, Most Merciful,

All praise is due to Allah (SWT), the lord of the universe. May the peace and blessings of Allah (SWT) be upon our beloved prophet Muhammad (PBUH), his household, companions and all those who follow them in righteousness deeds until the Day of Judgment.

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List of Abbreviations

AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
CMV	Common Method Variance
CO	Commitment
f2	Effect Size
GoF	Goodness -of-Fit
HEIs	Higher Education Institutions
LL	Lower Limit
MBA	Master of Business Administration
NUC	National Universities Commission
OYAGSB	Othman Yeop Abdullah Graduate School of Business
PHUH	Peace Be Upon Him
UL	Upper Limit
Ph.D.	Doctor of Philosophy
PGS	Postgraduate students
PLS	Partial Least Squares
Q2	Construct Cross-validated Redundancy
R2	R-squared Least Squares
SEM	Structural Equation Modeling
SET	Social Exchange Theory
EDT	Expectation-Confirmation Theory
SPSS	Statistical Package for the Social Science
SWT	Subhanahu Wa Ta' ala

SL	Student Loyalty
SQ	Service Quality
SS	Student Satisfaction
TR	Trust
TI	Technology Innovation
UI	University Image
UK	United Kingdom
UG	Undergraduate
USA	The United States of America
VIF	Variance Inflated Factor

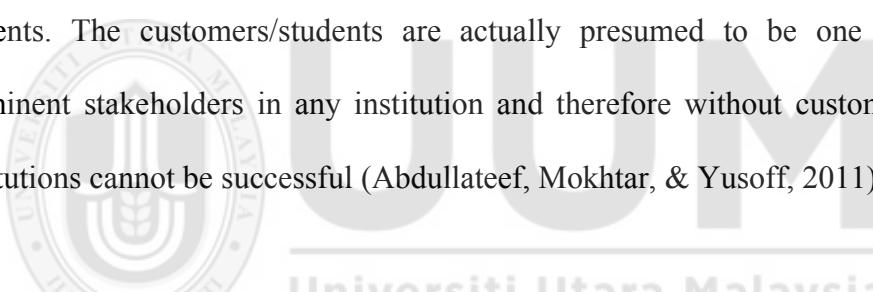


CHAPTER ONE

INTRODUCTION

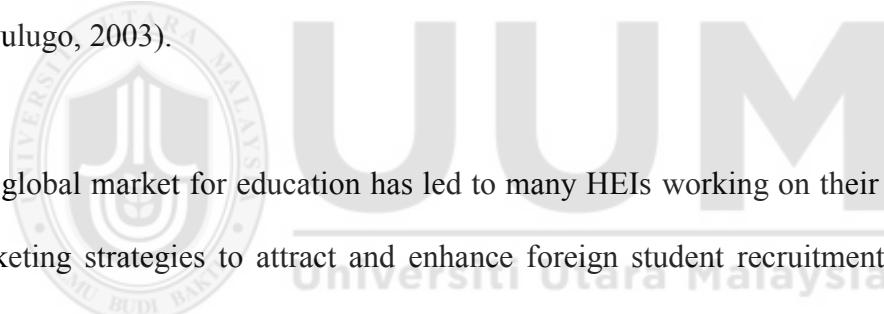
1.1 Background of the Study

Basically, it is the primary goal of any institution to recognise the needs and want of its customers and satisfy those needs and want for mutual benefits. As any higher education institutions (HEIs) share the aims which are to attract, retain, maintain and enhance students' loyalty, it is not enough to satisfy the students but to delight the students. The customers/students are actually presumed to be one of the most prominent stakeholders in any institution and therefore without customers/students, institutions cannot be successful (Abdullah, Mokhtar, & Yusoff, 2011).



Today, the fast growing trade in the global business is in the HEIs business follows closely the trend of other service sectors. In much the same way, in the global service sector, the trade was approximate US\$66 billion and hence it represents about 4% of the total exports (Chadee & Naidoo, 2009). Thus, across the world, the business in HEIs sectors is a multidimensional phenomenon. However, the focus of cross-border migration of foreign students of HEIs stays to be the most visible aspect of business globally (OECD, 2014).

To add, the growth in international students movement is motivated by supply and demand (Mazzarol & Soutar, 2002). On the supply side, globally HEIs are facing decline in funding which forced HEIs to offer their courses on full-time to international students without discount. Meanwhile, on the demand side, international students ask more and more for international qualifications as they view international qualifications as assets which differentiate and command a premium for a competitive advantage in the labor market and also due to the forces of demand and supply for HEIs services this results in the marketization of HEIs, although it is not only restricted to the domestic level but also all over the world, as HEIs are vying to exude their appeal to foreign students and to win their sense of loyalty (Binsardi & Ekwulugo, 2003).



The global market for education has led to many HEIs working on their international marketing strategies to attract and enhance foreign student recruitment (Soutar, & Mazzarol, 2008). Moreover, in previous years, the focus of educational service marketing was all domestic, and meanwhile, in recent years, the interest of HEIs in international marketing has broadened, as they engage in reaching out to potential foreign students across their national boundaries. The interest of international marketing has been adopted nationally which is not only restricted at the individual level in many countries where the national governments tend to highlight the advantages of studying in their respective countries and at the same time realizing the exporting earnings. The UK, USA, New Zealand and Australia are some common examples of countries that have adopted both international and national marketing

approache to the promotion of education services so as to retain and attract student loyalty in their respective HEIs and this is emulated by other countries (Sweeney et al., 2008).

In addition, the students' experiences in HEIs has been regarded as the most important component in terms of retentions and loyalty, considering that most of the students normally drop out from their HEIs during the first year of their study program as they are not satisfied with the quality of service rendered, as well as the HEIs low rank (Starke, Harth, & Sirianni, 2001). Meanwhile, previous research has shown that more than fifty percent (50%) of students in HEIs quit in their first year at the level of HEIs (Willcoxson, Cotter, & Joy, 2011). Hence, to weigh upon HEIs from the perspective of a business enterprise to satisfy the students is very significant because it has an important impact on the recommendation, university image and reputations, student retention and loyalty, and also HEIs should recognize that the first year of the students on campus is considered as the greatest opportunities to create and improve student loyalty in HEIs. Therefore, students' perception and their relationship with the HEIs must be understood (Ellem, 2014).

Similarly, due to an increase in global competition facing HEIs sector student retention and loyalty is now considered vital to the HEIs sector (Hemsley-Brown & Oplatka, 2006a). Moreover, the student demand for HEIs have increased globally, and the program is offered through international online distance learning in order to cater for students' demand for educational services in their society (Marginson, 2006).

Hence, recently about 3.6 million international students had enrolled in HEIs in a foreign country, representing 8.6% increase from the previous year of international students admission (OECD, 2010). Therefore, following the stiff competition, attracting student loyalty has become very remarkable as HEIs lay emphasis on national and international students (Hemsley-Brown & Oplatka, 2006b).

One of the striking characteristics of service orientation in HEIs is students who are fully engaged in the production processes of the service itself (Hill, 1995b). Hence, the process of learning in HEIs is a two way exchange of information and an interaction between the educated and educator and also recent research have acknowledged a student as a customer and co-producer of HEIs experience in the service sector (Vargo & Lusch, 2004). Moreover, the student's experience can help HEIs understand fully the nature of student and university relationship because the student stands out as a key partner when it comes to services processes and experience. Because of the competition to attract students in the service sectors, service quality, university image, and relationship marketing are emerging as predictors of student loyalty in the HEIs (Ng & Forbes, 2008). In addition, commitment, trust is considered as important variables in predicting, attracting and retaining student loyalty in these institutions (Standifird, 2005). Similarly, the concept of transactional marketing deals with the relationship between partners and while relationship marketing mainly rests on establishing and sustaining student loyalty with the HEIs (Gibbs, 2001).

Furthermore, HEIs as service providers are very sensitive towards issues like student loyalties and HEIs as it continues to be enhanced and loyalty has manifested itself as a larger issue in the service sector as part of the proportion of the larger economy (Cronin & Taylor, 1992). Thus, issues related to service quality, university image and relationship marketing are definitely highly important to HEIs (Pariseau, Schmelter, & Sheik, 1997). Similarly, there has been a development in the service sector recently, whereby service quality is identified as a new cause for concern and is getting more attention in the HEIs, and schools of business are nowadays participating and monitoring the service delivery in the HEIs simply to elevate their level of commitment in the service sectors (Alves & Raposo, 2007).

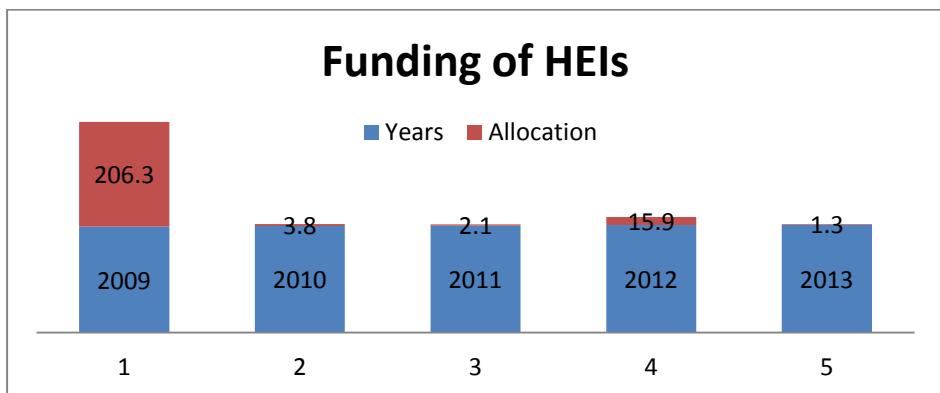
Hence, as a result of decline in funding of HEIs by the Nigerian government as seen in table 1.1 figure 1 below, these issues are graphically presented as its affect HEIs funding from 2009 to 2013, one will see from figure 1 below funding reduce year in year out from 2010 (Babalola & Nwalo, 2013).

Table 1:1

Funding allocation to Federal Universities from 2009-2013

Years	Fund Allocation
2009	206.3 Trillion Naira
2010	3.8 Trillion Naira
2011	2.1 Trillion Naira
2012	15.9 Trillion Naira
2013	1.3 Trillion Naira

Source: Federal Ministry of Education (2014)



Source: Federal Ministry of Education (2014)

In figure 1 above, the real practical issues in the HEIs sector of the current study have been highlighted as they have to do with the inadequate availability of facilities, low ranking position, the lecturers to students ratio, insufficient and current textbooks and to adopt method of teaching and learning technology innovation as the critical issues that lead to dissatisfaction and subsequent students' disloyalty in the Nigerian HEIs (Babalola, 2011). In the context of HEIs service quality, university image, and relationship marketing have not been properly researched and also little empirical evidence appears to be noted on the influence of loyalty in the Nigerian HEIs context (Usman & Mokhtar, 2016). Having looked at the background of the study at length the research problem is addressed.

1.2 Problem Statement

The significance of student loyalty in promoting HEIs competitiveness to attract students globally have been proven empirically (Gummesson & Grönroos, 2012). Previous studies have resorted to adopt various antecedents to predict customer/student loyalty, such as service quality for example, (Kane & Staiger, 2012), student satisfaction (Hallowell, 1996), university image (Purgailis & Zaksa, 2012), trust (Suarez Alvarez, Diaz Martin, & Casielles, 2007), and Commitment (Coutts & Cheung, 2000).

In order to look into the problem of the declining funding of HEIs, the adoption of service quality, university image, and relationship marketing strategy in the HEIs has been a serious issue for the service providers (Helgesen, 2008). Furthermore, through the strategy of service and relationship marketing, HEIs service providers can enhance and promote their national and international presence accordingly (Ramachandran, 2010). To add, many service providers have been well aware of the strategic significance of service orientations in the HEIs sector, because of its lead to the attraction and retention of student loyalty in HEIs (Ng & Forbes, 2008). Hence, due to the nature of service providers, the management of service experience has become the mainstay of the HEIs and the students in guaranteeing a positive outcome (Umashankar, 2001).

Therefore, the problems facing HEIs globally ranging from a declining funding, inadequate leaning facilities, and shortages of staffing resulting into student disloyalty in HEIs can be described as a grave challenge emerging in the HEIs sector (Tan, Wong, Lam, Ooi, & Ng, 2010). Similarly, HEIs all over the world are facing the problem of low academic quality and standards, online and distance education, because these days HEIs are shifting from its traditional motives of dissemination and knowledge sharing to private and monetary enterprises (Rindflesch, Hoversten, Patterson, Thomas, & Dunfee, 2013).

HEIs in Nigeria are facing the problems of low academic staff to student ratio, university image and reputation published by the HEIs world university rankings, in which HEIs in Nigeria are ranked low in terms of teaching, research and international outlook (Owolabi, & Okebukola, 2013).

As the carrying capacity is insufficient, whereby many candidates have sat for joint admission and matriculation board (JAMB) without gaining admission into HEIs, this leads to a very serious problem on the commitment of the HEIs which cannot cater for the educational demand of the growing populations (Okoro, Omeluzor, & Bamidele, 2014). HEIs' failure to provide adequate and current learning materials for research, as believed by the students that the HEIs should provide, have affected students' trust on the HEIs and this consequently leads to disloyalty (Adigun, Bamiro & Adedeji 2015).

The level of adoption and utilization of technology innovation are also very low in the Nigerian HEIs to satisfy students' interest and meet their expectations, and since the expectation is not met, students' loyalty does not get to be achieved. Hence, the inadequate level of technology innovation results in the negative effect on HEIs and to students' disloyalty in attracting and retaining students from other African countries as observed in the early 1980s, whereby HEIs used to attract students in the Nigerian HEIs as links student satisfaction and loyalty (Okebukola et al., 2013).

Prior studies do not neglect the relationship between innovation and customer loyalty as they affect telecommunication industry (Venezky, 2001). Several studies have also been concerned with the relationship between service and relationship marketing on loyalty for example (Ndubisi, Malhotra, Ulas, & Ndubisi, 2012; Hsu, 2014). The results of the previous studies on service quality and loyalty (Abd-El-Salam, Shawky, & El-Nahas, 2013), university image and loyalty (Andreassen & Lindestad, 1998a), commitment and loyalty (Strauss & Volkwein, 2004), trust and loyalty (Rauyruen & Miller, 2006), satisfaction and loyalty (Bejou & Bejou, 2012), have been found to be positively significant. However, other studies on service quality and loyalty (Hu, 2012), trust and loyalty (Bowden & Wood, 2011), university image and loyalty (Nguyen & LeBlanc, 2001), satisfaction and loyalty (Dagger & David, 2012), have reported an insignificant relationship. Hence, the results are confirmed to be contradictory and inconclusive.

In addition, previous studies have suggested that technology innovation should undergo further testing, for example (Gallarza, Saura, & Moreno, 2013). The researcher pays attention to the extension of the SET in the research model to highlight on the factor influencing loyalty in HEIs by incorporating technology innovation as a moderating variable, in order to improve the research model and to gives strength to the theory that underpins the study, so based on the literature review, theoretical gap and recommendations for future research, the study has embedded technology innovation into the research framework. The present study fills this literature gap by introducing technology innovation as moderating the link between student satisfaction and loyalty in the HEIs to see how technology innovation can consolidate the relationship between the predictor and criterion variables. Thus, in a typical manner, moderator variables are introduced as a result of abnormally weak relationships between the criterion and the predictor variables. The inconsistent findings from the literature suggested that further research on the relationship between student satisfaction and loyalty has not been able to be concluded.

Also, apart from inconsistent findings in the literature, previous studies on service quality, university image and relationship marketing on student loyalty are fragmented and the studies do not really validate the role of HEIs in the Nigerian context. The few previous empirical studies on service and relationship marketing consider variables not on their entirety and not considering their influence on people's loyalty towards HEIs. Hence, considering the significant role of HEIs in learning, teaching, innovation, and research to attract, retain, maintain and enhanced student's

loyalty from other African countries as it used to be in the 1980s, the present study appears to fill this literature gap (Okebukola et al., 2013).

Similarly, while considerable research exists with regard to service quality, university image and relationship marketing serve as a strategy option for HEIs to pursue loyalty (Samaha, Beck, & Palmatier, 2014). However, a lot of studies have been conducted in the service sectors different from HEIs such as in the Hospitality (Vijayvargy, 2014); Banking (Maiyaki & Mokhtar, 2012), Retailing (Hsu, Chang, Chu, & Lee, 2014); Restaurant (Chiang et al., 2014). The service and relationship marketing paradigm on student loyalty in HEIs have been given little attention, in fact, there is a scarcity of studies that exists in the HEIs, because of the perception that educational service is seen to be different from the conventional products entirely (Little, 2004). From the above studies which mainly focus on service sectors such as the restaurant, hospitality, banking, retailing and considering the significance of HEIs for sustainable development, it could be concluded that the HEIs is not given enough attention that they actually deserve.

Therefore, despite past studies that have investigated various factors that influence student loyalty in HEIs, most of the studies have been done far and wide such as in the UK, USA, Australia, Asia, Canada and Germany (Leonidou, Samiee, Aykol, & Talias, 2014). Meanwhile, to the best of the researcher's knowledge, limited studies focus on student loyalty in HEIs in the Nigerian context. Thus, student loyalty deserves further investigation in Nigeria because the findings of the prior studies

cannot be generalizable to the Nigerian context owing to the differences in the context and culture; the existing literature leaves a gap that needs to be filled. Hence, this study is a modest work that attempts to look into an area that has attracted very little research attention.

Previous studies on service quality conducted have shed light on the validation of service quality constructs as five dimensions such as tangibles, reliability, responsiveness, Assurance and Empathy (Behdioğlu & Şener, 2014). However, the present study focused on four dimensions service of quality in HEIs, which include, academic aspect, non-academic, responsiveness, and empathy are scarcely validated by previous service quality dimensions as applied in HEIs which significantly justifies the present study (Abdullah, 2005a). To the best of the researcher knowledge, few limited number of studies focused on the four dimensions of service quality in HEIs, therefore, its serve as a gap in the literature that need to be investigated.

Furthermore, most of the earlier studies have weighed upon the influence of service quality, university image, and relationship marketing on student loyalty in isolation (Šerić, Gil-Saura, & Mollá-Descals, 2013). Hence, some striking evidence from the literature shows that most of the validated variables in service quality, university image and relationship marketing e.g., trust (Morgan & Hunt, 1994a), commitment (Jani & Han, 2011), to the neglect of student satisfaction. Hence, student satisfaction is a mediator variable because it will explain why and how a relationship is formed between service quality, university image, relationship marketing and loyalty in HEIs.

The logic is that if the student perceives that service quality, university image, and relationship marketing dimensions are sufficiently provided, the students will experience a maximum satisfaction, and this will definitely improve one's sense of loyalty (Jones & Sasser, 1995).

Similarly, with a number of empirical studies on factors influencing student loyalty in HEIs, the focus of the study is on student loyalty which has to be studied in relation to other variables (Gajic, 2012). There is sufficient ground for further research on service quality, university image, and relationship marketing dimensions because the empirical evidence on HEIs particularly in the Nigerian context has been scant. Based on the above gaps identified in the literature, this study takes a closer look at the mediating effect of student satisfaction and the moderating effect of technology innovation on loyalty in the Nigerian HEIs.

1.3 Research Questions

Based on the background of the study, problem statement this study seeks to address the following research questions;

1. Do service quality, university image, commitment and trust influence student loyalty in HEIs?
2. Do service quality, university image, commitment and trust influence student satisfaction in HEIs?

3. Does student satisfaction influence student loyalty in HEIs?
4. Does student satisfaction mediate the relationship between service quality, university image, commitment, trust and student loyalty in HEIs?
5. Does technology innovation moderate the relationship between student satisfaction and student loyalty in HEIs?

1.4 Research Objectives

Based on the research questions above the following specific objectives are developed to;

1. To examine the relationship between service quality, university image, commitment, trust and student loyalty in HEIs.
2. To examine the relationship between service quality, university image, commitment, trust and student satisfaction in HEIs.
3. To examine the relationship between student satisfaction and student loyalty in HEIs.
4. To examine the mediating effects of student satisfaction on the relationship between service quality, university image, commitment, trust and student loyalty in HEIs.
5. To examine the moderating effects of technology innovation on the relationship between student satisfaction and student loyalty in HEIs.

1.5 Significance of the Study

This study that delves into the mediating effect of student satisfaction on the relationship between service quality, university image, commitment, trust and student loyalty, as well as technology innovation as a moderating effect on the relationship between student satisfaction and student loyalty in the Nigerian HEIs will be significant because it can add to the existing knowledge. Moreover, this study offers an empirical support to practitioners and academicians in HEIs and brings with it some theoretical and practical significance.

1.5.1 Theoretical Significance of the study

In theory, this study will offer several contributions to student satisfaction as a mediating variable on the relationship between service quality, university image, commitment, trust and student loyalty, and by incorporating technology innovation as a moderating variable that can improve the relationship between student satisfaction and loyalty among students in the Nigerian HEIs context which has received very scant attention among researchers. This study makes use of the partially conceptual framework of EDT Model in the Nigerian HEIs context; to add, the researcher focuses on the extension of the research model to highlight more the key component of service marketing, relationship marketing, and student loyalty. This research work will add key empirical evidence to the field of service marketing (SM), relationship

marketing (RM) and technology innovation that leans on the theory of the social exchange theory SET and EDT, in the Nigerian HEIs context.

The study will make contributions to the academic research in such a way that it enriches the pool of empirical and conceptual literature that determines student loyalty in the Nigerian HEIs.

1.5.2 Practical Significance of the study

Additionally, to theory and literature development, this study is significant in the practical sense. In general, this study is important to HEIs by giving an insight into the mechanisms of influencing student loyalty. Findings of this study offer good directions and guidelines for managers, business practitioners as well as the management, governing council of universities in Nigeria that can help elicit student loyalty in HEIs. This study offers a source of contributions to the Ministry of Education, NUC and the legislative arm of government that can help attain better service quality, university image, relationship marketing, technology innovation and student loyalty in the HEIs in Nigeria.

1.6 Scope of the Study

The focus of this study is to examine the influence of service quality, university image, and relationship marketing dimensions (commitment, trust, student satisfaction), technology innovation and student loyalty in HEIs. Data was collected from a sample size of 535 field survey from federal universities in Nigeria. Hence, the unit of analysis was individual students which consist of both undergraduate (UG) and postgraduate students (PGS) from twelve universities in Nigeria. i.e. two federal universities from each of the six geo-political zones in Nigeria was selected randomly to covered a particular zone for the survey, and the six geo-political zones include, north east, north central, northwest, southwest, southeast, and south-south.

1.7 Outline of the Study

This thesis was presented into six chapters. Chapter one generally introduces the whole work and is made up of the background to the study, problem statement, research questions, research objectives, the scope of the study, and significance of the study, the outline of the thesis and the definition of key terms. Chapter two basically conceptualizes seven major constructs of this study which include service quality, university image, trust, commitment, student satisfaction, and technology innovation and student loyalty as the dependent variable were critically discussed. Chapter three discusses the conceptual framework of the study, which arises from a review of the literature, the direct and indirect relationship between the key constructs and proposed

hypotheses of the research. Moreover, Chapter four discusses the research methodology employed for the study. The chapter explains the research setting, population of the study, sampling technique, method of data collection and method of data analysis. Chapter five presents the descriptive analysis of the respondents for this study, empirical results, key findings, and a test of hypotheses of the study. Finally, chapter six provides discussions of findings, limitations to the study, directions for future research, suggestions for practical implication and conclusion.

1.8 Key Term Definition

1.8.1 Student Loyalty



Student loyalty refers to as a full commitment and deeply which is held for a student to patronize a preferred service of HEIs in the future despite any situational influence (Ndubisi & Malhotra, 2012).

1.8.2 Service Quality

Service quality means the different between the expectations and the actual experience of a student that is the extent to HEIs can serve the aims of the student (Parasuraman, Berry, & Zeithaml, 1990).

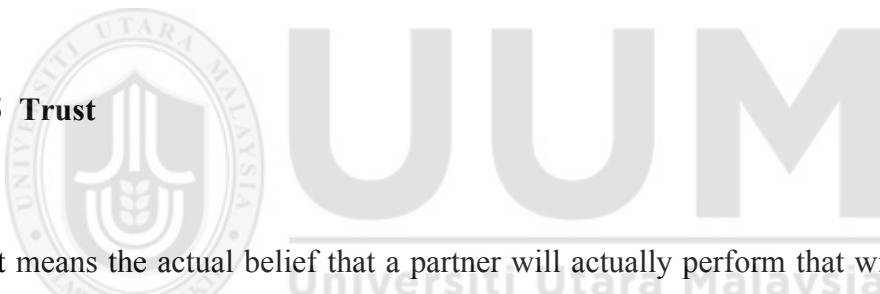
1.8.3 University Image

University image is referred to as the positive impression which is, the mind of the student feelings, ideas, and experiences with the HEIs (Bravo, Montaner, & Pina, 2009; Hatch & Schultz, 2003).

1.8.4 Commitment

Commitment simple means a student level of identification with a service provider psychological (Verhoef, France, & Hoekstra, 2002a).

1.8.5 Trust



Trust means the actual belief that a partner will actually perform that will result in a positive outcome (Walter, Mueller, & Helfert, 2000).

1.8.6 Student Satisfaction

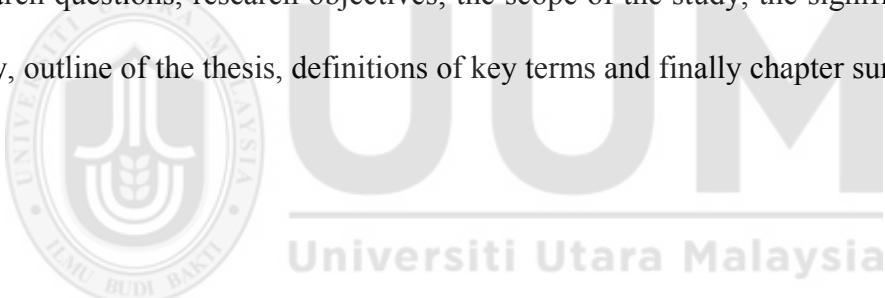
Student satisfaction simply refers to as the level at which a student will experience a very pleasurable level of service consumption which is based on the ultimate fulfillment (Oliver & Burke, 1999a).

1.8.7 Technology Innovation

Technology innovation may be defined as the use of e-learning in HEIs to enhance the individual student learning process and empowers student knowledge technically (Rashid & Raj, 2006).

1.9 Summary of Chapter one

Specifically, the chapter covers the background of the study, problems statement, research questions, research objectives, the scope of the study, the significance of the study, outline of the thesis, definitions of key terms and finally chapter summary.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the concept of the seven constructs of the study which include the scenario of HEIs in Nigeria, relationship marketing in HEIs, students loyalty as the dependent variable, service quality, university image, commitment, trust, student loyalty and student satisfaction as the mediating variable, and while technology innovation as a moderating variable. Regarding the underpinning theories of the study; Social Exchange Theory (SET) and Expectation-Disconfirmation Theory (EDT) were also discussed.

2.2 Higher Education Institutions Scenario in Nigeria

Nigeria presently operates a 6-3-3-4 system. Primary school -6 years, junior secondary school -3 years, senior secondary school -3 years,-4 years, university bachelor's degree or polytechnic Higher National Diploma (HND), Nursing Training School and National Certificate of Education (NCE) -3 years, students can continue to pursue masters degrees (Academic masters and Professional) -2 years and Ph.D. -3 years. HEIs in Nigeria comprise Universities, Polytechnics, College of Education, Mono-Technic and other professional institutions (NUC, 2014).

HEIs is one of the most important service sectors to every nation globally, it helps a lot to bring about economic growth, national development of nations, and also provision of human and natural resources to the country (Dib & Alnazer, 2013). In recent years HEIs in Nigeria has seen some profound some positive changes such as an increased in the number of institutions and students demand for HEIs. Nigeria HEIs comprise of both the public and private, the public universities consist of federal and states universities which are publicly funded by the federal and states government, through government regular and special intervention, internally generated revenue, donation and endowments has subsidized fees and are the most preferred by the students. While, the private universities is growing rapidly over the years with the aims to give alternative road map for HEIs for that student who is interested and could get admission into the public universities and they are funded by the private shareholders, Hence there are 75 federal, state, and private universities in Nigeria, and the country need additional 70 universities to cater for the demand for the growing number of students from secondary schools (Etim, 2016).

Whilst, a growing population with an increasing number of secondary schools age students seeking for university admission, will definitely necessitate a growth in HEIs facilities to accommodate the students demand for admission, but yet HEIs more especially in the developing nations failed to fulfill this core responsibility is frequently low and thwarted by a very long-standing issues of funding, quality service and government commitment (Salmi, 2009). Inadequate carrying capacity and access

of HEIs to satisfied the demand of students seeking admission in HEIs continues to pose a serious problem, for instance, it is estimated that out of 400,000 candidates seeking admission into HEIs, more than 320,000 which is about 80% students are not able to be admitted to any of the 40 federal universities in Nigeria. The latest Joint Admission and Matriculation Board (JAMB) have shown that the situation has not improved in real sense, because out of 800,000 candidates that sat for the 2011 examination, only 147 have been admitted which represent 18.4 percent only (Onyeka, 2011).

Similarly, there is the need to make research and the center of institutional activity, considering the social, cultural and political problems that Nigeria are facing currently, such as the financial and administrative limitations, inadequate resources, intellectual encouragement and the demand that to find new strategies to advance this ambition. Moreover, there is a diminishing of mentoring researchers both junior and senior seasoned researchers due to brain drain in the country. Even though, there is an increasing value of research in the world based on the supremacy of knowledge and dynamic technology, fundings constraint and the belief that research is very costly to have resulted in the disappearance of research centers in HEIs in Nigeria. However, there is the urgent need to source for an alternative financing of research center through private and sectors. While, in doing so the HEIs need to talk about the benefits of students linking teaching and learning and scientific research, and also the educational system should be tailored to match international standards and staff/students ratio (Okebukola, 2012).

Thus, there is the need for free flow of ideas, and full access to the system of information and communication based on the new technologies. The survey recently by NUC discovered that about 30% only of the student population has adequate access to classrooms, lecture theatres, libraries and laboratories and while students need to have basic infrastructural facilities and good conducive environment for learning to take place (NUC, 2015). Meanwhile, there is the need to develop the capacity for producing, applying and critical assessment of information extracted from laboratories and libraries directly from the world library. By and large, it will make the Nigerian HEIs be motivating environment for learning and knowledge sharing (Owolabi, & Okebukola, 2013).

2.3 Relationship Marketing in Higher Education

Conceptually, relationship marketing (RM) in HEIs can be defined as the process in which HEIs can establish, enhance and maintain a strong relationship with students as the customers of HEIs and other stakeholders/partners with mutual benefits and understanding, at benefits and profit, so that the core objectives of the parties involved in the relationships are satisfied if not comforted by a fulfillment of promises and mutual exchange of the parties in the process (Grönroos & Ojasalo, 2004). Thus, the main objective of relationship marketing in HEIs is to establish a sustainable relationship with students being the actual customers of HEIs which normally increase the potential for positive referral, repurchase, and loyalty (Mattila, 2006).

Also, previous studies have found out that RM is the best idea that can be promoted in HEIs sector for example (Sergio Carvalho & de Oliveira Mota, 2010b). Hence, RM can be defined in the context of HEIs as a set of marketing activities or action that will motivate, attract and enhance the existing potential student and his or her parents, relatives, friends and reference groups, with the emphasis laid more on the strategy of retaining existing students until he/she graduates and gradually attracts student loyalty (Al-Alak, 2006b).

Thus, RM has surfaced and being weighed upon as an accepted approach to HEIs widely, because of its strategic decisions to move away from transactional marketing to RM which focuses on the nature of the relationships which was established and formed with the students (Sheth & Parvatiyar, 1995). Similarly, as the threat of competition has intensified, HEIs have to find ways where they can improve student retention in their respective HEIs sector (Hennig-Thurau, Gwinner, & Grempler, 2002). Hence, previous studies have revealed that five percent reduction in student/customer defections to competitors, can boost a profit margin between 25-85 percent (Reichheld & Sasser, 1990).

2.4 Student loyalty

Student loyalty can be defined as a sense of deep commitment held by a student to continue to use a preferred service of HEIs in the future despite any situational influence without shifting to his competitors (Ndubisi & Malhotra, 2012). Similarly,

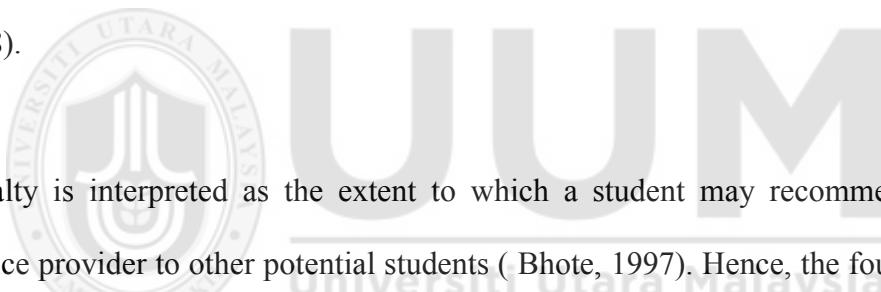
as we refer to the definition, student loyalty is a process of making a student feel really committed to a service of HEIs, where they will actually stay on and continue to demand and patronize for such services, more especially when the benefits are well acknowledged by the students (Dado, Petrovicova, Cuzovic, & Rajic, 2012). Hence, it was argued that for a student to become loyal, the HEIs must invest heavily in building a strong relationship and also to establish a very strong and close relationship with the students (Ndubisi, 2006).

Furthermore, the fundamental and core objectives of service quality and the image are to gain and foster student loyalty in HEIs (Guenzi & Pelloni, 2004). The traditional marketing strategy mainly stressed on attracting HEIs' student-customers only, and also selling their service, while RM seeks to retain the existing customers and build a strong relationship (Al-Rousan & Abuamoud, 2013). Today, students' loyalty and retention are considered as one of the most important aims of any service institutions which seek to measure their success (Heskett, Jones, Loveman, Sasser, & Schlesinger, 2008). In addition, it is no longer adequate to concentrate on student satisfaction but to look at the next step which is student loyalty (Stepanovich, Mueller, & Benson, 2014). Furthermore, satisfaction is a necessary requirement for student loyalty, but it is not enough to influence anyone to come back (Guo & Cheung, 2011). Service quality is considered as an indicator of repurchase intentions (Ruyter, Wetzels, & Bloemer, 1998a), whereas recommendation and the favorable word-of-mouth can well lead to loyalty (Dado et al., 2012; Teece, 2007).

The benefits of HEIs having a loyal student cannot be overemphasized because it is a fact that the building relationship does not end at the school but it goes beyond the school period (Ibrahim, Wang, & Hassan, 2013). Basically, HEI success depends on the loyalty of the old students, whereby after graduating from school they may continue to provide certain community/ supporting services to his or her former school, contributing financially either through donations or by funding research projects, and morally it could be through word-of-mouth promotional strategies of the institutions to other prospective students. . The benefits of loyalty have significantly increased the success of HEIs, its image, and reputations, and the benefits have increased student satisfaction (Yilmaz-Tuzun & Topcu, 2008). Through the years, HEIs have recognized loyalty as a strategic competitive advantage, because seeking new students is definitely more costly than keeping and maintaining the relationship with the existing students, while the assumption is that student loyalty may manifest itself through their support to the institutions' academic activities and projects of the HEIs (Rojas-Méndez, Vasquez-Parraga, Kara, & Cerdá-Urrutia, 2009). Loyalty has been studied as an intricate area in consumer behavior.

The definition and explanation of loyalty in the service sector like the HEIs are not as easy as they appear to be, due to the nature of the service features and service providers because the services are based on the relationship between the student who is a customer of the HEIs and the service provider. Thus, the specific feature of HEIs under "repeated purchase" is when a graduate opts to continue with her or his studies in the same institution for further qualifications. Hence, from the point of view of

student loyalty, two aspects are very important for the HEIs, how willing the student is to recommend the HEIs to potential students and how willing the student is to choose and continue his and her studies at the same HEIs. Prior studies conducted has shown that service quality and overall image of the HEIs are the precursors to loyalty (Nesset & Helgesen, 2014). Therefore, student loyalty is considered to be the actual behavior of a student to maintain and enhance a relationship with HEIs through a regular patronized of its services (Behara, Fontenot, & Gresham, 2002). Thus, student loyalty can be classified into a long-term group which is arguably the most valid and strong relationship, and the short-term group is a situation whereby a student may likely to switch whenever a better service is provided to the students (Ruyter et al., 1998).



Loyalty is interpreted as the extent to which a student may recommend an HEIs service provider to other potential students (Bhote, 1997). Hence, the four features of loyalty are being a patron to various services or products from the same HEIs, voluntarily promoting the HEIs to potential students, demonstrating a consistent pattern of repurchase activities or service, resisting the promotional activities of any alternative HEIs (Oliver, 1997).

Multiple factors include the future purchase or renewal of services or products, switching barriers, positive word of mouth (Selnes, 1993). Similarly, the effect of switching barrier in the service sector is very low, since the factors are seen to have limited durability (Fred Selnes, 1998a). Hence, in other words, students as the HEI

customers may switch to alternatives if they are provided with unsatisfactory services or products for a long period of time without any concrete reasons given (Fred Selnes, 1998a). Furthermore, the intention to renew the service or patronize such service, such as attending other courses offered by the HEIs and also to support the HEIs through the strategy of reference, and purchase of other services or products from the same HEIs are described as cross-selling, or defined as the utilization of other services or products offered by the HEIs, such as purchasing reference materials, to attend conference and workshops etc.

Next, student loyalty has been considered as a significant focal position in the management and marketing literature resulting from a recent increase in the competition to attract and obtain student loyalty (Carvalho & de Oliveira Mota, 2010). Several factors that influence loyalty have been identified in the previous literature, for example, service quality, campus climate, social interaction and the service provider's reputation and goodwill which positively influence students loyalty in the HEIs (Helgesen & Nessel, 2007). Furthermore, studies have found that the quality of sound education, goodwill towards HEIs were the factors that determine loyalty (Hennig-Thurau, Langer, & Hansen, 2001b).

In addition, research with the main focus on loyalty had a lot of momentum long ago when its advantages were accentuated by Vroman (1996) who concluded that profitability can be increased in an institutions as much as 125% by retaining the existing customers than acquiring a new customer, and also empirical studies had

verified the significance of loyalty in a hostile environment and concluded that in marketing research loyalty strategies required for keeping the student from changing to the competitors is one major question (Reinartz, Thomas, & Kumar, 2005). The concept of student loyalty has really generated a lot of interest in researcher's mind, which have prompted them to explore it further to its source of origin. Thus, the antecedents of student loyalty and its role of loyalty formation have gained an ample attention and have widely been researched over the past decade. Therefore, Nielson (1996) concluded that the relationship between student loyalty and its antecedents have suffered a lot from substantial variability which may have something to do with the presence of some situational factors that determine the antecedent.

In this study, student loyalty is conceptualized as a firm commitment to patronize a service or product consistently without switching to any competitor's product or services (Oliver & Burke, 1999b). Previous researchers in the field hold the opinion that despite the significant service quality and relationship marketing to student loyalty in HEIs, a lot of these institutions have not fully executed a market-driven strategy that can further engage student loyalty. Student loyalty is one of the most important valuable things that HEIs have to maintain, in order to build and sustain a strong and viable relationship. The loyalty of a client to a business and the strength of their attitudes make it very hard and costly for its competitors to 'steal' the clients. Thus, today, HEIs are giving more stress on the aspect of student loyalty by way of increasing the values they present.

2.5 Service quality

Service quality is defined as the global evaluation of the overall excellence of service, hence service quality varies between students or customers' expectation and the perception of the service that an institution should deliver and provide (Parasuraman, Zeithaml, & Berry, 1985). Service quality can be described in terms of fulfilling student expectations or bridging the difference between student perception and expectations of a service rendered (Nitecki & Herson, 2000). Service quality revolves around an evaluation that reflects the students' perception of specific dimensions of service quality such as reliability, responsiveness, assurance, empathy and tangible. By contrast, student satisfaction is more inclusive and it is influenced by the perceptions of product quality, service quality, and price not to mention both the personal and situational factors. The role played by service quality in HEIs has actually received attention in the past two decades and the management of HEIs is ensuring that all services that the students are getting are properly-managed and organized to improve the student's perceived quality service delivery. The explanation of service quality revolves around the notion that quality would be a valid measurement as user or consumer evaluates the service, and perceived quality refers to the idea whereby the student who is the consumer assessed the status of an entity overall experience (Ziethaml, Berry, & Parasuraman, 1996). Additionally, perceived service quality in HEIs could be the service encounters and in this particular case is the students being the customer, this type of arrangement could range from the first contact with the academic staff, non-academic staff, head of the department, dean of

faculty, director of the college and the vice-chancellor of the HEIs (Hill, 1995a). Meanwhile, on the other hand, if an HEIs provides service at a level that above the student's expectations in a constant manner, then the service will definitely be assessed as high-quality service, and vice versa (Abouchedid & Nasser, 2002).

Thus, service quality is better and standardized output delivered by service industry and service quality particularly in the HEIs sector is deemed to be the main aspect of HEI excellence (Dyson, 1996). Also, service quality is considered to be an important research topic because of its significant relationship to cost and benefit analyses (Crosby, 1979), profitability and student satisfaction (Kwek, Lau, & Tan, 2010), student retention (Kwek, Lau, & Tan, 2010), and service guarantee (Hwang & Kandampully, 2012). Service quality is also seen as a driver of corporate financial performance and corporate marketing (Buttle, 1996), as it determines student satisfaction /customer. By definition, service quality is the conformance with customer/student satisfaction that customer/student definition of quality matters, but not that of management (Zeithaml, Berry, & Parasuraman, 1988). Literature has shown that student/customer satisfaction comes from the provision of services/goods that are equivalent or above the degree of student/customer needs (Dong, Sivakumar, Evans, & Zou, 2015).

Thus, the service quality construct is mostly known to be conceptualized as far as the field of marketing is concerned (Tomasello et al., 2010). Perceived service quality is the extent to which HEIs successfully serve the purpose of their students as the

customers and the students determine the perceived value of service based on their experience with the actual service delivered (Parasuraman, Berry, & Zeithaml, 1990). The student expectation service delivery process and the service output leave a very serious impact on perceived service quality (Ghobadian, Speller, & Jones, 1994). Similarly, workers as part and parcel of the service delivery process, make up a very critical element in enhancing perceived service delivery process in an institution (Yoo & Park, 2007). Also, service quality perceptions are always performed when producing goods and services, delivery and consumption process (Edvardsson, Gustafsson, & Roos, 2005). Hence, the students' favorable and unfavorable practical experience, as well as their positive and negative emotions may actually leave a significant impact on perceived service quality of HEIs, and the student perceptions of service quality may be influenced by the degree of their previous practical experience with a certain service provider (Aad et al., 2011).

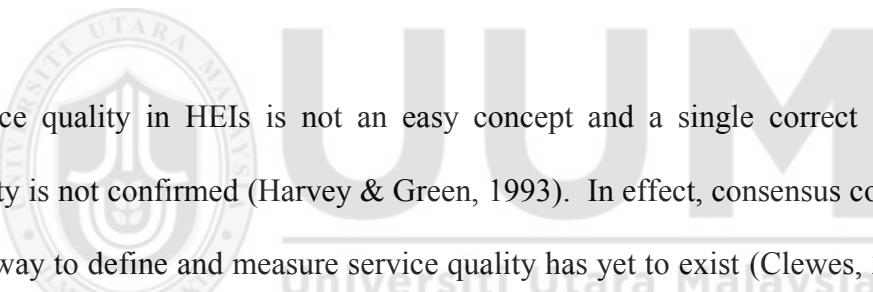
Furthermore, research on the concept of service quality had started since the 1980s, but at the initial stage, the main focus was to define the notion of service quality. Researchers hold the opinion that service quality is a measure on how well the service level caters for customer expectations, and while others primarily focus on what is referred as the missing link it was argued that there was a difference between technical and functional quality- the technical quality which is objective in nature describes what the customer get, and the functional quality which is subjective in nature describe deals with how the customer get it (Grönroos, 1984). Moreover, studies have taken a look into service quality from the customer perspective and

observed that customers perceive process quality of a service, how the customers evaluate qualitatively their participation in the service production process and the result of a service production process (Veldhuis-Diermanse, 2002).

2.5.1 Measuring Service Quality in Higher Education Institutions

The creation of many models in the HEIs stems from researchers' struggle to measure service quality. According to Gronroos in 1984 focus mainly rests on three dimensions of service quality, namely, technical, functional, and reputational quality image, and in 1985 Parasuraman, et al. developed a model called "SERVQUAL" relating to service quality, and they configured and look at different factors that define service quality in the service sector and narrowed them down to ten dimensions of service quality namely; tangible, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding and knowing the customer and access. In addition, in 1988, Parasuraman, et al. built upon a model to measure service quality in the service sector which focuses on reliability, assurance, tangibles, empathy, responsiveness. Leblanc & Nguyen in 1988, next, shed light on five dimensions of service quality namely; corporate image, internal institution, physical support of the service producing system, staff/customer satisfaction, level of customer satisfaction. Furthermore, after extensive research of the baseline was explored; the quality was described in terms of the difference of the consumer expectations and perceptions of the service delivered (Hu, Sun, Hu, & Lu, 2005). The concept of

service quality explained by Parasuraman, et al. 1988, as perceived by the customer, is created out of a comparison of what they feel service institutions should offer (i.e. from their expectations) with their perceptions of the performance of institutions that provide the services. SERVQUAL fundamentally speaking, configures the gap where the quality improvement is required (Parasuraman, Zeithaml, & Berry, 1988a). Although it is widely used, the model does not escape criticisms (Emin Babakus & Boller, 1992), was directed at the conceptual and operational base of the model, mostly with respect to its validity, reliability, the operationalization of expectations, and dimensional structure. Hence, there is general agreement that SERVQUAL items are reliable predictors of overall service quality (Azfar, Khan, & Gabriel, 2014).



Service quality in HEIs is not an easy concept and a single correct definition of quality is not confirmed (Harvey & Green, 1993). In effect, consensus concerning the best way to define and measure service quality has yet to exist (Clewes, 2003). Every stakeholder in HEIs (e.g. students, government, professional bodies) has its own perception of quality following their own needs and requirements. Students receive and use the training offered by the university, making them primary customers of educational activities (Marzo-Navarro, Pedraja-Iglesias, & Pilar Rivera-Torres, 2005). Authors describe students as the primary consumers of HEIs but it does not mean that other perspectives are invalid and insignificant (Ameer, 2014; Van Riel et al., 2013). In this discussion, they rightly point out that students could also take the role as clients, producers, and products (Seaden, Guolla, Doutriaux, & Nash, 2003).

Thus, HEIs have become increasingly involved in defining service quality and measuring student satisfaction in a way familiar to service marketing specialists (Kotler, 2011), who are developing various measures of service quality since the 1980s. The most significant stakeholders in the HEIs, namely; students, parents and the service providers have changed progressively towards a customer service orientation (Winsted & Patterson, 1998). Furthermore, against this background, the literature on service quality and its dimensions has rapidly expanded, that is the way service quality is typically developed by making identification of the attributes from consultation with the students and then evaluation (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Therefore, there has been a great diversity and lack of consistency in methodological strategies and in the variables employed to evaluate the service quality (Parasuraman, Zeithaml, & Berry, 2012b). Similarly, researchers in HEIs have used SERVQUAL, known to be the most popular model to measure service quality in the HEIs sector (O'Neill, 2002). Abusel et al., (2014) have identified five groups of the determinants of an institutional success in the provision of fee-paying graduate courses. The literature on satisfaction has been classified into three perspectives psychological-wellness-type linked with personal characteristics, the job-type satisfaction which is related to future aspirations and while consumer type satisfaction related to everyday experience (Lim et al., 2013). The general picture is that measured variables are confusing, with some replicated across varying studies, while others unique to a particular study.

Similarly, researchers have contended that when service quality is high, it will lead to customer satisfaction (Parasuraman, Zeithaml, & Berry, 2012a). Thus, this argument has been found to be supported by many researchers (Rao & Osei-Bryson, 2007), and also it was known that customer satisfaction tends to be governed by the level of service quality of the HEIs (Lee, Lee, & Yoo, 2000). Results have revealed that both service quality and customer satisfaction have a positive effect on customer repurchase intentions and thus can contribute to customer loyalty (Baumann & Le Meunier-FitzHugh, 2011). Similarly, a study highlighted a positive relationship between perceived service quality, customer satisfaction, and attachment (Magi & Mardeusz, 2013). Thus, customer satisfaction may result from high perceived service quality and customers will automatically become loyal. HEIs should gather and analyze the right data, which will provide relevant information to real customer satisfaction because it is very important to measure the right things, which customers find to be very important information. Thus, there is the possibility that customers are misunderstood, in terms of their expectation (Mathews et al., 2001). Therefore, a gap exists between what the institutions think customers probably want and what customer really want and at the end of the day, the criteria for the measurement of customer satisfaction must be defined by the customer himself (Hill, 2009).

The service industry serves to be an important role in the economy of many nations. In the global world today, competitions, rendering quality service is a key for success in varying institutions, and also many experts have been unanimous to state that the most powerful competitive strategy trend presently shaping business and marketing

globally is the service quality, it is linked to profitability since the 1980s and furthermore, it is an important competitive advantage by producing repeat sales, positive word- of- month feedback, student loyalty, and competitive product differentiation (Zeithaml & Bitner, 1996).

Additionally, the highest priority lies in the understanding of the impact of service quality on profit and other financial outcomes of the HEIs. Thus, the attempt to stimulate the setting up evaluation standard of service context leads to several methodologies in the last decades such as the SERVQUAL (Parasuraman, 1988), SERVPERF (Cronin & Taylor, 1992a) and evaluated performance (EP) (Teas, 1993) had offered a lot of contributions to the development in the study of service quality. SERVQUAL have operationalized service quality by drawing the comparison between the student's perceptions and expectations of the service received, and SERVPERF only sustains the perceptions of the service quality. Furthermore, EP scale measures the gap between perceived performance and the ideal feature instead of the customer expectations. Using these scales, studies have experienced difficulties resulting from the conceptual or theoretical components.

In addition, researchers have agreed that customer assessments of continuously provided services may solely depend on performance, because performance-based measures explain more of the variance in the overall measure of service quality (Boulding, Kalra, Staelin, & Zeithaml, 1993). The result of the findings is consistent with research that has compared these methods and it confirms that SERVPERF

(performance-only) because the results gave more reliable estimations, greater convergent and discriminant validity and less bias than the SERVQUAL and EP scales (Parasuraman, Zeithaml, & Berry, 1994a). Hence, its impact in the service quality domain cannot be denied; SERVPERF being a generic measure of service quality may not be an adequate instrument by which to assess perceived service quality in HEIs.

Furthermore, HEIs are currently driven towards commercial competition imposed by economic forces that come from the expansion of global markets education and the government's funding decline to look for other financial sources of generating funds (De Oliveira et al., 2012). These new perspectives call attention to the HEI management as an alternative strategy to the traditional areas of academic standards, accreditation and teaching and research as performance indicators. HEIs administrators are being invited to account for the quality of education they provide, and more accountability in HEIs would be favoured, but the mechanisms for its achievement are being discussed heatedly, and researchers have gone against the current system of centralized control, whereby the government sets up a number performance indicators related to funding decisions (Harris, Brown, & Harnett, 2015). The problems in developing performance indicators in HEIs lie in the fact that the indicators tend to become measures of activity rather than true measures of the quality of students' educational service (Soutar & McNeil, 1996). These performance indicators may have something to do with HEI provision, but they certainly do not measure the quality of education provided comprehensively (Kuo & Ye, 2009). A

survey was carried out to take into account the views of different professionals and practitioners on the quality in HEIs and it is gathered that customer orientation in HEIs are the most accepted principle (Owlia, 2010). The students take the highest rank among the stakeholders in HEIs and students' experience should be a key issue of performance that indicators need to examine.

Bearing this in mind, a proposed HEdPERF (Higher Education PERformance-only), a new and more comprehensive performance-based measuring scale that seeks to measure the determinants of service quality within HEIs (Abdullah, 2005a). The 41-items instrument has been tested to see the unidimensionality, reliability, and validity using both exploratory and confirmatory factor analysis. Thus, the primary question is directed at the measurement of service quality construct within a single empirical study that makes use of customers of HEIs industry. In particular, the ability of the more concise HEdPERF scale is compared with that of two alternatives – one called SERVPERF instrument and the other, the merged HEdPERF-SERVPERF. The goals are to run an assessment of the strengths and weaknesses of each instrument in order to ascertain which instrument had the superior measurement capability in terms of unidimensionality, reliability, validity and explained the variance of service quality. Therefore, the results of this study revealed that the HEdPERF scale is an ideal measuring instrument of service quality in HEIs.

At first, in non-academic aspects, this factor contains variables that are essential to enable students to cater for their study responsibilities, and it relates to duties and

responsibilities carried out by non-academic staff. Secondly, in academic aspects, this dimension dwells into the responsibilities of academics, and it highlights key attributes like developing a positive attitude, good communication skills, permitting consultation, and being able to provide students with regular feedback. Thirdly, for reliability, this factor consists of items that emphasize the ability to provide the pledged service on time, in an accurate and dependable manner. Fourthly, as for empathy, this factor revolves around the provision of individualized and personalized attention to students with a clear understanding of their specific and growing needs while safeguarding their interests.

It is important to note that the four factors identified have an exact conformance to neither the six-factor structure of HEdPERF nor the five-factor structure SERVPERF. In fact, the new dimensions extracted were the result of the amalgamation between HEdPERF and SERVPERF scales, in which two factors (non-academic aspects and academic aspects) were discovered in HEdPERF and the other two (reliability and empathy) were identified in SERVPERF. In this study, the concept is that service quality is a comparison of performance perceptions with expectations (Parasuraman, Zeithaml, & Berry, 1988b). Service quality has since thrived as a pervasive strategic force and a key issue on institutional management's agenda. It is now the concern of practitioners and academics on the accurate measurement of service quality in order to understand its vital antecedents and consequences, to set methods of measurement to enhance the quality, to build student/customer loyalty and ultimately to attain competitive advantages.

2.6 University Image

Thus, university image is regarded as one of the most sensitive and critical factors in the entire HEI assessment (Grönroos, 1984). Also, university corporate image and reputation is a marketing strategy for any HEIs that wish to be successfully differentiated it positioned in the existing and potential market. Research have illustrated that university corporate image consists of two major components; the university functional corporate image which include the tangible features and secondly, the university corporate emotional image which include feelings, attitudes, the past experiences gained by students in a particular time and beliefs that one has towards his or her institute (Agus, Barker, & Kandampully, 2007).

Service quality as perceived by customers and the service provider is the one calls the tune in creating and delivering the service (Berry et al., 1990a). Hence, the service providers are the HEIs ambassadors as they create quality in the students' minds (Surprenant & Solomon, 1987). The service providers serve as mediators who link the HEIs from the inside and outside by obtaining and disseminating the information to all parties involved (Chung, Lee, & Heath, 2013). In addition, for HEIs to achieved a superior excellence in their corporate image and reputation, the need to create a corporate philosophy, culture, effective and efficient management is timely (Lau & Woods, 2009).

Thus, because of grave competitive markets, the differentiation of HEIs with regard to price, service/products, and the value in terms of the delivery system is daunting. It is also challenging to place an ideal notion of HEIs inside the customers' mind through communication channels such as advertising, promotion, postures, banner ads, publicity, public relations, personnel selling (Andreassen & Lindestad, 1998a). University image research is rooted in the earlier research on corporate image and it is inextricably linked to brand equity (Caruana & Ewing, 2010). University corporate image is likely to play only a secondary role in students' choice decisions unless competing services are perceived as virtually identical on performance, price, and availability (Lovelock & Gummesson, 2004). Broadly speaking, university corporate image is considered an asset which gives the HEIs an opportunity to distinguish itself aiming to maximize their market share, maximize profits, interest new students, keep the existing ones, neutralize the competitors' actions and above all their success and survival in the market to obtain student loyalty in HEIs (Fombrun & Shanley, 1990).

Today, the trend in university shifts towards an engagement in marketing and branding programs, and the aim is to improve the reputation of the university and to exert a positive influence on university ranking. Greater competition is for the sole purpose of getting the best and brightest students to enroll. A university is no longer just a place to learn but it is also a business. Millions of dollars are spent by universities trying to better their image and enhance their position in these rankings.

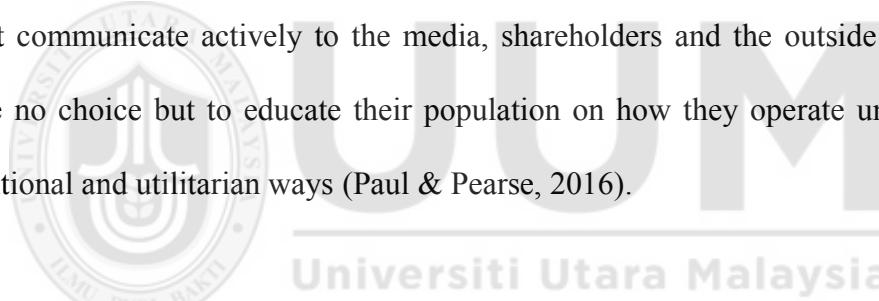
2.6.1 University Image Approach in Higher Education Institutions

Thus, the concept of university image in HEIs, sheds light on a corporate teaching and learning of staff and students, offers facilities for teaching and researchers as well as both undergraduate and postgraduate students which have a very good image in the mind of the students. Hence, a student is defined as a customer who primarily studies the academic programs, and while the academic staff is described as being related to the learned skill with high professions (Collins, Yates, & Grange, 1981). The significant role of HEIs in a specialized knowledge, advanced training and scientific discovering proves to be an essential strategy in solving urgent issues facing our industry and the society at large, resulting in a very sound reputation and perception, and giving a good image to the general public. The issues of economic, human survival, environment and health are some of the primary issues in the society or a community. HEIs are better equipped than any other institution that produces sound knowledge needed to reach effective solutions and to prepare the highly sound minds to embark on research works (Houtman, 1990).

Furthermore, it is important to understand how universities are creating value and using a widely popular system to describe university activities (Paulsen & Feldman, 1995). This system talks about the nature of faculty work by adopting four functional categories which are research, teaching, service and academic citizenship. The importance of knowledge creation is highly inspiring, thus, it engenders economic, social change and also plays a very decisive role in preserving the cultural and social

continuity of the whole system (Romer, 1990). Therefore, the open society needs individuals who can understand their environment and are able to generate responsible choices (Milligan, Moretti, & Oreopoulos, 2004).

Today, universities must come to terms with their double identity in order to survive, the normative identity, which is traditional in nature, ideological image and the utilitarian identify which is a cost effective image. HEIs are considered as a business and a church/mosque, thus, research findings have stressed on the fact that HEIs must work like businesses in order to survive, what more excel, and also become cost effective. In order to respond to the changes to the dynamic environment, universities must communicate actively to the media, shareholders and the outside world. HEIs have no choice but to educate their population on how they operate under both the traditional and utilitarian ways (Paul & Pearse, 2016).



Thus, in today's tough business environment, HEIs' ultimate chance of survival is to develop a favorable reputation and positive image of the institutions within its domains of operation. Hence, with the growing, even stiff competition and absence of differences in price, design, quality and benefits, the factor with the greatest influence on the consumer decision-making process in an institution is the positive reputation and image of the brand of the institution (Moorman et al., 2014). The survival of the institution leans on the social identity and interprets it as a vital resource inevitable to the institution (de la Fuente & Doménech, 2015). University corporate image and reputation are defined as the overall perception of what the institution believes in and

what expectations and aspect are associated by individual students as they reap the benefits from the institution services and products. Briefly speaking, it is usually, the previous result of the HEIs, where it is formed as a result of accumulated judgments over a long period of time(Lux, Crook, & Woehr, 2011). Thus, for example, HEIs can have a multiple reputation and image in the forms of price, strategic location, employee professionalism, professionalism, quality service, top-notch facilities and innovative service or products. In this study, university image is conceptualized as a communication process that the institutions create and spread their strategic intent, mission, vision, goals, and identity that reflect their core values they cherish and uphold (Cardona & Bravo, 2012). Those graduated from a university of higher ranking and goodwill may have an advantage over and above those graduates from a low ranking university in the labour market and also because of the goodwill of the institutions with a higher ranking it will automatically have a competitive advantage to attract and retain the loyalty of the students.

2.7 Commitment

The concept commitment is an integral part of long term relationship between partners in an institution i.e. there should be a sacrifice on the part of the partners and the durability of the institutional relationship (Nilssen, 2012). Similarly, commitment is interpreted as a kind of intention to build, enhance and sustain a long term relationship with an institution. It is the desire to make an effort to establish, maintain and sustain a relationship between parties in an institution and considered as being

adequately worthwhile (Erin Anderson & Weitz, 1992). The long term relationship is believed to be important when it comes to maintaining and providing a competitive advantage among institutions (Ganesan, 1994b). Thus, theorists have regarded commitment as central to successful inter-institutional relationships, in achieving efficiency and effectiveness in generating real benefits for the participant in their working relationship (Erin Anderson & Weitz, 1992). Also, transactional and potential costs might be curbed if participants illustrate their commitment to the network of their relationship with their institutions, while on the other hand, the concerned institutions must have a definition of the problem they are facing and which must be significant enough for them to invest their time and resources to collaborate with others to enhance the effectiveness of the institution (Lawrence et al., 2009).

Commitment serves as a construct that belongs to the literature of social exchange, and also as an important dimension of relationship marketing (Thibaut & Kelley 1959). Commitment in HEIs is a psychological state of a relationship where a student has subconsciously or not made the plans to continue with the relationship with the existing HEIs (Morgan and Hunt;1994). Therefore, the role of commitment in relationships should be highlighted (Parasuraman, Zeithaml, & Berry, 1994b). Moreover, relationships are built on the foundation of mutual commitment (Moorman, Zaltman, & Deshpande, 1992a)- it is an enduring desire for particular institutions and considered as the degree to which a student as a member of an institution is emotionally connected to HEIs services or product, sustained by the desire to

maintain membership which involved parties willing to continue with the relationship based on mutual benefits and understanding and are always ready to bear the cost and efforts that are required to keep the relationship going (Morgan and Hunt, 1994).

Thus, in this context, commitment is defined as the intention of a customer/student to continue their relationship with HEIs as an exchange partner (Gummerus, Liljander, Weman, & Pihlström, 2012). Hence, it is a customer/student long term orientation toward a business relationship which is based on the student assessment that the relationship will create some positive benefits from the HEIs (Lacireno-Paquet, Holyoke, Moser, & Henig, 2002). The three major antecedents of student commitment include the relationship termination costs, relationship benefits, and shared values (Morgan & Hunt, 1994). In specific, affectively committed students wish to continue a relationship because they have a positive disposition towards the service of HEIs and perceive social benefits from the exchange partnership. Additionally, commitment is rooted in a sense of shared values, dedication, belongingness, and similarity (Fullerton, 2003a). Researchers have discovered that student loyalty had a greater propensity to be advocates of HEIs (Fullerton, 2014).

For HEI students, commitment can be defined as emotional and cognitive in nature (Henning et al., 2012). Previous research has found that pre-existing attitudes towards the HEIs, as well as social encouragement and integration during the tertiary period strongly influence student commitment (Strauss & Volkwein, 2004). Therefore, the commitment has been found to be a positive and significant influence of student

loyalty through the strategy of increased perceptions of service quality (Henning et al., 2012). Thus, in this study, student commitment is conceptualized as a psychological commitment based on a student sense of identification with and belongingness toward the HEIs being the service provider (Peter Verhoef, Franses, & Donkers, 2002). The intention of a student to maintain a relationship with the service provider depends very much on the commitment of the HEIs to satisfy the students' needs in order to delight the student and sustain the psychological relationship.

2.8 Trust

The notion of trust can be defined as the willingness of a customer/student to rely on an exchange partner in whom they instill confidence (Morgan & Hunt, 1994c). For the relationship to exist it must be considered to be mutually and beneficial both ways or to both parties (Parasuraman & Berry, 2004). Also, the concept of trust has been described as the cornerstone of the exchange relationships between parties in an institution (Morgan & Hunt, 1994b). In the HEIs trust is simply defined as the degree to which a student is willing to place his or her confidence in the HEIs to take appropriate steps that will benefit him/her and help him/her to achieve his learning and career objectives while in school or beyond it (Ghosh Hazra, 2013; Tsai & Carstens, 2013).

Meanwhile, student trust is based on the personal and subjective experiences he or she has of HEIs, with all elements of the entire HEIs experience including faculty

members, technology, campus life and administration (Henning et al., 2012). Prior studies have established that trust in the HEIs personnel, administrative processes, policies, and practices increased and changed students' perception of value and loyalty, they also suggested that trust in the HEIs is essential to foster a productive exchange relationship with the student base, and also trust has received scant empirical attention more especially with regard to the HEIs, and there have been recent calls to revisit the influence of students' trust in HEIs (Sergio Carvalho & de Oliveira Mota, 2010b). In the previous studies, trust was found to be significantly and positively associated with loyalty by means of recommendation (Carvalho & Mota, 2010). On the other hand, trust increased student retention and loyalty in the educational institutes (Ghosh, Satyawadi, Joshi, & Shadman, 2013).

Thus, the concept of trust, based on honesty is often used in many fields of studies such as social psychology in collaboration with social norms, networks and also is a factor that restricts exploitation and facilitates exchange between partners (Aasi, 2013). Similarly, trust is a relationship's building block between partners for mutual benefits (Crotts & Turner, 1999). Trust is a strategy that determines a long term relationship between partners who are working at making the relationship work (Voldnes, Grønhaug, & Nilssen 2012). Trust in institutions can easily be identified by their participants in each other and in fulfilling their commitments to HEIs (Chatrchyan et al., 2013). Hence, trust can be defined as the belief that the partner will perform actions that will result in a positive outcome and also not to do unexpected actions that may result in negative outcomes for the HEIs (Walter, Mueller, & Helfert,

2000). Similarly, trust is defined as the student's willingness to fully rely on an exchange partner in whom one has full confidence in a relationship between the parties to reap mutual benefits (Moorman, Deshpande, & Zaltman 1993). Moreover, trust is also described as the belief, an expectation about an exchange partner action that may result in reliability, expertise, and intention. Furthermore, trust is also seen as benevolence because it is always based on the extent to which the HEIs believe that its partners have intentions and motives beneficial to it (Ganesan 1994).

Trust was found to be a striking relationship in determining buyer and seller's long term orientation (Yap, Ramayah, & Shahidan, 2012). Moreover, it will be very difficult to develop an open and effective networking processor and effective partnership, if there is an even a tinge of distrust and some tension. This is an evidence in the studies on tourism networking on the island of Ireland where decision making process was a mere artificial as there was rousing suspicion between the two tourist boards, Also, mistrust which is introduced as a result of disrespect can make success quite impossible to achieve (Sheu, 2015).

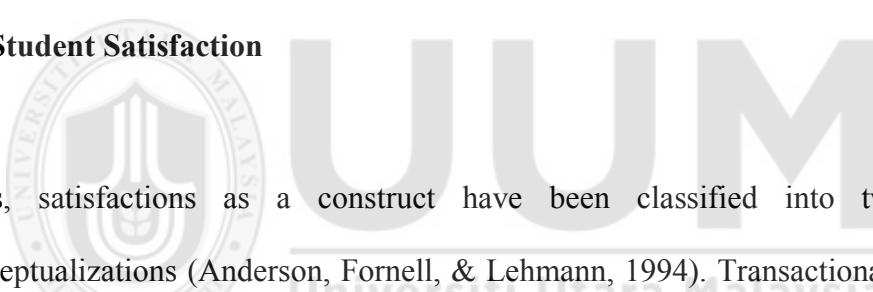
The literature has endorsed trust as a causal antecedent to commitment (Morgan and Hunt, 1994). Hence, communication was found to be one of the significant dimensions of relationship marketing and institutional learning informal mechanisms of knowledge sharing and trust on the development of dynamic capabilities within the tourism destination (Boonchoo, Wadeson, & Tsang, 2013). Trust is viewed as a relationship that reduces costs and fosters information sharing, and also it is seen as a

mechanism based on shared norms and values, a necessary ingredient in a highly complex form of social relation and processes necessary for the generation and supporting the collective collaboration within an environment (Sigala 2006). Meanwhile, the establishment of a trust will lead to a positive climate and confidence amongst partner (Barney & Hansen, 1994). Again, it is a vital component of a successful relationship which leads to a sustainable long term relationship in institutions (Morgan & Hunt;1994a). That said, trust is considered as a multi-faceted concept and dynamic relationship (Dimitriadis & Kyrezis, 2011). Hence, from Islamic perspectives, trust is highly emphasized and recommended upon personality attributes and morality (Iqbal, 2014; Kim, Vogt, & Knutson, 2015).

In the literature, trust was conceptualized and measured in a different way, and also the following is recognized as the distinct dimensions of trust such as confidence, reliability, credibility, honesty or benevolence (Ganesan, 2011). To start with, trust lacks a univocal definition despite its universally accepted significance in the field of marketing literature as a construct that has been measured and conceptualizes in multiple ways (Kantsperger & Kunz, 2010). It can denote the willingness of the party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustee, irrespective of the ability to monitor or control that other party i (Mayer & Davis, 1995). It is described as honest faith in partners' truthfulness and in a business transaction (Tsiros, Mittal, & Ross, Jr., 2004). In brief, trust can be classified into three main components, honesty where the trusting party depends on the relationship partner to be credible, the belief that the

relationship partner will show benevolence in her/his actions and the competence to act for mutual benefits in the relationship. In this study, trust is conceptualized as the cornerstone of exchange relationships (Morgan & Hunt, 1994a). In HEIs trust is defined as the degree to which a student is willing to rely on or have faith and confidence in the HEIs to take appropriate steps that benefit him and help him achieve his learning and career objectives. For the relationship to exist, it must be mutually beneficial (Berry, 1995). For the student who is a customer to the university to have confidence in the service provider, the university must be able to fulfill its promise of mutual benefits for both parties that play their role in the relationship.

2.9 Student Satisfaction



Thus, satisfactions as a construct have been classified into two different conceptualizations (Anderson, Fornell, & Lehmann, 1994). Transactional satisfaction brand is mainly specific and limited to a specific purchase occasion of a customer/student (Anderson et al., 1994). Thus, cumulative satisfaction easily refers to the comprehensive evaluation based on many purchase and consumption experiences of a product/service over a period of time, it can be viewed as a function of all specific satisfactions and previous transactions (Anderson et al., 1994). Hence, the overall satisfaction is said to be a more fundamental indicator of the industry's past, current, and future performance, possible due to the fact that customers always make repurchase evaluations which are based on their decisions of their purchase

action and consumption experience of the previous service/product of a particular transaction (Quinn, Lemay, Larsen, & Johnson, 2009).

Satisfaction refers to the extent to which a student/customer will experience a pleasurable level of consumption of a service/product fulfillment (Koppius, Speelman, Stulp, Verhoef, & van Heck, 2005). Moreover, in technical terms, customer/student satisfaction develops in the short term as a result of previous interactions with the service providers (Geyskens, Steenkamp, & Kumar, 1999). On the same note, customer/student satisfaction can be developed via positive and repeated reinforcement of the HEIs (Henning et al., 2012). Furthermore, the effect of customer/student satisfaction on the establishment of a relationships is clearly documented in the literature that, customer/student satisfaction is considered as the cognitive and affective evaluation of the service providers depending on the total consumption and experiences that the customer had with the service providers (Storbacka, Strandvik, & Grönroos, 1994). Hence, whenever there is a high level of customer/student satisfaction the indication that we can get is that the service provider provides its services consistently (Delgado-Ballester, Munuera-Alemán, & Munuera-Aleman, 2001). The customer/student will create a very strong level of confidence in the reliability and integrity of the service providers (Vivek, Beatty, & Morgan, 2012). However, if a customer is not happy with the service providers, a deeply committed and bonded relationship cannot be achieved and maintained in the relationship (Roberts, Varki, & Brodie, 2003). The customer satisfaction/student is an essential relationship to the seller and buyer idealistically speaking (Crosby, Evans, & Cowles,

1990). If a strong relationship is to be built, a customer/student must be highly satisfied with the service providers (Moore & Bowden-Everson, 2012b).

Satisfaction is the central point in the study of the loyalty towards the institutions (Kenney & Khanfar, 2009). Previous studies in the service sector reported the positive effects of customer/student satisfaction on purchase intentions (Chan et al., 2003), also referrals (Heskett et al., 2008). Also on repurchase behavior (Tsiros & Mittal, 2000), on customer/students retention (Gustafsson, Johnson, & Roos, 2005a), on strong and sustainable relationship duration (Bolton, 1998), on profit and return on investment (Kwek et al., 2010).

There is no single definition of students satisfaction; Alpert (1996) defined it as a short term attitude of a student/customer that arises from the evaluation he or she made concerning the HEIs experiences they have gained. It is also defined as the subjective part of the various outcomes and experiences in the HEIs (Elliott & Shin 2002). Quite a number of previous studies have shown that student satisfaction is a significant predictor of loyalty and satisfaction has been strongly linked to favorable outcomes like positive word of mouth (Gabbott, Tsarenko, & Wai Hoe Mok, 2011). Satisfaction increased the revenue and reduced costs for HEIs (Grossman et al., 2009) Several studies further demonstrated that satisfaction has dwelt into a large proportion of the variance in students' willingness to make a recommendation of the HEIs (Al-Alak, 2006). Loyalty shall have a lot of benefits which may follow from high levels of satisfaction like attracting new students, sustaining existing students to

continue their patronage, getting the donation from alumni students and membership (Helgesen & Nessel, 2007). Student satisfaction with the service delivery of quality products/services has been suggested and previously empirically documented as the ways and manner affecting the buyer's decision towards a relationship (Anderson et al., 1994). Similarly, whenever students are satisfied the likelihood of exit from negative word of mouth and the relationship is greatly lessened, and this is in line with the confirmation and disconfirmation theory established (Churchill Jr. & Surprenant, 1982) this clarifies that satisfaction is achieved when the real expectations are fulfilled (confirmed), that negative disconfirmation of any form of expectations will result in dissatisfaction, and that positive disconfirmation will result in higher level of satisfaction. Furthermore, satisfaction is linked to loyalty and relationship commitment. Highly satisfied students spread positive word of mouth and in effect become a moving advertisement for HEIs which service has pleased them. A highly satisfied student may be more forgiving that is a student who has enjoyed good service delivery many times in the past is more likely to have the belief that any service failure is just a one-off case. Therefore, it may take more than one unsatisfactory incident for strongly loyal students to really change his or her perceptions and consider switching to HEIs. Researches have proof that delighted students in HEIs do not really switch to competitive offerings(Xia & Walker, 2015).

Furthermore, student satisfaction is defined as a subjective evaluation of the multiple outcomes and experiences with HEIs (Elliott & Shin, 2002a). Typically, satisfaction is based on an evaluation of whether or not a customer/student expectation has been met

as well as the magnitude of disconfirmation or confirmation of their various expectations (Storbacka, Strandvik, & Grönroos, 1994b). Hence, in this study, student satisfaction takes the notion of the subjective outcome of various experiences at the HEIs such as lectures, supervisions, hostel accommodation, sporting facilities (Elliott & Shin, 2002). Satisfaction is a key component of loyalty, but not all satisfied students may become faithful to their HEIs, and service providers are expected to achieve the expectations of the students being the customers of the HEIs.

2.10 Technology Innovation

The concept of technology innovation as a factor influencing customer loyalty was first documented and described as one of the issues prominent in loyalty. Moreover, literature has shown that many theoretical studies have come to emerge, however only a few empirical contributions in the area have looked into the issue. Thus, the body of theoretical knowledge suggests that, to a certain degree, technology innovation can contribute to HEIs and add value to the level of student satisfaction, who is the customer of the HEIs. Similarly, some studies shed light on the relationship between innovation and customer behavior, but not yet student loyalty specifically. An example of some of the studies which reveal into this relationship include Totterdell, Leach, Birdi, Clegg, & Wall, (2002), and the result of their findings is that there is a significant relationship between innovation and customers behavior. Also, in Taiwanese air cargo services, the relationship between them has been investigated, and the result showed that innovation capability has a positive effect on satisfaction (

Gao, Hu, Huang, Wang, & Chen, 2011). Furthermore, there were zero attempts to measure the potential effect of technology on loyalty. Hence, they used a subjective measure of innovation that is customer perception, and technology has become a significant part of HEIs all across the world.

Thus, due to the deterioration in the funding and competition, HEIs find out new ideas, services, and processes that have potential commercial value, HEIs that fall behind in innovativeness does not attract customers/students and market share in attracting and maintaining student loyalty (Hamel, 2006). Thus, despite the fact that today's technology is costly in the market, it is a good strategy for HEIs innovativeness to gain a competitive advantage over their competitors. Therefore, the goodness of technology cannot be overemphasized because technology is not at par with the needs of the customers; they may bring some adverse impacts. Similarly, HEIs also tend to get confused over the blurry identification of the most appropriate technology with consideration given to the cost and its benefits analysis.

The concept of technology innovation can be defined as the improvement of managerial ideas, services/product (Montebello, 1988; Xu, Sharma, & Hackney, 2005). In the context of student-HEIs, technology can be viewed as a new product/service created by the respective HEIs specifically the students only, and this involves the creativity's marketing processes and commercialization (Myers & Marquis, 1969). Today, technology in the service industry can shed light on the

variety of forms which include, the attributes of online payment of the bill, e-learning, and electronic presentations etc. (Howells & Tether, 2004).

Furthermore, technology innovation can come in the form of a new service/products innovation or even more comprehensively, a change in the process of providing such service/products. This follows closely the explanation of the community innovation survey, which described innovation as the new improved good/services and even the processes adopted to supply goods/services (Maltby, 2013). Hence, student/customers of HEIs like innovations because of its usefulness which further leads to satisfaction and value, which governs student loyalty. Findings in the previous literature on customers' responses to technology innovation have shown some mixed results (Szymanski, Kroff, & Troy, 2007). The findings revealed a striking relationship (Luo & Bhattacharya, 2006). However, the relationship between customers responses to technology innovation was found insignificant (Li & Atuahene-Gima, 2001). It was discovered later that these studies did not directly check on loyalty. However, prior studies have thrown some light on customer/student satisfaction and acceptance related to loyalty. Thus, there is an empirical evidence with regard to customer response to new service/product, and that is the more reasons why mixed results often play their part as the main outcome of the different definitions and notions due to the different sample selections, the industries being studied, the unit of analysis, designs of the research, the instrument used, tool of analysis and inconclusive evidence, and the literature showed further that the theoretical considerations have suggested that innovative HEIs lean more on customer needs and wants and they respond positively

to the changing demand of students/customers and creating greater value for them. Therefore, different industries would innovate differently. Similarly, factually, this kind of innovation required little effort or investment and effectiveness will be limited so that everybody can do the same and no comparative advantage can be obtained from the readily established institutions. Similarly, effective innovations require adequate resources in the area such as research and development, where various types of innovation have been studied and the result revealed that appropriate choices of innovation are becoming differentiation players in the market (Cardellino & Finch, 2006).

Thus, a customer/student perception of value depends on the innovativeness of the product/service, its quality, its processes of delivery and other components that the customer/student deems to be very important (Yi & La, 2004). The institutions need to make their actions very clear for their customers/students to make them understand that they care (Kolehmainen et al., 2004). One of the strategies that institutions can really show such care is by equipping the institute with innovative services to their customer/student of their respective institutions, and arguably, the value reflects the processes of emotional relations moving from the service providers to their customer/student, and also such service providers that are more successful in establishing the relationship will enjoy the benefit of repeated purchases and longer term relationship with their stakeholders or customers (Butz Jr. & Goodstein, 1996).

There has been an increase in globalization, coupled with innovation and also the use of digitalization in the academic discourse and environment in years that have passed. Furthermore, as documented in the various literatures all around the world, technology is a very strong and important instrument of development in the sector of the global economy in which HEIs is not exempted. Meanwhile, due to the significance of technology innovation in HEIs that are focusing and pursuing higher academic excellence, it has become a sensitive and viable investment with little attention paid more to it especially in developing countries. There are several definitions of technology innovation by different scholars in the fields; it was defined as a given set of aiding/ helping devices that can assist in working with information in order to carry out the responsibilities that have a direct relationship with the processing unit or information (Chukwu, Mahajan, & Nworgu, 2014). On the same note, technology innovation was defined as an extensively based technology innovation technique which incorporates the application of techniques and management that chain the storage facilities, formation and communication of information to stakeholders to communicate technically. Hence, the report of HEIs testing service defined technology innovation as the use of digital technology innovation, electronic tools of communication in accessing, integrating, managing and evaluating also creating reliable information in order to function credibly and further yield positive outcomes (Okore, Anaehobi, 2015).

The recent development of e-learning has really altered the concept of learning and research within the HEIs, for example for HEIs to take full advantage of e-learning in

an environment it is crucial to develop and enhance student learning center for the future by integrating the learning tools and equipment which are part of the learning experience of the students. HEIs have to develop and enhance information technology as a strategy of a unified learning tool for the benefits and use of e-learning while students are moving on campus and off-campus, that it will enhance and helps the individual learning processes and empower students (Rashid & Raj, 2006). The impact of e-learning has emerged as a major interest to HEIs and for e-learning to be very successful for the future, HEIs need to build and work towards clear and effective e-learning solution. Meanwhile, recently, the development of e-learning system has become more established in HEIs, because academic staff of HEIs is responsible for delivering and implementing the e-learning system to improve learning through the online course to cater for student demand and the e-learning program is normally offered in the form of online courses and the training programs which are organized and delivery through online such as Moodle, X-stream, Blackboard, WebCT, VLE and other learning web systems. The use of technology innovation in HEIs has experienced fast growth in the last decade with a clear transformation from the service providers to use online evaluation and assessment methods to integrate student learning, research and communication methods fully. In a similar way, e-learning has increased and also there is an improvement within the HEIs, and the increased demand for information technology transfer student learning carries enough implications for both HEIs and students, and the major issue revolves around how to meet the expectations of students of HEIs (McDonald, 2008). Moreover, the main principle of information technology is to cater for the e-learning

environment in order to ensure access to high quality information, to equip the e-learners with information skills and provide the appropriate assistance to the e-learners in information searching in order to address the related costing and communication issues.

Thus, through information technology, several models have been developed and tested by HEIs in the last decade to improve student learning via e-learning, and HEIs are in the process to adequately provide the students with a new method of communicating and sharing knowledge. HEIs have been exerted with a very strong pressure from the government to change the methods of knowledge delivery to students via technology, and in response to the government pressure, HEIs have started working on and running tests on new IT teaching and assessing programs (Sánchez-Fernández, Iniesta-Bonillo, & Holbrook, 2008). Therefore, it is widely established that e-learning will definitely make an impact on the learning style of a student in the future and it has become a fundamental challenge on HEIs to provide a very comprehensive learning environment to cater for the demand of the growing population of students (O'Neill, Singh, & O'Donoghue, 2004). Furthermore, research has shown that e-learning thrives as a generic term for all the mechanisms used to assist the learning process and to spread adequate information via an electronic medium (Punniyamoorthy & Prasanna Mohan Raj, 2007).

Today, the e-learning system are designed to lend support to the research, teaching, and learning in various HEIs, in order to enhance student engagement and also to

provide service to students who are more into the modern internet and intranet as a medium to find learning materials and current information (Al-Shboul & Alsmadi, 2010). Similarly, e-learning is not employed to take over the traditional teaching and learning methods in HEIs, but to supplement and facilitate and enhance student learning (Tomasello et al., 2010). In this study, technology innovation is conceptualized as creation managerial ideas, service product/processes (Tornatzky & Fleischer, 1990). The advantages of HEIs to use technology as a marketing strategy in order to attract student loyalty have been documented in a steady stream of literature.

2.11 Underpinning Theories to the study

Theory is considered to be significant and to clearly understand the concept to be invested under the phenomena, similarly, theory present a systematic set of relationship which provides a comprehensive explanation of a phenomena (Chan et al., 2003; Godwin, Godwin, Lamb, Hair, & McDaniel; Lavy, Paserman, & Schlosser, 2011). In addition, the theory can also be defined as a set of interrelated concepts and propositions that make a presentation of a system view a relationship between variables with the main objective of explaining and predicting phenomena (Abdi et al., 2015). The following underpinning theories are used in this study in order to arrive at the conceptual framework and hypotheses development Social Exchange Theory (SET) is the main theory that focuses on five variables of the study and while Expectation-Disconfirmation Theory (EDT) is the supporting theory that mainly focuses on two variables as shown clearly in the theoretical framework.

2.11.1 Social Exchange Theory

The social exchange theory has its origin from the field of psychology, sociology, and economics, and the theory posits that human relationships are the outcome of an exchange process with the aim of minimizing costs and maximizing benefits. Moreover, exchange behavior is not basically driven by the economic needs, but also the psychological needs and the theory were developed predominantly based on the prior work of (Blau, 1964; Emerson, 1976, 2015; Homans, 1958). As Homans (1958), observed that social behavior is an exchange of material and non-material goods, such as symbols, ideas, university image and reputation, perception, expectation, an individual that give to others are still expecting much from them and vice versa and on the other hand a student that get much from HEIs are expected to give back much to them. Hence, this process of giving and take tend to be balanced in the exchange process at equilibrium points. Thus, individual students in an exchange process pay in fees which are a cost and earn a certificate from a prestigious university which is a benefits or rewards.

Thus, SET suggests that all human beings are basically formed a relationship based on a subjective cost-benefit analysis which has elements of a relationship that have a positive value of an individual student such as friendship, acceptance, social support, and companionship. While, costs are the elements which individual students considered as negative for example money, time, and effort spent to maintain the relationship (Tomasello et al., 2010). The social exchange is of the opinion that an

individual student will add the benefits and subtracts the costs in order to determine the worth of the relationship, hence, whether students continue with the relationship or not depends on the worth of the relationship, that is positive relationship are expected to continue and while the negative relationship is expected collapse (Monge & Contractor, 2003).

The SET was summarized based on three propositions, success, stimulus and deprivation satiation (Homans, 1974). Those three propositions can assist individual student behavior based on rewards/benefits and costs/expense across different social exchange process. Similarly, success proposition for actions taken by a student, the more often a particular action of a student/ person is rewarded, the more likely the student/person is to perform that action. Stimulus proposition is a set of stimuli has been the occasion for which a person/student action has been rewarded, then the more similar the present stimuli are to the past ones, the more likely the person is to perform the action. Deprivation satiation proposition the more often in the recent past a person/student has received a particular reward, the less valuable of a further unit of that reward becomes to him.

In addition, SET has been applied increasingly within the context of knowledge sharing in HEIs, for example, Nahapiet & Ghoshal (1998) suggested that knowledge market exists whereby knowledge seller/HEIs consider whether it is worth sharing their knowledge there with a buyer/student and while a knowledge buyer/student also consider whether they are to offer something in return in the future. Some prior

studies also look into knowledge sharing as an exchange of abstract, ideas, resources and advocated the use of SET to examine information and knowledge sharing (Jarvenpaa & Staples, 2000).

According to Blau (1964) defined SET as a set of actions that are voluntary in nature and motivated by the expected return, such as higher quality services, higher status or greater respect, goodwill, university image, and reputation. Similarly, he observed that employee behavior can be explained on an economic and social exchange such as tangible returns and rational self-interest, such as money, and while social exchange perspectives focused on intangible returns and reciprocity, such as associations. In a study on knowledge sharing in a HEIs, Hall (2001) classified rewards as tangible for example bonuses, promotion and intangible such as image and reputation and respect from coworkers.

2.11.2 Expectation-Disconfirmation Theory

Expectation-Disconfirmation Theory (EDT) has been originated from the fields of marketing management and consumer behavior research (Bijmolt, Wedel, Pieters, & DeSarbo, 1998; Oliver, 1980). EDT posits and considered satisfaction as a real function of prior expectations and disconfirmation in a relationship (Oliver, 1980), and satisfaction is a key predictor of repurchase intentions of a consumer/student intention to patronize the HEIs (Oliver, 1980; Tomasello et al., 2010).

Expectation can be defined as a set of beliefs about a service/product (Susarla, Barua, & Whinston, 2003). While disconfirmation can be defined as the discrepancy between the level of expectations and the actual experiences, that is better than expected outcomes can lead to positive disconfirmation and worse than expected outcomes can lead to negative disconfirmation (Kopalle & Lehmann, 2001). Similarly, the causal flow is as follows, the exposure of information about a product/service performance characteristics leads to the formation of product/service and specific belief/expectation towards a consumer (Olson & Dover, 1979). While a cognitive comparison between expectations and actual experiences leads to a subjective disconfirmation (Oliver, 1994). However, the combination of expectations and disconfirmation determined the level of satisfaction, in return influences repurchase intentions.

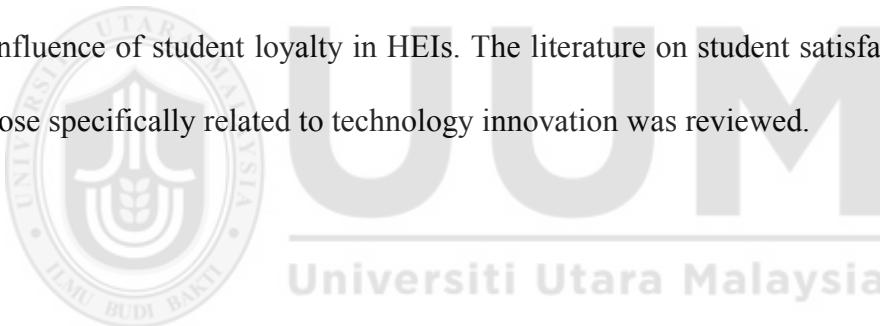
In addition, EDT has been applied in so many different fields, such as marketing and consumer behavior for example (Kopalle & Lehmann, 2001), service quality (Joseph Cronin & Taylor, 1994), psychology (Phillips & Baumgartner, 2002), leisure behavior (Madrigal, 1995), medicine (Baron et al., 2004), and human resources management (Hom, Griffeth, Palich, & Bracker, 1999). Moreover, a common theme in the expectation and disconfirmation literature is that satisfaction is said to be a function of the size and a direction of disconfirmation, that is when students are satisfied in the case of positive disconfirmation and when they are dissatisfied in the case of negative disconfirmation. Furthermore, it was hypothesized that prior expectation and disconfirmation are the only determinants of satisfaction (Oliver, 1980). But

subsequent research has shown that actual performance exerts independent effects on satisfaction (Churchill Jr. & Surprenant, 1982). Meanwhile, in some cases, the experience is considered as the only determinant of satisfaction (Brown, Venkatesh, Kuruzovich, & Massey, 2008).

According to Ginzberg (1981) investigated the impact of unrealistically students expectations on the satisfaction of information system and concluded that students who held realistic expectations were more satisfied than students with unrealistic expectations with the system (Szajna & Scamell, 1993). Thus, EDT as a theoretical basis argued that unrealistically high expectations will result in a lower level of perceived benefits when compared to realistic expectations (Staples, Wong, & Seddon, 2002). While, incorporating EDT into the widely used TAM, Bhattacherjee (2001) identified the reasons behinds continuance intention to use a system and how these motivations influence continuance intention of the causal flow (Bhattacherjee, 2001). Similarly, buildings on the work of Bhattacherjee & Premkumar (2004a) made explanation on how and why the belief and attitude towards information system use change over a period of time as students gain more experience with the target system. In line with EDT, the result of the previous studies shows that student satisfaction with IS use is the strongest predictor of continuance intention. Furthermore, they highlighted the role of disconfirmation and satisfaction in driving the change in attitudes and beliefs over a certain period of time, and therefore, the introduction of technology innovation in EDT was a key predictor of continued IS use in HEIs (Brown, 2008).

2.12 Chapter Summary

The chapter start with a general introduction of the entire constructs of the study, and a broad definition of student loyalty which is the dependent variable, and then follow by the independent variables which include the concept of service quality, university image, trust, commitment, while student satisfaction as the mediating variable and technology innovation as a moderator and while students loyalty as the dependent variables, and the study followed by the underpinning theories of the constructs, followed by the underlying theories Studies on service and relationship marketing of HEIs were extensively and comprehensively reviewed supporting the robustness of the influence of student loyalty in HEIs. The literature on student satisfaction as well as those specifically related to technology innovation was reviewed.



CHAPTER THREE

RESEARCH FRAMEWORK

3.1 Introduction

This chapter introduces the theoretical research framework of the study which developed based on the numerous series of literature review in the previous studies. However, the main objective of this chapter is to examine the relationship among the seven constructs namely: service quality, university image, commitment, trust, student satisfaction, and technology innovation and student loyalty. In addition, the aim of this chapter is to propose a conceptual model of the research framework for the study and to formatted hypotheses that explained the relationships among the variables, this chapter covers the research framework using graphical presentation, hence the underpinning theories of the present study was heightened that anchor on the conceptual model of the research framework and hypotheses were development.

3.2 Research Framework

Based on the literature review in chapter two, this study seeks to examine the seven constructs of service quality, university image, commitment, trust as the independent variables, student satisfaction as the mediating variable, technology innovation as a moderator while student loyalty functions as the dependent variable. Both the

literature review and the previous studies have established a causal relationship among the variables, other than the fact that this study uses SET and EDT to introduce the research framework as the underpinning theories.

Building on the previous literature review and the underpinnings theories as discussed in chapter two, the research framework depicted in figure 3.1 has been generated. Actually the proposed research framework of the study shows that service quality, university image, and relationship marketing have direct and significant positive relationships with student loyalty as can be found in the literature (e.g., Islam, Yang, Hu, & Hsu, 2013; Wu, Zhou, & Wu, 2012), commitment (Kotzé & Plessis, 2003b), trust (Morgan & Hunt, 1994a), service quality (Abd-el-salam, Shawky, & El-nahas, 2013), university image (Andreassen & Lindestad, 1998a), and ultimately student loyalty was also reported by previous works. However, empirical evidence from the literature also exists which talks about the negative and insignificant relationship between relationship marketing, service quality, and student loyalty in HEIs (e.g., service quality (Islam et al., 2013), trust (Bowden, 2011), university image (Nguyen & LeBlanc, 2001). However, satisfaction alone cannot be deemed sufficient to endow loyalty to service providers, because some empirical literature has provided evidence that (Dagger & David, 2012; Yap et al., 2012) some satisfied customers do make the switch and become disloyal to the HEIs. Hence, these mixed findings suggest the needs ascertain the possible role of a contingent variable between the predictor and criterion variables (Baron & Kenny, 1986b).

In conclusion therefore, whether or not satisfaction is capable of warranting student loyalty, it actually depends entirely on the level of technology innovation of the HEIs which requires further testing to strengthen the relationships, because not all satisfied students surely become loyal, therefore (Šerić et al., 2013) have sought to moderate the relationship between satisfaction and student loyalty in the HEIs.

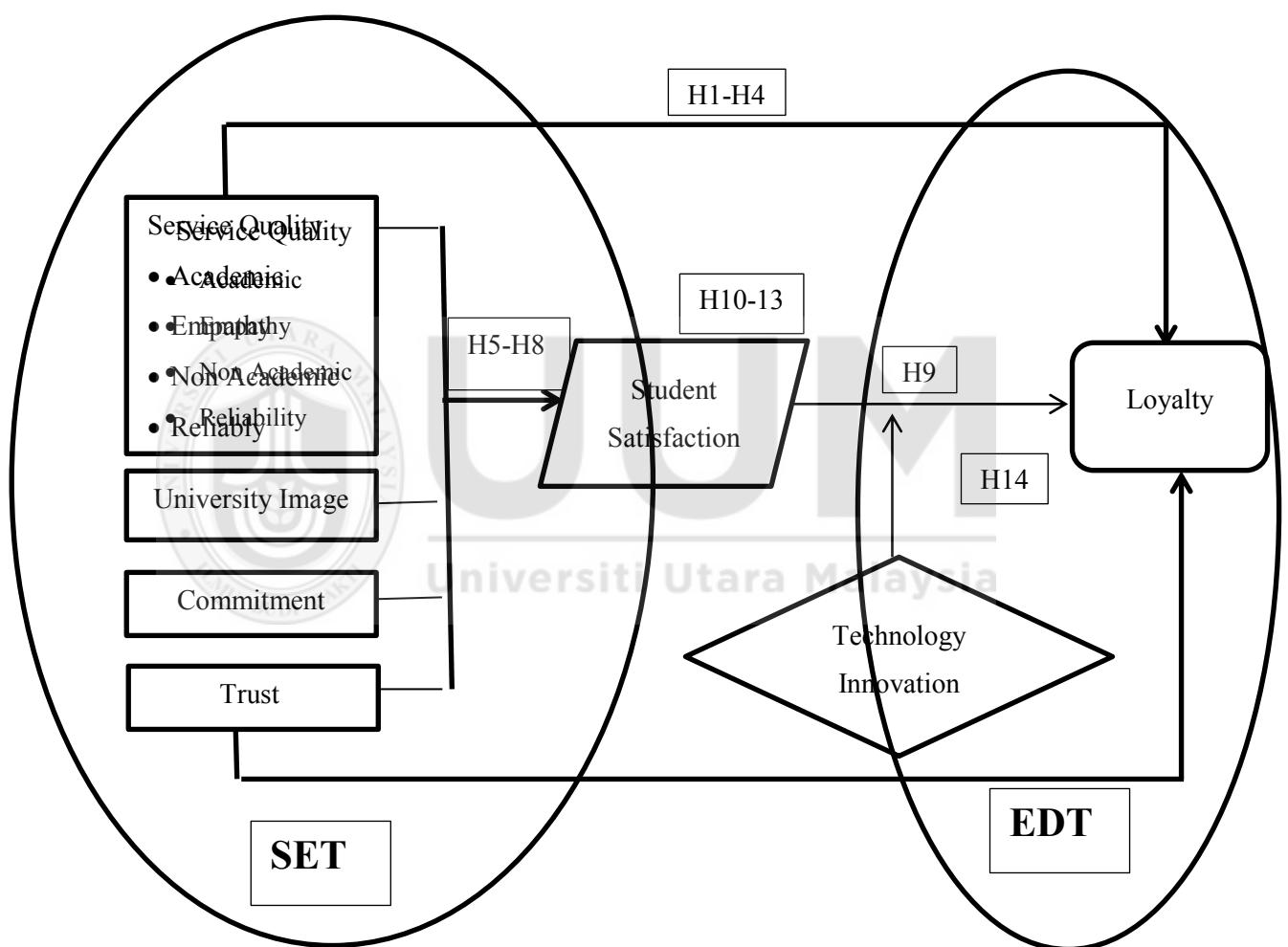


Figure 3.1 Conceptual Model of the Research Framework

3.3 Student Satisfaction as a Mediating Variable

Mediating variables refer to the intervening variables that are created when the third variable intervenes between two or more related variables (Joseph, Hair, Black, Babin, Anderson, & Tatham, 2010). Hence, mostly the application of mediation is to justify why and how the relationship exists in explicating the actual influence of the independent variable on the dependent variable. Thus, to bridge the gap, the mediating effects of student satisfaction on the relationship between service quality, university image, commitment, trust and student loyalty were put forth. By logic, if a student is satisfied with the service quality, good image of the university, commitment, and trust of the HEIs, they may become loyal after all by recommending the HEIs to friends, relatives, and others.

3.4 Technology innovation as the Moderating variable

This study used technology innovation as the moderating variable, on the relationships between student satisfaction and student loyalty in the HEIs located in Nigeria. The reason behind this choice of technology innovation as a moderating variable is because it revealed clearly the problem statement in chapter one of this study that HEIs in Nigeria are still in a battle with the inadequate adoption of technology innovation in their area of teaching and research compared to the facilities provided to the first hundred world universities. The justification for a moderator, based on the evidence of mixed findings and inconsistencies that exist in the previous

literature, clearly proves that a moderating variable can be introduced to moderate the relationship between the constructs. According to Baron & Kenny (1986) when it comes to introducing the moderating variables, previous studies yield inconsistent findings between the variables, so he suggested that the moderating variable should discriminate between two or groups whose differing characteristics might be the source of the inconsistencies in the previous literature. Therefore, the moderator should be aligned logically with the phenomena being under the scrutiny (Sekaran, 2006).

3.5 Hypotheses Development

With the aids of the literature review for this study and theoretical justifications, the hypotheses development for this study has been formulated for empirical testing and validation. This study has seven constructs namely service quality, university image, commitment, trust as the independent variables, student satisfaction is the mediating variable, technology innovation as a moderating variable and student loyalty named as the dependent variable. Fourteen (14) hypotheses were formulated for our current study's testing.

SET is considered as an exchange of a social behavior which is capable of offering material and non-material benefits to its partners in the process. Hence, the theory suggests that individual students can voluntarily join new partnerships and meanwhile retain existing ones with the expectation that such behavior can redeem itself (

Homans, 1958; Thibaut & Kelley, 1959). As it is, these types of relationships are characterized by higher level of cooperation; mutual adoption and joint planning in response to the unforeseen and complexity of the relationship (Nevin, 1995). The cooperation, mutual adoption are deliberated to be the properties of service quality, university image, commitment, a trust which influences student loyalty by way of mediating student satisfaction. If a student is a content with the quality of service delivery of HEIs, he/she will keep on coming back for the same institution for further studies after graduation and will suggest the institution to other potential students (Bagozzi, 1975).

Incorporating EDT in the widely used Technology Acceptance Model (TAM), identified the motivations underlying continuance intention (i.e., intentions to continue to use a system), and how these motivations have a say in the continuance intention, the causal flow of EDT (Bhattacherjee, 2001). Building on that work of (Bhattacherjee & Premkumar, 2004b) it explained how and why the beliefs and attitudes toward Information Technology (IT) use change over time as users/students gain more experience as they use the target system. Harmoniously with EDT, the results of these two studies show that the satisfaction with Information System (IS) use thrives as the strongest predictor of continuance intention and loyalty. They further stress on the role of disconfirmation and satisfaction in driving the change in attitudes and beliefs over the period. Hence, student loyalty is often regarded as the main consequence of satisfaction (Chan & Ho, 2003; Johnson, Nader, & Fornell, 1996b). When a student is content with the technology innovation in HEIs it will lead

to positive disconfirmation and when they are unhappy in the case of negative disconfirmation, technology innovation is expected to seal the path between student satisfaction and loyalty in HEIs.

3.5.1 Relationship Service Quality and Student Loyalty

Thus, the examination of the impact of waiting time and service quality on satisfaction and repurchase has been captured in the previous literature (Abusel et al., 2014). Hence, we examine the relationship between student satisfaction repurchase frequency, waiting time and other service quality factors in fast food outlets. It is suggested that the waiting time and other quality factors such as staff attitude environment, the seat availability, food variety and food quality all influence the student satisfaction in a significant way. These will help managers comprehend the most important factors that usually determine student loyalty, satisfaction and assist in making improvements accordingly. In the service business firms, a proposed model of student loyalty in professional firms was investigated and it is discovered that the SERVQUAL instrument with the five quality dimensions gives a good measurement of service quality for professional firms (Gass & Valmori, 2015).

To add, student satisfaction is based on the quality of the services rendered and the benefits obtained from the services (Iacobucci, Ostrom, & Grayson, 1995). Also, a positive student satisfaction with respect to service quality is commonly observed as the means of creating loyalty in the service industry (Iacobucci et al., 1995). Thus,

service quality and student satisfaction are seemingly similar concepts, thus the distinctions between the concepts become a common topic of discussion. Previous research on the relationship between purchase motivation, service quality and customer satisfaction illustrates that service quality affects customer satisfaction positively. Furthermore, it was observed that customer satisfaction affects purchasing motivation, suggesting a connection with customer loyalty (Taylor, Cronin, Gill, Chapman, & Sheppard, 2010). The concept of customer satisfaction has a greater scope than service quality because it includes components such as product quality, service quality, price, surrounding factors and personal factors (Wilson, Zeithaml, Bitner, & Gremler, 2012).

Therefore, in order to create student loyalty, the movement along service quality via student satisfaction to loyalty is very important.

Thus we make a hypothesis that:

H1: Service quality has a significant positive relationship with student loyalty in HEIs.

3.5.2 Relationship between University Image and Student Loyalty

Thus, the general consensus as proven from the previous literature is documented on the significance of university corporate image on loyalty (Park & Ghauri, 2015). Hence, one question surfaces- what is a valid observation that has undergone various empirical verification (Selnes & Hansen, 2001). The university institutional image

and reputation is a symbol of an HEIs product and services; this association provides customers with some initial understanding of HEIs value', vision and mission statement and thus it lowers customers' uncertainty in making purchasing power and decisions in an organization (Gatignon & Robertson, 2012).

In addition, university image acts as a standard for the student expectations in terms of ranking, goodwill, quality of graduates and reputation of the HEIs service and product qualities (Lee, Jin, & Lee, 2014). Thus, the impact of this standard on the student experience will give a positive effect on their satisfaction. In much the same way, students who have a positive perception of a university institutional image will definitely assess its service and product accordingly (Grönroos & Gummerus, 2014).

Based on the discussions, the following hypothesis will be established:

H2: University image has a significant positive relationship with student loyalty in HEIs.

3.5.3 Relationship between Commitment and Student Loyalty

Thus, one of the main purposes of relationship marketing dimensions in HEIs is to come up with a strong marketing strategy of attracting and retaining student loyalty in the long run (Lambe, Wittmann, & Spekman, 2001). Literature has shown that commitment always gives a positive impact on loyalty (Reichheld, Markey, & Hopton, 2000). Hence, one would argue that committed customers are less likely to change or switch to competitors only because of the minor change in prices, and firms

tend to spend more on non-committed customers (Corsten, Gruen, & Pfeinghaus, 2011). Therefore, there is a positive relationship formed between commitment and customer loyalty (Zakaria et al., 2014). It was hypothesized that there is a relationship established between institutions and customer loyalty. Similarly, commitment affects customer retention and loyalty in institutions (Binswanger, Blatchford, Mueller, & Stern, 2013; Fullerton, 2003b).

Furthermore, previous studies have established the relationship between student commitment and student loyalty in HEIs (Strauss & Volkwein, 2004). Student commitment has been found to have a positive relation to student loyalty through increased perceptions of service quality in the HEIs (Henning et al., 2012).

The following hypothesis will, therefore, be investigated:

H3: Commitment has a significant positive relationship with student loyalty in HEIs.

3.5.4 Relationship between Trust and Student Loyalty

Thus, scholars contended that in order to attain customers' loyalty, you must win their trust first (Reicheld, 2001). Similarly, customers who are in a trusting relationship have higher tendency to act, owing to their need to maintain their trust (Lin et al., 2005). The link between customers trust and their brand loyalty was studied and a positive and significant association was revealed (Lau & Lee, 1999). Also, a significant result was found between brand trust and loyalty (Chaudhuri & Holbrook, 2001b). Therefore, trust has a positive significant relationship with student loyalty and

evidence comes from conceptual and empirical studies (Palmatier, Dant, Grewal, & Evans, 2006).

Thus, it is based on the subjective and personal experiences that each student has with HEIs' administration, faculty members, technology, and campus life (Hennig-Thurau et al., 2001a). Similarly, previous studies found that students have trust in the service of HEIs' administrative setting, human resource practices increased students perceptions loyalty (Carvalho & de Oliveira Mota, 2010b). Moreover, in order to buffer a progress exchange relationship with the student base, trust and confidence in the HEIs are proven to be essential and significant. Trust has been found to influence student loyalty significantly through other people's recommendation (Carvalho & de Oliveira Mota, 2010a). Therefore, the trust may be assumed to influence student loyalty significantly. The discussion above leads to the formulation of the hypothesis below;

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H4: Trust has a significant positive relationship with student loyalty in HEIs.

3.5.5 Relationship between Service Quality and Student Satisfaction

Prior literature has shown that students regarded service quality as an antecedent to student satisfaction (Seaden et al., 2003). Thus, positive perceptions of the quality of service can bring about student satisfaction, and in basis, a satisfied student may influence a potential student by delivering a positive word-of-mouth communication to inform associates and friends, so that they return to the HEIs to further their

studies (Farrell & Mavondo, 2004; Marzo-Navarro et al., 2005). Moreover, student satisfaction leaves a positive impact on fundraising and student motivation towards the HEIs (Elliott & Shin, 2002b). Similarly, scholars argue that, HEIs as a service provider will deliver services that will satisfy the students with a proper understanding of students' expectation, for example, if academic staff in HEIs are well informed about their student expectations, they may be able to match their students behavior to their underlying expectations, which should have a positive impact on their perceived service quality and their levels of students satisfaction (Berry et al., 1990; Winsted, 2000). Based on the above discussion above, thus the following hypothesis is established:

H5: Service quality has a significant positive relationship with student satisfaction in HEIs.

3.5.6 Relationship between University Image and Student Satisfaction

The concept of corporate university image and reputation can be described where it is normally associated with the service quality and corporate name (Aaker, 1997). Good university image as remembered by students can also lead to satisfaction (Keller, 1993). University image is highly subjective knowledge, or attitude such as ideology, goodwill, reputation and delivery system quality level and all the above features contribute to the creation of the university image of HEIs, which leads to student satisfaction of the service providers (Nguyen & LeBlanc, 2001). University image means the overall impression left in the mind of the students as a result of

accumulative feelings, ideas, attitudes and vast experience with the HEIs which lend to enhanced satisfaction because of the positive image that is linked with the name of the institutions (Ponzi, Fombrun, & Gardberg, 2011). The university image is all about the communication process in which the HEIs create and also spread a specific message which actually concerns with their mission and vision statement, one that constitutes their strategic intent goals and identity that reflect their core values that they cherish (Cardona & Bravo, 2012).

Thus, the worldwide vision of brand reputation and university corporate image could be weighed upon as a type of brand image in which the brand refers to as the HEIs as a whole than its sole services provided. The university certificate obtained from this university is highly endorsed globally, those who graduated from this university have potential career prospect and excellent job and is one of the top high rankings HEIs with a good logo and name of the university said much about the status of the HEIs, also degree obtained from this university will be very useful in my academic life, career guide to students and university staffs are polite to serve students as this will result in student's satisfaction with the HEIs (Keller, 1993).

Based on the discussions, the following hypothesis has been derived:

H6: University image has a significant positive relationship with student satisfaction in HEIs.

3.5.7 Relationship between Commitment and Student Satisfaction

Thus, student commitment can be described as the extent to which employees commitment can be considered as psychologically connected to their institutions/organization, and sustained by continued desire to remain to work in the institutions and usually expressed as an emotional feeling towards to the institution, bonding, involvement and consideration of alternatives costs and sacrifices owing to the internal and external cultural influences (Ogba & Johnson, 2010). Therefore, institutions may identify, reward customer loyalty according to the level of customer commitment in the institutions (Lacey, 2012). The prior study looked into the dimensionality of student commitments as a construct and with more focus resting on the differential effects of affective, normative and continuance intention on student response which epitomizes satisfaction that leads to loyalty such as the repurchase intentions, advocacy and willingness to pay (Wulf et al., 2015). To add, marketing literature was revisited and commitment was found in various settings such as channels, sales, services, as a prominent factors leading to customers satisfaction and loyalty in the form of repurchase intentions and switching intentions (Fullerton, 2014).

We, therefore, establish this in our next hypothesis:

H7: Commitment has a significant positive relationship with student satisfaction in HEIs.

3.5.8 Relationship between Trust and Student Satisfaction

The significance of trust in justifying customer loyalty through satisfaction is documented in the literature (Ellen Garbarino & Johnson, 2014). The concept of trust has been found to be determining student satisfaction and loyalty, while honesty as a very significant component of trust is able to make a full explanation of customer loyalty (Glueckauf & Ketterson, 2004). Furthermore, in the competitive market environment, lack of trust obstructs the creation of loyalty (Kassim & Abdullah, 2010). In the same vein, it tests the relationship between trust and loyalty in two different countries and cultural contexts i.e. Malaysia and Qatar and the result had shown a positive significant relationship between trust and customer loyalty (Nguyen & Leclerc, 2011). Hence, customers in the service sector tend to hold a positive and a significant satisfaction attitude towards the brand they trust (Castañeda, 2011; Kaur, Sharma, & Mahajan, 2012).

The discussion above leads to the formulation of the following hypothesis;

H8: Trust has a significant positive relationship with student satisfaction in HEIs.

3.5.9 Relationship between Student Satisfaction and Student Loyalty

A study was conducted on the relationship between customer satisfaction and customer loyalty within the banking industry in Australia for two different groups of customer segments, and they are the university students and the retirees. The result revealed that there is no significant difference in the satisfaction levels of either group

or also the result indicated that there were differences with respect to two of the five behavioral intentions namely the external response, internal response, pay, loyalty, switch and loyalty. Hence, satisfaction was found to have a positive impact on the three out of the five behavioral intentions which include, loyalty, pay, and external response (Pont & McQuilken 2005).

Bitner (1990), pointed out that customer satisfaction has a positive relation to loyalty. Similarly, increasing customer satisfaction motivates customers to continue and repeat more of their purchase at a given service provider (Anderson & Sullivan, 1993; Frederick, Reichheld, 1994). In another study conducted, it was revealed that customer satisfaction is positively linked with loyalty more especially in a service oriented industries such as the telecommunication and financial services (Martensen, Gronholdt, & Kristensen, 2000). The study summed up that customer satisfaction is very much relevant in a competitive industry, and also student satisfaction has been found to be positively related to student loyalty through positive recommendation (Al-Alak, 2006). It has multiple benefits because of its increased revenue and decreased costs for HEIs (Shah, 2009). Hence, student satisfaction may be assumed to be positively related to loyalty.

Thus, it is proposed that:

H9: Student satisfaction has a significant positive relationship with student loyalty in HEIs.

3.5.10 Mediating effect of Student Satisfaction on Service Quality and Student loyalty

Thus, the relationship between service quality, customer satisfaction and loyalty in a leisure industry was conducted aiming to supply operators with some guidance as to how to improve the working standard (Chang & Chen, 2007). Also, an investigation on the relationship between audit service quality, client satisfaction and customer loyalty in an Audit firm has been carried out (El Sayed, Farrag, & Belk, 2003). The result revealed that there is a positive relationship between service quality and customer satisfaction and a significant relationship found with customer loyalty (Yen, 2012).

The effect of service quality of audit firm was investigated on customer satisfaction and behavioral intentions, and it is revealed that customer satisfaction mediates perceived service quality and customer loyalty, where they found out that assurance is the most remarkable dimensions, followed by reliability, responsiveness, empathy and lastly tangibles (Berinsky, Huber, & Lenz, 2012).

Also, an indirect relationship of service quality to customer loyalty through the intermediate of customer satisfaction revealed that there is a linear order of events leading from service quality to customer loyalty and also they used the term technical to denote the quality of work performed and functional here means the quality of service delivered. Thus the study summed up that functional quality is the priority

placed to obtain a customer and the technical quality is the driver of the customer satisfaction towards customer loyalty (Lassar, Folkes, Grewal, & Costley, 1998). Similarly, the mediating relationship of customer satisfaction between service quality and student loyalty was delved into, and the result revealed a positive relationship and findings had given support to the arguments that customer satisfaction mediates the relationship service quality and student loyalty (Akbar & Parvez, 2009).

Furthermore, the links between service quality perception, customer satisfaction and behavioral intentions in the hospitality industry were examined and the result showed that customer satisfaction is a mediating variable and also intervening the relationship between service quality and purchase intentions in the industry (Woodside, Frey, & Daly 1989). Hence, they also examined the factors which influence customer satisfaction and the willingness to recommend the service providers among 1,366 patients in the hospital and it was found that patient satisfaction and the ability to recommend were positively significant and customer satisfaction functions as the mediator to the relationship. Therefore, sound service quality will lead to customer satisfaction and it will also lead to greater willingness to suggest the service providers and become a faithful customer (Peyrot et al., 2013).

In the light of the above argument and theoretical link, the following hypothesis is established:

H10: Students satisfaction mediates the relationship between service quality and student loyalty in HEIs.

3.5.11 Mediating effect of Student Satisfaction on University Image and Student loyalty

Thus, the joint combination of a reputable university image and satisfaction of the student have been documented and is positively significant, explained by the willingness to select the service of the HEIs repeatedly and simply to recommend the institution to others. Thus, a positive university image has the dual effect on student satisfaction that is the willingness to recommend the HEIs and to make the name of the institutional popular which in turn, can exude an appeal to new potential students. Similarly, the student himself or herself, who has to establish confidence over the institution's high level of professionalism and standard, is ready to select the services of the HEIs repeatedly because of the sturdy level of satisfaction of the student with the service providers (Andreassen & Lindestad, 1998a).

In the light of the above argument and theoretical link, we propose the following hypothesis:

H11: Student satisfaction mediates the relationship between university image and student loyalty in HEIs.

3.5.12 Mediating effect of Student Satisfaction on Commitment and Student loyalty

Commitment in HEIs can revolve around the fitting relationship between the student's skills, abilities and the university demands, values system and expectations. The construct of commitment has recently received attention as a mediator between consumer behavior and customer satisfaction (Morgan & Hunt, 1994c). Moreover, the commitment of students is determined by his/her degree of integration, academic participation, committees, and societies in the university, and social participation in the area of acquaintances and friendships with fellow students (Tinto, 1987).

Thus, in prior studies, student satisfaction has had a strong link with commitment (Thorsten Hennig-Thurau, Gwinner, & Gremler, 2002). Similarly, students who are the customers of HEIs who enjoyed a satisfactory performance will tend to express strong attachment to the brand and a firmer sense of loyalty(Hart & Iii, 2004) Also, customer/student satisfaction is the priority of the affective commitment and stronger commitment which maintains and enhances better customer/student satisfaction (Bansal, Irving, & Taylor, 2004). Furthermore, customer/student satisfaction has a positive relationship with commitment (Bobek, Hageman, & Kelliher, 2013). In a certain consumer market, setting argument was made in maintaining that service quality that can boost the affective commitment (Fullerton, 2009). The result has revealed that student satisfaction has a strong and significant effect on commitment and loyalty and that the HEIs have a significant positive relationship on loyalty(Helen & Ho, 2011).

In the light of these studies above and the corresponding theoretical link, we propose the following hypothesis:

H12: Student satisfaction mediates the relationship between commitment and student loyalty in HEIs.

3.5.13 Mediating effect of Student Satisfaction on Trust and Student loyalty

Thus, satisfaction is defined as a subjective evaluation of the experiences and outcomes with HEIs on campus life with linkage with trust and further steering towards loyalty (Elliott & Shin, 2002c). Satisfaction is seen to be a cumulative construct that only sheds light on satisfaction with specific services or products but also with various aspects of the industry, that include physical facilities and the interaction with the workers. Hence, satisfaction is related positively to trust (Anderson & Sullivan, 1993b). Additionally, student satisfaction also manifests itself as a foundation of trust in HEIs (Lynch & Smith, 2001).

Similarly, student satisfaction is based on the evaluation of whether or not the student expectations have been achieved (Caruana, 2002). The magnitude of confirmation and disconfirmation theory not to forget their expectation in relation to their level of trust and loyalty (Storbacka, Strandvik, & Grönroos, 1994c) is studied as well. Trust, directly links with satisfaction and this results from repeated service delivery episodes also further leading to loyalty (Fred Selnes, 1998b). Trust is basically is an aggregate evaluation that occurs at a higher level than student satisfaction (Ravald & Grönroos, 1996). Conversely, in prior studies, it is shown that student satisfaction mediates the

relationship between student trust and repurchase intentions (Fang, 2011). Therefore, satisfaction mediates the link between trust and loyalty in HEIs as a service provider (Garbarino & Johnson, 1999b).

In the light of the above argument and theoretical link, we suggest the following hypothesis:

H13: Student satisfaction mediates the relationship between trust and student loyalty in HEIs.

3.5.14 Moderating role of Technology innovation

In the process of adopting technology innovation in HEIs, it can take the shape of a new service entirely or a change in the process of providing such service as new or improved goods and service significantly or the process to supply goods and services (Maltby, 2013). The usefulness of innovation to students of HEIs can play a role in enhancing student satisfaction and perceived value which leads to customer loyalty. Earlier empirical findings on customers/students responses to technology innovation have produced mixed results and they have been inconclusive (Szymanski & Henard, 2001; Szymanski et al., 2007); positive effects (Langerak et al., 2004; Luo & Bhattacharya, 2006); and negative effects (Li & Atuahene-Gima, 2001; Tatikonda & Montoya-Weiss, 2001). Prior studies have not investigated customer loyalty yet they mainly focused on customer satisfaction and customer/student acceptance, which are arguably related to customer/student loyalty. Thus, there is a clear ambiguity concerning customer/student responses to new products and services, and this may not

come as a surprise. Mixed results are normally the outcome of varying definitions and conceptualizations, where there are multiple size selection, different industries, different respondents, and different research designs, different choice of instrument, different methodologies and different statistical analytical tools.

Thus, HEIs need to make their actions apparent for their customers to make them feel that the institutions really care (Shaw et al., 2012). Similarly, it was argued that value reflects a process of emotional relations transferring from HEIs to the student (Goodstein & Butz 1998). Those HEIs successful in establishing these relations will get more repeated purchases and form longer term relationships with their customers. The relationship between student satisfaction and loyalty through technology innovation in HEIs is therefore rather straightforward. As mentioned previously, loyalty is the outcome of previous satisfactory experiences faced and experienced by the students. Innovation usually improves customer benefits, which in turn leads to enhanced student satisfaction and loyalty. Thus, one channel through which student satisfaction can lead to student loyalty is through the technology innovation. Thus, the proposed condition is as follows:

H14: Technology Innovation moderates the relationship between student satisfaction and student loyalty in HEIs.

3.6 Chapter Summary

The chapter describes the research framework of the study using diagram which shows clearly the linkages between the constructs of the study. In addition, the chapter develops hypotheses for the study which is entirely based on the literature review and theoretical underpinnings that anchor the research framework.



CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

The previous chapter has discussed related literature review on service quality, university image, and relationship marketing dimensions, technology innovation, and student loyalty. In this chapter, the research methodology and procedures undertaken by this study are described. Particularly, the chapter covers the research philosophy of the study, population of the study, unit of analysis, sample size, and sampling technique, measurement of variables and instruments, data collection procedure, validity and reliability, pilot test and data analysis techniques. In addition, psychometric procedures to test the validity and reliability of the scale are also defined.

4.2 Research Philosophy of the Study

Fundamentally speaking, researchers in their various fields of endeavor and their specific worldviews about the nature of a particular phenomenon of social reality or knowledge based on their paradigm philosophy while linking research and philosophical orientation assists in clarifying the research framework (Darlaston-Jones et al., 2003). Thus, the Positivism, subjectivism or realism advocates that research is expected to uncover a truth or reality persistent in the social environment

(Creswell, 1998). In addition, the positivist paradigm is the view that social phenomenon is to be treated as a single entity, in as much as possible, which is considered in the same manners that natural scientists treat the cases concerning physical phenomenon (Creswell, 1998). As summarized (Creswell, 1998) and contended by various scholars (Bischoping, 2005; Marczyk, DeMatteo, & Festinger, 2005), the view of the positivists is that empirical facts are always different and independent from personal emotions or ideas.

In line with the above discussion, the underpinning philosophy of the study is positivism. In basis, this study focuses on quantitative, and quantitative research defined as processes of social inquiry that employ and combine both the empirical statement and empirical methods (Cohen & Levinthal, 1990). Nonetheless, quantitative research is also defined as a type of research in which phenomena are explained by gathering and dwelling into the numerical data using recognized statistically tools or any based methods (Creswell, 1998). Therefore, this study is quantitative in nature because it has really adopted the use of measurement scales i.e. the use of statistical tools to measure and understand the relationships between constructs of service quality and students loyalty in HEIs. Conclusively, this study is consistent with the requirements for quantitative research in which social reality is determined objectively using facts and figures, which is a rigid guide in the processes of data collection, data analysis, and discussion of the result (Creswell, 1998).

4.3 Research Design

Research design has been defined as a master plan which specifically addresses the methods and procedures used in collecting data and analyzing the data for the information deemed necessary (Zikmund, Carr, Griffi, & Fuller-jacobsen, 2010). This present study adopts the quantitative approach in order to evaluate the structural relationships among seven variables namely; student's loyalty, service quality, university image, commitment, trust, student satisfaction and technology innovation. In a similar way, the study uses the cross-sectional research design in which data was collected throughout the entire period of the study. The cross-sectional research design was adopted over longitudinal research design because of the financial and time constraints and also survey research method was used to gather the data through a self-administered questionnaire to the respondents (Griffin & Pollak, 2009; Uma Sekaran & Bougie, 2013).

4.4 Population of the study

Population refers to the entire elements which might be a group of people, things or events of interest that the researcher which to investigate (Sekaran, 2003). Accordingly, the population of this study comprises universities students that are both undergraduate and postgraduate students at federal universities in Nigeria. Due to time limitations and financial constraint resources, it is practically impossible to gather data from all the universities in the country. Therefore, a sample of the

population is sufficient as long as this sample is a true representative of the entire population and the conclusions can be generalized to all members of the population (Sekaran, 2003). Hence, the populations of the students are the total number of registered students in the selected universities which were 429,252, (Table 4.1). The present study focuses on twelve federal universities in Nigeria (Ojedokun, Ayoku, & Nwamaka, 2015), (Table 4.2).

Firstly, the justification for selecting the below universities is because all the selected universities are comprehensive universities, they offered all fields of endeavor such law, management, sciences, engineering, humanities etc. both at the undergraduate and postgraduate level. Secondly, the justification of selecting the below institutions is because the universities are considered the best universities in term of quality of teaching and research, students' academic performance, so virtually all students are interested in studying in such universities in the country (Okebukola, Owolabi, & Okebukola, 2013).

Thirdly, the universities are located in the six different geopolitical zone see table 4.1 below. The sample size which is from the twelve universities which are adequate to explain the issue of student loyalty in HEIs and all the universities are federal universities, which represent the interest of the entire population of the students in Nigeria (Ojedokun et al., 2015).

Table 4. 1

List of the federal Universities in Nigeria According to the six Geo-Political Zone

	NORTH- EAST	NORTH- WEST	NORTH- CENTRAL	SOUTH- EAST	SOUTH- WEST	SOUTH- SOUTH
1	ATBU-Bauchi	ABU-Zaria	UNI-Ilorin	UN-Nsukka	UNI-Lagos	UNI-Benin
2	MAU-Yola	BU-Kano	UNI-Abuja	NA-Awka	OAU-Ile-Ife	UNI-Port
3	UNI-Maid	UDU-Sokoto	FUT-Minna	FUT-Owerri	UNI-Ibadan	UNI-Cal
4	UNI-Wukari	UNI-Dutse	UNI-Lafia	UNI-Ndufe	UNI-Akure	UNI- Bayelsa
5	UNI-Kashere	UNI-Dutsin- Ma	AGRIC- Makurdi	M-Okpara Umudike	AGRIC- Abeokuta	UNI-Petroleum Effurun
6	UNI-Gashua	UNI-Gusau	UNI-Jos	-	Open UNI- Lag	UNI-Uyo
7	-	UNI-B-Kebbi	UNI-Lokoja	-	UNI-Ekiti	-
8	-	NA-Kaduna	-	-	-	-
9	-	PA-Wudil	-	-	-	-

Source: National Universities Commission, 2015

The table 4.1 above shows clearly the list of 40 federal universities and academy institutions in each geo-political zone in which two universities are randomly selected to represent the zone.

Table 4.2

Population Framework of the Responded Universities Selected in Nigeria

Zones	Selected Universities	Population
North- East	ATBU-Bauchi	29,220
	MAU-Yola	28,103
North- West	ABU- Zaria	40,000
	BUK-Kano	37,747
North- Central	UNI-Abuja	35,000
	UNII-Ilorin	35,000
South-East	UN-Nsukka	36,000
	NAU-Awka	37,182
South-West	UNI-Lag	45,000
	OAU-Ile Ife	26,000
South-South	UNI-Benin	40,000
	UNI-Port	40,000
Total		429,252

Source: National Universities Commission, 2015

In the above table 4.2 shows the list of the 12 universities selected to represent the six geopolitical zones with the student's population.

4.5 Unit of Analysis

The present study focuses on students of federal universities located in the six geopolitical zones in Nigeria. The units of analysis of the present study are the federal universities students in Nigeria, which are represented by the postgraduate and undergraduate students who studies in such universities. Moreover, these students can give the right information, to reflect the real situation in their universities, especially regarding the variables of this study. In the HEIs, specifically, individual students are the most significant unit of analysis which is in line with previous studies (Bowden, 2011; Moore & Bowden-Everson, 2012b).

4.6 Sampling

4.6.1 Sample size

A sample is a set of individuals selected from a larger population for the purpose of a survey (Sudman, 1996). Probability sampling is chosen in this research where each of the elements of the population has the same chance to be selected as sample subjects (Sekaran, 2003). In this study, simple random sampling is used for the purpose of the study. The minimum sample size criteria were used because it has taken care of the level of confidence and precision ensuring that sampling error is minimized, and a

recommended a sample size of 382 for a population exceeding 75,000 (Krejcie & Morgan, 1970). Therefore, the sample size for a population of 429,252 is 382. However, because of low response rate in Nigeria, even among the HEIs respondents rate, the sample size was increased by exactly 40 percent to arrive at a sample size of 535 respondents (Salkind, 1997). Finally, the number of subjects in each sample are determined and represented by each cluster as shown in table 4.3 below.

Table 4.3:
Sampling frame of the Responded Universities in Nigeria

Selected Universities	Population	Computation	Proportionate	Percentage
ATBU-Bauchi	29,220	29,220/ 429,252 x535	36	7
MAU-Yola	28,103	28,103/ 429,252 x535	35	7
ABU- Zaria	40,000	40,000/ 429,252 x535	50	9
BUK-Kano	37,747	37,747/ 429,252 x535	47	9
UNI-Abuja	35,000	35,000/ 429,252 x535	44	8
UNII-lorin	35,000	35,000/ 429,252 x535	44	8
UN-Nsukka	36,000	36,000/ 429,252 x535	45	8
NAU-Awka	37,182	37,182/ 429,252 x535	46	9
UNI-Lag	45,000	45,000/ 429,252 x535	56	10
OAU-Ile Ife	26,000	26,000/ 429,252 x535	32	6
UNI-Benin	40,000	40,000/ 429,252 x535	50	9
UNI-Port	40,000	40,000/ 429,252 x535	50	9
	429, 252		535	100

As shown in table 4.3 above, in order to determine the number of subjects in each sample that represent each university, the sampling frame of the study was based on proportionate sampling technique. In this study, this is done proportionately by dividing the entire student's population of each university by the total population and then multiples by the sample size.

In a survey research study, determining an appropriate sample size is essential (Barlett, Kotrlik, & Higgins, 2001). A post hoc power analysis was carried out

through G*Power 3.1.9.2 software (Erdfelder, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) so as to ascertain that the minimum sample size has been executed for the present study. Beside the (Krejcie & Morgan, 1970), the study explores the power analysis to determine the sample size as shown below in figure 4.1.

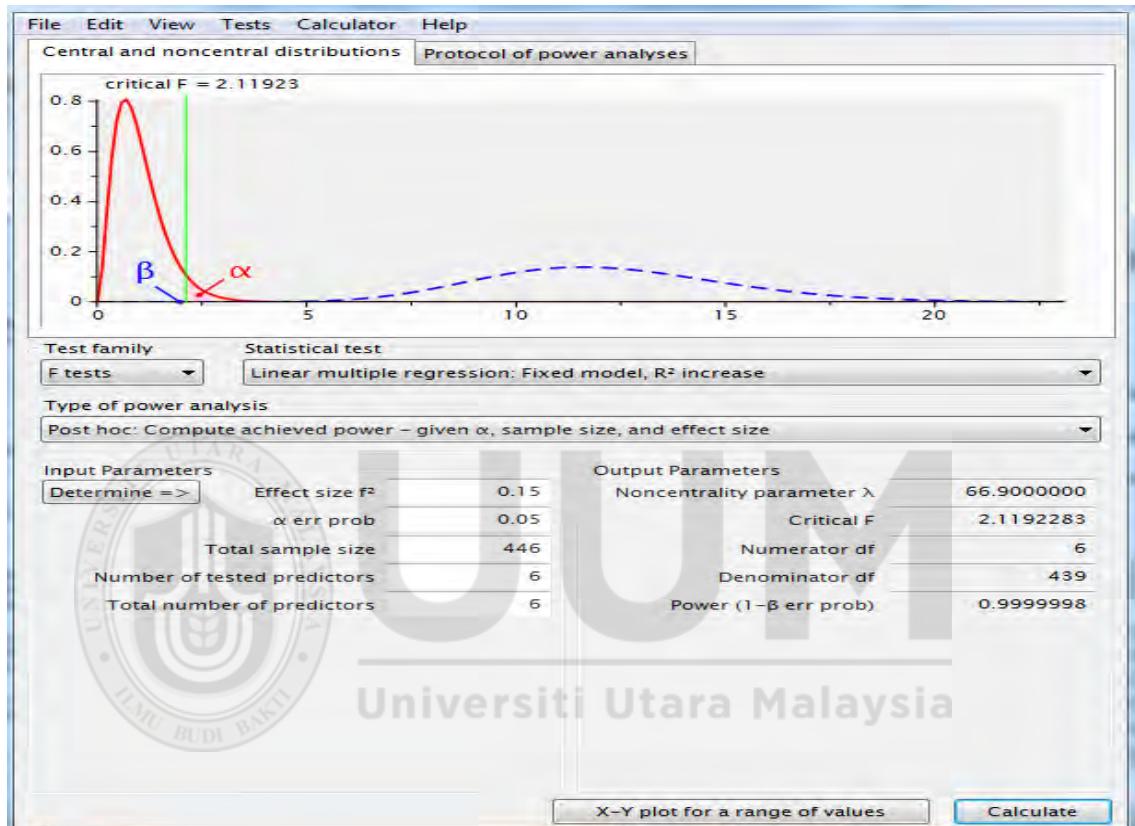


Figure 4.1 Output of Post Hoc Power Analysis.

Hence, figure 4.1 above, indicates the results of the power analysis carried out by applying the parameters of power ((1- β err prob; 99), an alpha significance level (α error prob; 0.05), minimum effects size F^2 (0.15) along with six constructs namely; service quality, university image, commitment, trust, student satisfaction and technology innovation. Hence, the result shows that a minimum sample of 439 was required to test the analysis based on the model of the study. The minimum sample

size of 439 obtained through the power analysis in conjunction with the sample size of 535 already considered as executed in the study, using the sample size determination criteria and recommendation are within the same range (Krejcie & Morgan, 1970; Salkind, 1997). Similarly, the G*Power analysis has validated the sample size already executed in the current study as having met the minimum sample size needed in a research survey considering the fact that the Power was above 0.80 (Barlett et al., 2001).

4.6.2 Sampling design

In cluster sampling technique the population is made of heterogeneous groups called clusters (Joseph Hair, Black, Babin, Anderson, & Tatham, 2007). The present study employed geographical cluster sampling, based on elements within each cluster reflects the same interests and orientation of the respondents.

A cluster sampling technique was used because of the following reasons. Firstly, the large population of 429,252 students in the selected federal universities in Nigeria, a cluster sampling shall assist the study to achieve the maximum representatives of the respondents (Hair et al., 2007; Hair, Black, Babin, & Anderson, 2010). A cluster sampling method could provide a precise and good representation of a large population while at the same time using a relatively small sample size.

Secondly, a cluster sampling design is expected to ensure that homogeneity across the various groups of students in a federal university in Nigeria and also within heterogeneity group of universities students. Therefore, cluster sampling technique seems appropriate because is considered the different groups of students represented in the sample size of 535 students (Cooper, Schindler, & Sun, 2006; Hair et al., 2007).

Finally, cluster sampling procedure is one of the most probability and cost effective sampling technique, which is consistent with the financial resource and time constraints (Sekaran & Bougie, 2013). For the purpose of this study, there are twelve clusters represented by six geo-political zones in Nigeria. Next step was to decide on which clusters to sample in order to cover the entire cluster in recognition of their differences.

Hence, a representative was selected from each cluster and was done randomly by selecting two federal universities from each zone to ensure that each of the six geopolitical zones was adequately represented in the study (Table 4.1). Next, was to obtain a sampling frame of the study (Table 4.4) below, in which the total sample size was allocated to the clusters according to proportionate sampling technique (Hair et al., 2010). Hence, on the executed sampling frame technique, a systematic random sampling procedure was employed in the process of administering the survey instrument to the respondents. The survey questionnaires were administered to the individual student with the help of the research assistants.

Table 4.4:
Sampling frame

Selected Universities	Executed Sample Frame	Computation	Sampling Interval
ATBU-Bauchi	300	300/36	8
MAU-Yola	220	220/35	6
ABU- Zaria	450	450/50	9
BUK-Kano	380	380/47	8
UNI-Abuja	350	350/44	8
UNII-lorin	300	300/44	7
UN-Nsukka	370	370/45	8
NAU-Awka	400	400/46	9
UNI-Lag	430	430/56	9
OAU-Ile Ife	270	270/32	8
UNI-Benin	350	350/50	7
UNI-Port	410	410/50	8

Furthermore, from table 4.4 above shows the computing sample interval and percentage. In order to arrive at sampling interval, an oral interview was conducted with the Dean of students' affairs and the secretary postgraduate school who supplied the researcher with adequate information of the number of students who attend the general congregations whenever they are called, to get the sampling interval for the systematic selection, the number of students was divided by the desired sample size for each of the university, (e.g., $300/36=8$;). Therefore, every eighth student to enter the hall was selected to participate in the actual survey and in a situation where he/she declined; the next student was selected until the 36th, students were researched respectively.

*Table 4.5
Sampling frame based on Students Qualifications*

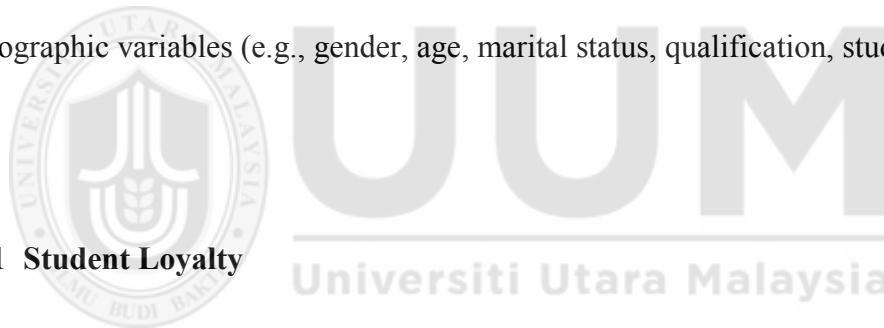
UNIVERSITIES	SSCE (40%)	ND (30%)	PGS (30%)	TOTAL
ATBU-Bauchi	40%X36=14	30%X36= 11	30%X36=11	36
MAU-Yola	40%X35=14	30%X35=11	30%X35=11	35
ABU- Zaria	40%X50=14	30%X50=15	30%X50=15	50
BUK-Kano	40%X47=19	30%X47=14	30%X47=14	47
UNI-Abuja	40%X44=18	30%X44=13	30%X44=13	44
UNII-lorin	40%X44=18	30%X44=13	30%X44=13	44
UN-Nsukka	40%X45=18	30%X45=14	30%X45=14	45
NAU-Awka	40%X46=18	30%X46=14	30%X46=14	46
UNI-Lag	40%X56=22	30%X56=17	30%X56=17	56
OAU-Ile Ife	40%X32=13	30%X32=10	30%X32=10	32
UNI-Benin	40%X50=20	30%X50=15	30%X50=15	50
UNI-Port	40%X50=20	30%X50=15	30%X50=15	50

To get the participating students based on their qualifications, the percentage of students on the admission list was divided by the desired proportionate sample size for each of the university, (e.g., 40 /100 X 36=14) that is 14 questionnaires were distributed to the respondents with SSCE qualifications, and National Diploma (ND) (e.g., 30/100 X36=11) and Degree (e.g., 30/100 X36=11), that is 11 questionnaires each were distributed to the respondents with National Diploma and Degree respectively.

The above procedures were followed to ensure that every single element of the population was given an equal chance of being selected to participate in the exercise, and also the approach is line with (Abubakar, Mokhtar, & Abdullatief, 2014). Hence, 535 respondents from the selected federal universities in Nigeria participated in the survey, and more than 500 respondents are adequate (Tabachnick & Fidell, 2007a).

4.7 Measurement of Variables and Instrumentations

Basically, the main purpose of this research is to study the relationship among seven constructs namely, 33 items measure service quality dimensions, 5 items measure students loyalty, university image, commitment, trust, as the independent variables, student satisfaction, and technology innovation as mediating and moderating variables respectively. In this study, a questionnaire (Appendix A) was administered to students as customers of their HEIs. The instrument consists of two main section; Part 1; consist of 33 items that measure four dimensions of service quality, 5 items that measure university image, 15 items that measure relationship marketing dimensions, and 5 items that measure technology innovation and while part 2; Consist of five demographic variables (e.g., gender, age, marital status, qualification, student status).



4.7.1 Student Loyalty

In this study, student loyalty is conceptualized as a deeply held commitment to patronize a service or product consistently without switching behavior to any competitor's product or services (Oliver & Burke, 1999b).

*Table 4.6:
Student Loyalty Measurement Survey Items used in the Study*

Variable	Operational Definition	Measurement Items	No.of Items	Source(s)
Student loyalty	In HEIs student loyalty refers to active participation as a formally registered student in the university, but beyond graduation to engage in activities such as alumni membership, positive word-of-mouth recommendation and donation contributions after graduation (Moore & Bowden-Everson, 2012.).	I say positive things about my university to other students.	Five (5)	Moore & Bowden-Everson, 2012.
		I recommend my university to a student who seeks my advice.		
		I encourage friends and relatives to study in this university.		
		I consider my university to be my first choice for the post-graduate program.		
		I am willing to maintain my relationship with my university even after graduation.		

Table 4.6 above shows the items which measured the construct of student loyalty. All the items were adopted from (Moore & Bowden-Everson, 2012b). Similarly, this study adopts a measure of student loyalty using seven points Likert-type scale anchored by 1= strong disagree to 7= strongly agree. Student loyalty has a Cronbach alpha range from 0.88 to 0.93 from the previous study.

4.7.2 Service Quality

In this study, service quality is conceptualized as a comparison of performance perceptions with expectations (Parasuraman, Zeithaml, & Berry, 1988b). And service quality has four (4) dimensions in HEIs, which include, Non-Academic, Academic Aspect, Reliability, Empathy (Abdullah, 2005b). Non-Academic was defined as the essential to enable students to fulfill their study obligations, and it relates to duties and responsibilities carried out by non-academic staff (Abdullah, 2005b). Academic aspects were defined as responsibilities of academics, and it highlights key attributes such as having a positive attitude, good communication skill, allowing sufficient consultation and being able to provide regular feedback to students (Abdullah, 2005b). Reliability as the ability to provide the pledged service on time, accurately and dependably (Abdullah, 2005b). Empathy was defined as the provision of individualized and personalized attention to students with a clear understanding of their specific and growing needs while keeping their best interest at heart (Abdullah, 2005b). Hence, in HEIs service quality measure of how well the service delivered matches the student expectation that is an overall judgment about the superiority of service in terms of learning (Xiao et al., 2010).

Table 4.7:

Survey Measurement Items Related to Service quality dimensions

Variable	Operational Definition	Measurement Items	No.of Items	Source's
Non-Academic	The essential to enable students to fulfil their study obligations, and it relates to duties and responsibilities carried out by non-academic staff (Abdullah, 2000).	The management used sympathetic and reassuring in solving problems in the university.	11	Abdullah, 2000
		I have trust in the Non-Academic staff of the university.		
		The non-Academic staffs of the university cares with student complaints.		
		The non-Academic staff has the Knowledge of procedures in the university.		
		The non-Academic staff Provides service within a reasonable time in the university.		
		The non-Academic staff provides equal treatment and respect to students in the university.		
		I am satisfied with the fair amount of freedom in the university.		
		Staff provides confidentiality of information		
		The staff can easily be contacted by their cell telephone		
		The staffs provide counseling services to students.		
		The staff can easily standardized and simple delivery procedures for students		

Table 4.7: Continued

Variable	Operational Definition	Measurement Items	No.of Items	Source's
Academic Aspect	Responsibilities of academics staff such as positive attitude, good communication skill, and consultation (Abdullah, 2000).	The academic staffs of this university have knowledge of course content.	10	Abdullah, 2000
		The academic staff of this university shows a positive attitude to students.		
		The academic staff of this university has good communication skill to their students.		
		The academic staff of this university has good feedback on progress to their students.		
		The academic staff of this university has good excellent quality programs to their students.		
		This university has variety of programs		
		This university has flexible syllabus and course structure.		
		This university has reputable academic programs		
		This university has educated and experience academicians		
		This university provides feedback to improve service performance		

Table 4.7: Continued

Reliability	The ability to provide the pledged service on time, accurately and dependably (Abdullah, 2000).	My university kept promises	07	Abdullah, 2000
		I depend on the service of my university		
		My university provides services on time.		
		I feel secured in dealing with my university.		
		I am always polite in dealing with my university.		
		I have sufficient and convenient consultation time with my university.		
		My university has positive work attitude student's union.		
Empathy	The personalized attention to students with a clear understanding of their specific and growing need (Abdullah, 2000).	My university respond to request promptly	05	Abdullah, 2000
		My university shows individualized attention to students.		
		My university gives personalized attention		
		My university identifies student needs		
		My university keep student interests at heart		

In table 4.7 above shows clearly, the 33 items which measured service quality dimensions were adopted from (Abdullah, 2005b). Hence, this study adopts a measure of service quality using the seven points Likert-type scale which anchored from 1=strongly disagree to 7=strongly agree. Non-academic aspects have a Cronbach

alpha of 0.91; Academic aspect has a Cronbach alpha of 0.87; Reliability has a Cronbach alpha of 0.88, and while empathy has a Cronbach alpha of 0.77; in the previous study.

4.7.3 University Image

In this study, university image is conceptualized as communication process which the institutions create and spread their strategic intent, mission, vision, goals, and identity that reflects their core values that they cherish (Cardona & Bravo, 2012).

Table 4.8:

Survey Measurement Items Related to University Image

Variable	Operational Definition	Measurement Items	No.of Items	Source(s)
University Image	University image was defined as the corporate name, goodwill, and reputation of the institution reflected in the student's memory (Lai et al., 2009).	The Perception of my university to the general public is high.	Five (5)	Lai et al. (2009)
		The perception of my university among employers is high.		
		The university college has a good image to the students.		
		My university is an active sponsor of community events in the society.		
		My university has a good image in the minds of the students.		
		The Perception of my university to the general public is high.		

The table 4.8 above shows 5 items used to measure the construct of corporate university image in the present study. All the measure was adopted from (Lai et al. 2009). The rating accomplished on seven points Likert scale ranging from 1=strongly disagree to 7=strongly agree. University image has a Cronbach alpha range from 0.84 to 0.87 in the previous study.

4.7.4 Commitment

In this study, commitment is conceptualized as a psychological commitment based on a student sense of identification with and belongingness toward a service a particular provider (Peter Verhoef, Franses, & Donkers, 2002).

Table 4.10:
Survey Measurement Items Related to Commitment

Variable	Operational Definition	Measurement Items	No.of Items	Source(s)
Commitment	Commitment is a psychological state where a client has plans to continue with the relationship with his existing supplier (Morgan & Hunt, 1994).	This university has a great deal of personal meaning to me.	Five (5)	Moore & Bowden-Everson, 2012
		I feel emotionally attached to this university.		
		I have a strong sense of identification with this university.		
		This university is something I am very committed.		Morgan & Hunt 1994
		This university is something I intend to maintain indefinitely.		

The table 4.10 above shows 5 items used to measure the commitment in the present study. The scale measures of commitment were adopted from (Morgan & Hunt 1994 and Moor & Bowden- Everson, 2012). Hence, this study adopted five items to measure commitment on seven point-Likert scales anchored by 1=strongly disagree to 7= strongly agree. Commitment has a Cronbach alpha range from 0.84-0.92 in the previous study.

4.7.5 Trust

In this study, trust is conceptualized as the cornerstone of exchange relationships (Morgan & Hunt, 1994c). In HEIs trust is defined as “the degree to which a student is willing to rely on or have faith and confidence in the institutions to take appropriate steps that benefit him and help him achieve his learning and career objectives” For the relationship to exist, it must be mutually beneficial for both parties (Berry, 1995).

Table 4.9:
Survey Measurement Items Related to Trust

Variable	Operational Definition	Measurement Items	No.of Items	Source(s)
Trust	Trust is the willingness of a customer to rely on an exchange partner in whom they have confidence (Morgan & Hunt1994).	This university can be relied on to keep its promises.	Five (5)	Moor & Bowden- Everson, 2012.
		This university usually keeps the promises that it makes to me.		Moore & Bowden- Everson, 2012.
		This university puts the students' interests first.		Moor & Bowden- Everson, 2012.
		This university can be counted on to do what is right.		Morgan & Hunt 1994
		The university has high integrity		Morgan & Hunt 1994

The table 4.9 above shows 5 items used to measure the construct of trust in the present study. The scale measures of trust were adopted and modified from Morgan & Hunt 1994 and Moor & Bowden- Everson, 2012. Hence, this study adopted five items to measure trust on seven point-Likert scales anchored by 1=strongly disagree to 7= strongly agree. Trust has a Cronbach alpha range from 0.84-0.91 in the previous study.

4.7.6 Student Satisfaction

In this study, student satisfaction is conceptualized as the subjective outcome of the various outcomes and experiences at the HEIs such as lectures, supervisions, hostel accommodation, sporting facilities (Elliott & Shin, 2002).

Table 4.11:
Survey Measurement Items Related to Student Satisfaction

Variable	Operational Definition	Measurement Item	No.of Items	Source(s)
Student Satisfaction	Student satisfaction simple refers to an overall evaluation based on many purchase and consumption experiences of a product over a period of time (Lam et al., 2009).	My choice to select this university was a wise one.	Five (5)	Lam et al. (2009)
		I am always delighted with this university's service.		
		Overall, I am satisfied with the service of this university.		
		I think I did the right thing when I decided to select this university.		
		I always feel good about using this university.		

In table 4.11 above shows the various items used to measure customer satisfaction in the present study. In this study, five items have been adopted from (Lam et al., 2009). Using seven points Likert-type scales anchored by 1=strongly disagree to 7= strongly agree. Student satisfaction, the scale is highly reliable with a Cronbach alpha range from 0.80-0.91 in the previous study.

4.7.7 Technology Innovation

In this study, technology Innovation is conceptualized as the creation or improvement of technological, managerial ideas, services product or processes (Tornatzky & Fleischer, 1990).

Table 4.12:
Measurement Survey Items Related to Technology Innovation

Variable	Operational Definition	Measurement Items	No.of Items	Source(s)
Technology Innovation	In HEIs, technology innovation refers to as facilities that will assist student learning online and having access to e-books and academic journals from the university library for their future careers (Concannon, Flynn, & Campbell, 2005)	I used the Internet to support my studies at my university.	Three (3)	Concannon, Flynn, & Campbell, 2005
		I used to download e-books from the university library.		
		I used email to communicate whilst in university.		
		Learning to use the web to disseminate information is easy for me.	Two (2)	Premkumar and Roberts (1999)
		I can easily find what I		

am searching for through
the university website.

In table 4.12 above shows the various items used to measure technology innovation in the present study. In this study, five items have been adopted from Concannon, Flynn, & Campbell, 2005. Using seven points Likert-type scales anchored by 1=strongly disagree to 7= strongly agree. The scale is highly reliable with a Cronbach alpha of 0.89 in the previous study.

4.8 Measurement Scale

Likert scale is defined as a psychometric response scale used primarily in questionnaires to obtain the participant responses with the level of agreement or disagreement with the statements (Wakita, Ueshima, & Noguchi, 2012). The justifications for selecting the Likert-type scale is due to the nature of the information required from the respondents which are based on their perception towards the HEIs, the Likert-type scale is used to assess their perceptions (Al-Mutawa & Ibrahim, 2013; Samira & Nagla, 2010). The Likert-type ranking allow the respondents to disclose the trend and strength of their views on the statements of the questionnaire, and the Likert scale is very easy for respondents to react and report, the level of their perceptions towards their level of satisfaction and loyalty towards the quality of services delivery by the HEIs (Carlson, Barden, Daire, & Greene, 2014).

As earlier stated that, all items adopted in the questionnaire was answered using the 7-point Likert scale (see Appendix A). The use of the scale is considered most appropriate because it has the property to enhance the reliability of the measurement (Alreck & Settle, 1995; Miller, 1991). The seven points Likert scale tend to be more favorable and also the scale between 5 and 7-points is confirmed to be more reliable because the scales enable the respondents to express their opinions more comfortable and precise. Hence in this study, the response options ranged on a scale from 1= strongly disagree to 7=strongly agree, the respondents were asked to indicate their perception about the level of their agreement or disagreement with each of the items in their respective HEIs (Krosnick & Fabrigar, 1997).

However, the choice of the 7-points Likert-scale is significant because of the need to save the respondents effort and time in the process of filling the questionnaire and to ensure that the respondent is not confused or annoyed and make life easy for the respondents (Frary, 1996). Finally, prior studies have successfully implemented 7-point Likert scale (e.g., Morgan & Hunt 1994; Abdullah, 2005; Lai et al. 2009; Lam et al. 2009; Moore & Bowden- Everson, 2012). Moreover, the next sections of this study, discussion the pilot study conducted by the researcher before the main study and followed by the method of data collection and tool of analysis employed.

4.8.1 Pretesting of the Instrument

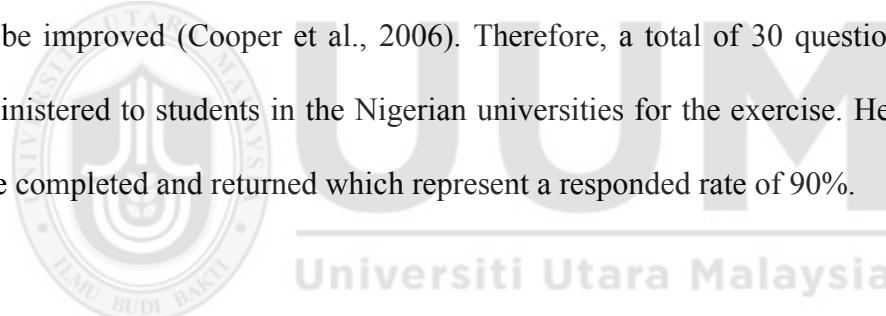
Before the pilot study, some respondents and experts in the field were consulted for their views on the questionnaire items, phrases, and wordings (Hair et al., 2007). Hence, face validity means the extent to which a survey instrument can cover the real meanings embedded in particular concepts (Babbie, 1990). Before running the actual survey, an initial draft of the questionnaire was pretested by asking experts to review it and see if there are any ambiguities that could have been unnoticeable by the researchers. Firstly, five experts, including one Professor, one Associate Professor and two senior lecturers from Nigerian universities and one Associate professor from Universiti Utara Malaysia checked on the quality of the survey instrument for its face validity in terms of wording, format, clarity, simplicity and ambiguity of the questionnaire items (Dillman, 1991). Looking at these evaluation criteria, corrections and improvements were suggested, which were later included in the survey instrument. Thus, all corrections and suggestions for improvement were noted and reflected in the survey instrument prior to its administration to the respondents.

4.9 Pilot Study

A pilot study was defined as a small initial examination carried out to assess the feasibility, cost, and time of the survey, to predict the correct sample size and improve upon the research design before conducting the main study (Hulley, Cummings, Browner, Grady, & Newman, 2007). Basically, the justification for the pilot study

includes the determination of validity and reliability of the items in the questionnaire, items, wordings, phrases and sound construction as to secure accurate results (Sekaran & Bougie, 2013).

Accordingly, selecting a sample of 10 to 20 respondents similar to the population from which the researcher plans to draw the participant for the study is adequate (Gall, Gall, & Borg, 2007). While, a sample size for a pilot study to be from 15 to 30 elements (Malhotra, Peterson, & Kleiser, 1999). The reason for the pilot study is to determine if the respondents have really understood the research questionnaires and to ascertain the time the respondent needs to complete the survey so that the instrument can be improved (Cooper et al., 2006). Therefore, a total of 30 questionnaires were administered to students in the Nigerian universities for the exercise. Hence, only 27 were completed and returned which represent a responded rate of 90%.



The pilot study was conducted in June 2015 and lasted for two weeks. The composite reliability coefficient measure of internal consistency and reliability was selected and applied. The interpretation of internal consistency reliability using composite reliability coefficient was based on the rule of thumb and hence it was suggested that composite reliability coefficient should be at least 0.70 (Bagozzi & Youjae Yi, 1988) as well as (Hair, Sarstedt, Ringle, & Mena, 2011).

Table 4.13:

<i>Pilot study showing the AVE, CR, and Cronbach's Alpha</i>			
Constructs	AVE	Composite Reliability	Cronach's Alpha
Commitment	0.71	0.92	0.86
Technology Innovation	0.67	0.91	0.88
Student loyalty	0.63	0.87	0.80
Service quality	0.63	0.87	0.90
Student satisfaction	0.83	0.95	0.94
Trust	0.73	0.91	0.85
University Image	0.63	0.89	0.84

In the table 4.13 above, the composite reliability coefficient for the entire latent constructs ranged between 0.87 and 0.85. Thus, the results of the pilot study demonstrated that all measures achieved adequate reliability coefficient. A Cronbach's Alpha of all the constructs are not less than 0.70 and while the composite reliability of not less than 0.70 which is adequate to carry out the research.

4.10 Data Collection Procedures

Using a cross-sectional study design, the cross-sectional study involves gathering the data for a particular study only once or at one point in time to meet the research objectives (Cavana, Delahaye, & Sekaran, 2001). The cross-sectional survey method was chosen for this study to avoid the long-time consumption that characterizes longitudinal research (Sekaran & Bougie, 2013). The actual data collection for this study started in June 2015, after the proposal defense and lasted for six months. The data was collected personally by the researcher through a self-administered questionnaire (Appendix A) with the assistance of twelve research assistants that one in each university to facilitate administration and collection of responses. Follow-ups

using physical contact/visit and telephone calls are employed to ensure timely completion and collection of distributed questionnaires.

Questionnaires are used as the main data collection technique for this study. Questionnaire technique, which involves asking individuals specific questions, is commonly used in social science research (Sekaran & Bougie, 2013). Before setting out for data collection a letter of introduction was collected from the Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. Regarding the conduct of this study, the letter helped greatly in coordinators, dean of student affairs, registrars and head of departments of the stated universities that gave permission for the distribution of the questionnaires. The registrars direct the letter to the Deans of student affairs for distribution to and collection of the questionnaires from the students. The questionnaires were distributed to students during student's congregation period by way of choosing any seventh student who entered the lecture hall to ensure that equal chance is given to the participating students and in order to avoid discrimination.

4.11 Data analysis

Immediately after the completion of data collection process, descriptive and inferential statistics was employed to analyze the data collected. In this study, the statistical package for social sciences (SPSS) version 22 was used to present the data and similarly, the PLS-SEM approach was used to analyze the data collected. This

included path modeling and then bootstrapping (Chin, 1998; Wong, 2013). A total of 5,000 resamples were used to generate the standard error of the estimate and *t*-values (Chin, Marcolin, & Newsted, 2003). PLS can give more accurate estimates of mediator and moderator effects by accounting for the error that attenuates the estimated relationships and improves the validation of theories (Helm, Eggert, & Garnefeld, 2010; Jörg Henseler & Chin, 2010a).

4.11.1 Partial Least Squares Structural Equation Modeling (PLS-SEM)

PLS-SEM, popularly considered a second generation structural equation modeling technique (Osborne, Lavine, & Coontz, 2010), is a good and flexible tool for statistical model building and prediction (Ringle, Wende, & Will, 2010). The relatively new technique works well with SEM models that contain latent variables and a host of cause-and-effect relationships (Gustafsson, Herrmann, & Huber, 2007). The PLS technique was chosen for analysis in this study on account of a number of justifications. First, structural equation models have been shown to be superior in making estimations for assessing mediation and moderation effects as compared to regressions (Preacher & Hayes, 2004; Tang et al., 2007). In addition, PLS-SEM is observed to account for measurement error and provide more accurate estimates of moderation and mediation effects (Chin, 1998). In addition, for most social science studies, data tend to have the problem of normality (Osborne & Lavrenko, 2010) and PLS path modeling does not necessarily require normality of data because the technique treats non-normality relatively well (Chin, 1998). Furthermore, PLS-SEM

relatively offers more clear and valid results, while other methods often lead to less clear conclusions and would require the researcher to undergo several separate analyses (Bollen, 1989).

PLS path modeling provides more appropriate system for real world applications and is more advantageous to employ where models are complex, comprising of seven constructs and above (Capron & Hulland, 1999; Hair, Sarstedt, Ringle, & Mena, 2012), because of its soft modeling assumptions which give PLS its power of estimating large/complex models simultaneously (Akter, D'Ambra, & Ray, 2010). This explains the PLS approach's popularity in marketing strategy and marketing management studies for the last two decades (Jörg Henseler et al., 2012a) because the technique is conducive for testing complex multivariate models, involving direct, indirect and interaction effects (Hair & Sarstedt, 2014). Although PLS is traditionally associated with studies involving small sample size (Hayes, 2015), the technique is also employed to make inferences about parameters in studies involving large samples (Starkweather & Moske, 2011). In fact, PLS technique can enhance prediction in studies involving large samples, similar to the current study (Sarstedt, Ringle, Smith, Reams, & Hair, 2014). The current study examined relationships among seven variables (i.e., service quality, university image, commitment, trust, student satisfaction, technology innovation and student loyalty) within the structural model and thus, using PLS-SEM techniques was considered appropriate for better prediction especially given that the moderating role of technology innovation on the association between student satisfaction and student loyalty is being explored for the first time

(Hair, Hult, Ringle, & Sarstedt, 2014). As has been mentioned, previously PLS-SEM technique is not affected by non-normality and outlier assumptions. Therefore, there was no need to test the normality distribution of the data. However, treatment of missing values is necessary before assessing the model because Smart PLS program is very sensitive to the missing values.

4.12 Chapter Summary

This chapter discussed the methodology and outline the sample design is normally concerned with the strategy of presenting the research framework, research design, operational definitions, and measurement of variables, data collection technique, and procedure, techniques of data analysis. The chapter discussed the main instrument used for the study, which captures the validity and reliability of the instrument and describes the rationale behind adopting such technique of data analysis.

CHAPTER FIVE

RESULTS

5.1 Introduction

This chapter, focus mainly on the results of data analyzed using PLS path modeling. The initial data screening and preliminary analysis are then discussed. Results of the description statistics of the variables are reported. Using the Smart PLS, the chapter analyzed the measurement model which involves determining individual item reliability, internal consistency reliability, convergent validity and discriminant validity. While the structural model results are reported which focus mainly on the significance of the path coefficients, the R-squared values, the effect size and the predictive relevance of the entire model. Similarly, the results of the analysis which involve the mediating effect of student satisfaction and the moderating effect of technology innovation of the structural model are presented.

5.2 The Response Rate

In this study, a total of 535 survey questionnaires were self-administered to both postgraduate and undergraduate students in federal universities in Nigeria. Hence, a total number of 446 respondents from federal universities in Nigeria filled and returned the administered survey questionnaires giving to them, out of 535

questionnaires that were distributed to the respondents, which represent a total response rate of 83%. In table 5.1 below showed the breakdown of the response rate.

Table 5.1:
Questionnaire Distribution and Decisions

Items	Frequency	Percentage (%)
Number of distributed questionnaires	535	100
Number of returned questionnaires	498	93
Number of questionnaires not returned	037	07
Number of rejected questionnaires	052	10
Number of retained questionnaires	446	83

In table 5.1 above shows the response rate obtained from the survey exercise. From the table above, 535 questionnaires were distributed, 498 returned was from the respondents, 37 questionnaires were not returned, and 52 questionnaires was rejected from the analysis because a significant part of those questionnaires was not completed by the respondents. To remove all these 52 questionnaires from the analysis is significant, as they do not really represent the sample of the population (Hair, Hult, Ringle, & Sarstedt, 2014). Similarly, the sample of the population for this study is made up of 446 responses, which represent a valid response rate of 83% in this study and it was suggested that not less than 30% response rate is an acceptable rate in a survey (Sekaran & Bougie, 2013). The consequence, the smart PLS technique normally requires a minimum of thirty responses (Chin, 1998b). In addition, 446 are sufficient for the analysis in this study. Therefore, the PLS-SEM technique predictive power is enhanced with higher sample size (Hair & Sarstedt, 2014).

5.3 Data Screening and Preliminary Analysis

Thus, the initial data screening is very significant in any multivariate analysis because it is normally assisting the researchers to identify any possible violations regarding the application of the multivariate technique of data analysis (Hair et al., 2007). Furthermore, initial data screening assists the researchers to better understand the behavior of the data collected for further analysis. Moreover, before the initial data screening, the entire 446 returned questionnaires were subjected, coded and entered into SPSS 22 version. Therefore, after the data coding and entry, the following preliminary analyses were performed which include:(1) missing value (2) analysis assessment of outliers (3) normality test and (4) multicollinearity text (Hair et al., 2010; Tabachnick & Fidell, 2007a).

5.3.1 Missing Value Analysis

Even though there is no acceptable percentage of missing values in a set of data analysis, but many types of research have agreed generally that the missing value rate of 5% and below are considered insignificant (Schafer, 1999; Tabachnick & Fidell, 2007a). In addition, researchers have recommended that the means substitution is the easiest way of replacing missing values once the total percentage of missing values are less than 5% (Coplan, Coleman, & Rubin, 1998; Tabachnick & Fidell, 2007a). In

Table 5.2:
Total and percentage of Missing Value

Latent Variable	Number of Missing Values
Service quality	03
University image	03
Trust	03
Commitment	04
Student satisfaction	02
Student loyalty	02
Technology innovation	05
Total missing value	22
Percentage of missing value	Missing value out of 31,666 data points x 100 =0.07%

Note: Percentage of missing values is obtained by dividing the total number of randomly missing values for the entire data set by a total number of data points multiplied by 100%.

This study, the randomly missing values were replaced using mean substitution (Tabachnick & Fidell, 2007a). Table 5.2 below presents the variables and their various respective missing values. From the table 5.2 above, twenty-two (22) are regarded as a missing value, which represents 0.07%. Specifically, service quality, university image, and trust had three (3) missing value each. On the other hand, the commitment had (4) missing value, student satisfaction, and student loyalty had two (2) missing value each and technology innovation had five (5) missing value.

5.3.2 An Assessment of Outliers

The outlier was defined as observations or subsets of observations which appear to be inconsistent with the remainder of the data (Ord, 1996). In data analysis, the presence of outliers in the data set can seriously distort the estimates of regression coefficient and result into unreliable results (Gelper & Croux, 2008). However, the process to detect any observation which normally appears to be outside the SPSS value labels as

a result of wrong data entry, the frequency distribution tables were tabulated for all the latent variables using the minimum and maximum statistic. Based on prior analysis of the frequency statistic, there is no any value found to be outside the expected range.

To detect observations, which were outside the expected range, Mahalanobis distances (D2) were employed to detect multivariate outliers (Tabachnick & Fidell, 2007a). Using this procedure, fifty-two (52) multivariate outliers were detected and excluded from the analysis, leaving a final data set of 446. Mahalanobis distance (D2) was defined as “the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables (Tabachnick & Fidell, 2007a).

5.3.3 Normality Test

Previous research has traditionally assumed that PLS-SEM provides accurate model estimations in situations with extremely non-normal (Henseler, Ringle, & Sarstedt, 2014; Howells, Van Oppen, & Willis, 2009). However, this assumption seems to have been relaxed, the argument has been made that highly skewed or kurtotic data can inflate the bootstrapped standard error estimates (Chernick, Langley, & Reschovsky, 2011; Hair et al., 2014). It was suggested that researchers who use PLS-SEM should perform a normality test on the data (Hair, Sarstedt, Ringle, & Mena, 2012).

Against this background, the present study employed a graphical method to check for the normality of data collected (Tabachnick & Fidell, 2007a). It was suggested that in a large sample of 200 or more, it is more important to look at the shape of the distribution graphically rather than looking at the value of the skewness and kurtosis statistics, moreover, a large sample decreases the standard errors, which in turn inflate the value of the skewness and kurtosis statistics. Hence, this justified the reason for using a graphical method of normality test rather than the statistical methods (Winston, Bruce, and Fields, 2015).

In the present study, figure 5.1 below show a histogram and normal probability plots were examined to ensure that normality assumptions were not violated (Winston, Bruce, and Fields, 2015).

Histogram and Normal Probability Plots

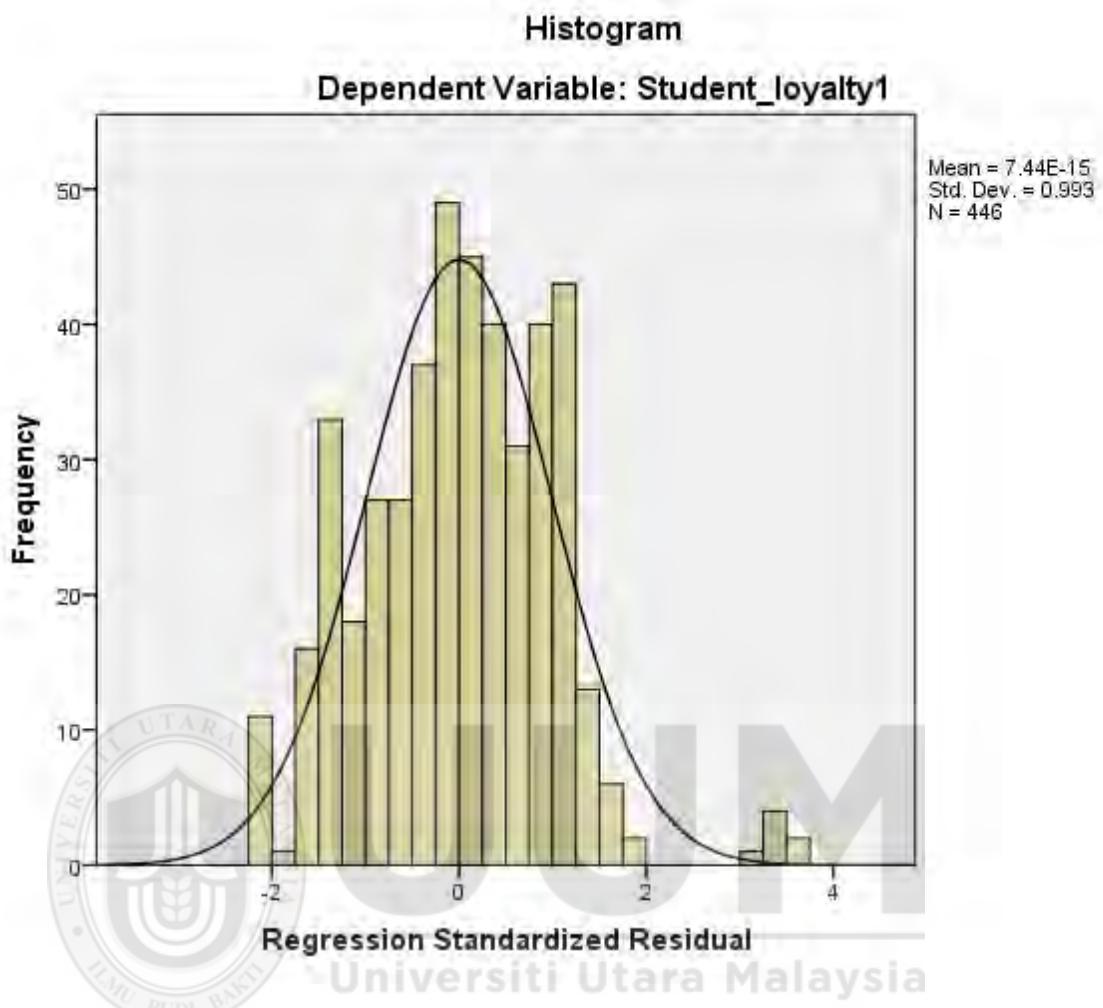


Figure 5.1 Histogram and Normal Probability Plot Showing Data Distribution

Figure 5.1 depicts that data collected for the present study follow normal pattern since all the bars on the histogram were closed to a normal curve. Thus, Figure 5.1 indicates that normality assumptions were not violated in the present study

5.3.4 Multicollinearity Test

Multicollinearity refers to a situation in which one or more exogenous latent constructs become highly correlated. The presence of multicollinearity among the exogenous latent constructs can substantially distort the estimates of regression coefficients and their statistical significance tests (Vu et al., 2012). In particular, multicollinearity increases the standard errors of the coefficients, which in turn render the coefficients statistically non-significant (Tabachnick & Fidell, 2007b). To detect multicollinearity, two methods were used in the present study (Peng & Lai, 2012). First, following the examination of the correlation matrix for the exogenous latent constructs, variance inflated factor (VIF), tolerance value and condition index were examined to detect multicollinearity problem. It was suggested that multicollinearity is a concern if VIF value is higher than 5, the tolerance value is less than 0.20, (Hair, Sarstedt, Ringle, & Mena, 2011). See table 5.3 below

Table 5.3:
Multicollinearity Test of Exogenous Latent Constructs

Collinearity Statistics			
Dependent Variable	Independent Variable	Tolerance	VIF
Commitment	SQ	.669	1.496
	UI	.431	2.320
	TR	.386	2.594
	TI	.598	1.672
Service quality	UI	.465	2.152
	TR	.286	3.495
	TI	.600	1.666
	COM	.371	2.696
University image	TR	.323	3.091
	TI	.600	1.666
	COM	.310	3.224
	SQ	.603	1.658
Trust	TI	.700	1.428

Table 5.3:Continued

Dependent Variable	Independent Variable	Tolerance	VIF
Technology innovation	COM	.417	2.396
	SQ	.559	1.790
	UI	.487	2.055
Technology innovation	COM	.306	3.263
	SQ	.554	1.804
	UI	.427	2.340
	TR	.332	3.016

Table 5.3 indicates that multicollinearity did not exist among the exogenous latent constructs as all VIF values were less than 5; tolerance values exceeded .20 (Hair et al., 2014). Thus, multicollinearity is not an issue in the present study. Secondly, the correlation matrix of the exogenous latent constructs was examined. A correlation coefficient of 0.90 and above indicates multicollinearity between exogenous latent constructs (Hair et al., 2014). Table 5.4 shows the correlation matrix of all exogenous latent constructs.

Table 5.4:
Correlation Matrix of the Exogenous Latent Constructs

	Constructs	1	2	3	4
1	Service quality	1			
2	University image	.791**	1		
3	Commitment	.747**	.674**	1	
4	Trust	.799**	.710**	.769**	1

Note: ** Correlation is significant at the 0.01 level (1-tailed).

As shown in Table 5.4, the correlations between the exogenous latent constructs were sufficiently below the suggested threshold values of .90 or more, which suggests that the exogenous latent constructs were independent and not highly correlated.

5.3.5 Tests for Non-response Bias

Non-response bias was defined as the differences in the answers between non-respondents and respondents (Lambert & Harrington, 1990). In order to estimate the possibility of non-response bias, it was suggested that a time-trend extrapolation approach, which entails comparing the early and late respondents i.e. non-respondents (Armstrong & Overton, 1977). They argued that late respondents share similar characteristics with non-respondents. Meanwhile, to further minimize the issue of non-response bias, it was recommended that a minimum response rate of 50% should be achieved (Lindner & Wingenbach, 2002). Following (Armstrong & Overton, 1977) approach, the present study divided the respondents into two main groups: those who responded within 30 days (i.e., early respondents) and those who responded after 30 days i.e., late 221 respondents (Vink & Boomsma, 2008). The majority of the respondents in the sample; that is 225 (50%) responded to the questionnaire within 30 days, while the remaining 221, representing 50% responded after 30 days (Table 5.5). In particular, an independent samples t-test was conducted to detect any possible non-response bias on the main study variables including service quality, university image, commitment, trust, student satisfaction, and technology innovation on student loyalty.

Table 5.5 presents the results of independent-samples t-test obtained.

Table 5.5:
Results of Independent-Samples T-test for Non-Response Bias

Variables	GRP	N	Mean	Std. Deviation	Std. Error Mean	Levene's Test for Equality of Variances	
						F	Sig.
COM	Early Response	225	4.378	1.227	.082		
	Late Response	221	4.584	1.238	.083	.017	.897
SQ	Early Response	225	4.386	1.018	.068		
	Late Response	221	4.529	.955	.064	.199	.656
SL	Early Response	225	4.487	1.214	.081		
	Late Response	221	4.796	1.261	.085	.456	.500
SS	Early Response	225	4.393	1.492	.099		
	Late Response	221	4.557	1.446	.097	.176	.675
UI	Early Response	225	4.376	1.072	.071		
	Late Response	221	4.497	1.003	.067	1.445	.230
TR	Early Response	225	4.038	1.160	.077		
	Late Response	221	4.157	1.089	.073	.456	.500
TI	Early Response	225	3.611	1.471	.098		
	Late Response	221	3.635	1.346	.091	1.724	.190

As presented in table 5.5 above, the results of independent-samples t-test revealed that the equal variance significance values for each of the seven main study variables were greater than the 0.05 significance level of Levene's test for equality of variances (Pallant, 2010). Hence, this suggests that the assumption of equal the variances between early and late respondents has not been violated. As such, it can be concluded that non-response bias was not a major concern in the present study.

5.4 Common Method Variance Test

Common method variance (CMV), also known to as mono-method bias, refers to “variance that is attributable to the measurement method rather than to the construct

of interest" (Burke, Jarvis, Mackenzie, & Podsakoff, 2014). Researchers have generally agreed that common method variance is a major concern for scholars using self-report surveys (Sharma, Crawford, & Yetton, 2007). For example, it was stated that common method bias inflates relationships between variables measured by self-reports (Conway & Lance, 2010).

The present study adopted several procedural remedies to minimize the effects of CMV (Viswanathan & Kayande, 2012). First, to reduce evaluation apprehension, the participants were informed that there is no right or wrong answer to the items in the questionnaire and they were given an assurance that their answers were confidential throughout the research process. Second, improving scale items was, also used to reduce method biases in the present study. To further, improve scale items, all questions in the survey were written in a simple, specific and concise language.

Besides the procedural remedies described above, the present study also adopted Harman's single factor test to examine common method variance (Philip, Podsakoff & Organ, 1986). Traditionally, in this procedure, all variables of interest are subjected to an exploratory factor analysis and the results of the unrotated factor solution are then examined to ascertain the number of factors that are necessary to account for the variance in the variables (Podsakoff & Organ, 1986). The main assumption of Harman's (1967) single factor test is that if a substantial amount of common method variance is present, either a single factor may emerge, or one general factor would account for most of the covariance in the predictor and criterion variables (Philip,

Podsakoff & Organ, 1986). All items in this study were subjected to a principal components factor analysis. Furthermore, the results indicate that no single factor accounted for the majority of covariance in the predictor and criterion variables (Philip, Podsakoff, MacKenzie, & Podsakoff, 2012). Hence, this suggests that common method bias is not a major concern and is unlikely to inflate relationships between variables measured in the present study.

5.5 Demographic Profile of the Respondents

The section describes the demographic profile of the respondents in the sample. The demographic characteristics examined in this study include gender, age, marital status, qualifications, student status (See table 5.6)

Table 5.6:
Demographic Characteristics of the Respondents

		Frequency	Percentage(%)
Gender:	Male	328	73.5
	Female	118	26.5
Age:	Below-25 years	221	49.6
	26-33 years	185	41.5
	36-41 years	22	4.9
	42 and above	18	3.9
Marital status:	Married	148	33.2
	Single	293	65.7
	Divorced or Separated	5	1.1
Highest Qualifications:	SSCE/NECO	178	40
	ND/NCE	139	31
	Degree	129	29
Student status:	Under Graduate	317	71
	Post Graduate	129	29

The demographic of the respondents tabulated in table 5.6 above were derived from the descriptive analysis. The majority of the gender group are male (73.5%) outnumbered the female (26.5%). The majority of the age group is in the category of 26-33 which represent (41.5%). In terms of marital status, the majority of the respondents are single which represent (65.7%). 40% of the total respondents are educated with SSCE/NECO level of education and followed by National Diploma (ND). The majority of the respondents (71%) are undergraduate students and lastly, about 29% of the respondents are postgraduate students.

5.6 Descriptive Analysis of the Latent Constructs

This section focus on the descriptive statistics of the latent variables used in the present study, the descriptive statistics is mainly in the form of means and standard deviations for the constructs were computed.

Table 5.7:
Descriptive Analysis of the Latent Constructs

Latent Variables	Number of Items	Mean	Std. Deviation
Service quality	33	4.18	.875
University image	05	4.43	1.053
Commitment	05	4.48	1.238
Trust	05	4.20	1.111
Student satisfaction	05	4.47	1.480
Technology innovation	05	3.56	1.386

From the above table, the overall mean for the latent variables ranged from 3.56 to 4.48 and while the standard deviation of the latent variables ranged from 0.875 to 1.480. In conclusion, therefore, the respondents tend to answer the questions somehow disagree and moderate on technology innovation and the possible

explanation is because HEIs in Nigeria are not fully exploring the adoption of technology innovation to satisfy the expectation of the students accordingly. The entire constructs used in the present study were measured using a seven-point scale anchored from 1= strongly disagree to 7= strongly agree. The results are presented in table 5.7 above for easier interpretation.

5.7 Assessment Results of Formative Measurement Model

The concept of service quality was operationalized as a formative variable in chapter four with multi-dimensions. The justification for this is that the construct was derived from Abdullah that has four dimensions (Abdullah, 2005b). Particularly, 33 items were derived from the literature were used in measuring service quality. The constructs operate as a first-order reflective dimension and a second-order formative dimension. Hence, each dimension has reflective measures, and the dimensions themselves are formative measures of the main construct. Therefore, figure 5.1 below present the formative measurement model.

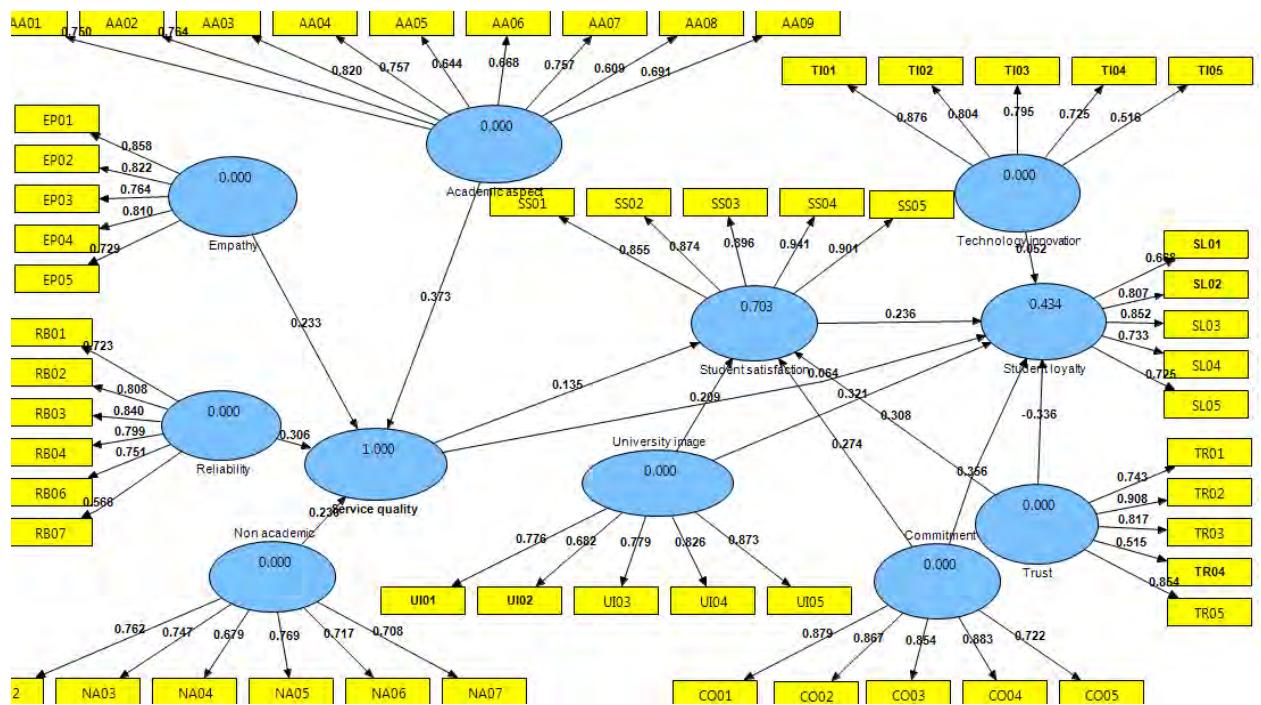


Figure 5.2 Formative Measurement Models

For the assessment of the measurement model of second-order formative dimensions, internal consistency, and convergent validity is not required (Hair et al., 2014). Hence, SEM-PLS offers significant criteria for the statistical assessment of measurement quality for formative indicators (Hair et al., 2014). The first step is to examine outer loading and assessing their significance using T- Statistics through bootstrapping with 5,000 samples.

Table 5.8:
Indicators weights and t- Statistics of Service Quality

Construct	Dimensions	Outer loading	T- Statistics	P-value
Service Quality	Academic	0.857	7.531***	0.000
	Empathy	0.793	2.746***	0.003
	Non-Academic	0.726	2.237**	0.013
	Reliability	0.963	8.512***	0.000

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed).

Table 5.8 above shows that out of the four formative dimensions, all the four have significant weights as indicated by t-statistics and p-values. The second step is to examine the multicollinearity for each indicator; the value of VIF should be less than 5 to avoid high multicollinearity. Moreover, to ensure no multicollinearity among formative indicators, it is required that the VIF should be less than 5 (Hair et al., 2014). Hence, these two steps were followed in assessing the formative construct as contained in table 5.8 and table 5.9 below respectively.

Table 5.9:
Variance Inflation Factor (VIF) and Tolerance

Construct	Dimensions	VIF	Tolerance
Service Quality	Academic	2.396	0.417
	Empathy	2.450	0.408
	Non-Academic	2.636	0.379
	Reliability	3.619	0.276

Thus, table 5.9 above shows that multicollinearity is not an issue among the formative constructs the tolerance is less than 2 and while variance inflation factor is less than 5.

5.8 Assessment of PLS-SEM Path Model Results

A goodness-of –fit (GoF) index is not suitable for model validation (Hair & Sarstedt, 2014; Henseler & Sarstedt, 2013). For example, when using PLS path models with simulated data, the authors are of the opinion that goodness -of- fit- the index is not suitable for model validation because it cannot separate valid models from a non-valid model (Hair, Ringle, & Sarstedt, 2013). However, in the current development on the unsuitability of the PLS path modeling in model validation, the study adopt a two-step process to evaluate and report the result of PLS-SEM path, as suggested by (Henseler,

Ringle, & Sinkovics, 2009). Therefore, the two- step process adopted in the present study consist of (1) the measurement model (2) the structural model (Hair, Ringle, & Sarstedt, 2014).

5.9 Assessment of Measurement Model for Direct Effect

The convergent validity which is the degree to which multiple items measuring the same concept are in agreement (Hair et al., 2010).

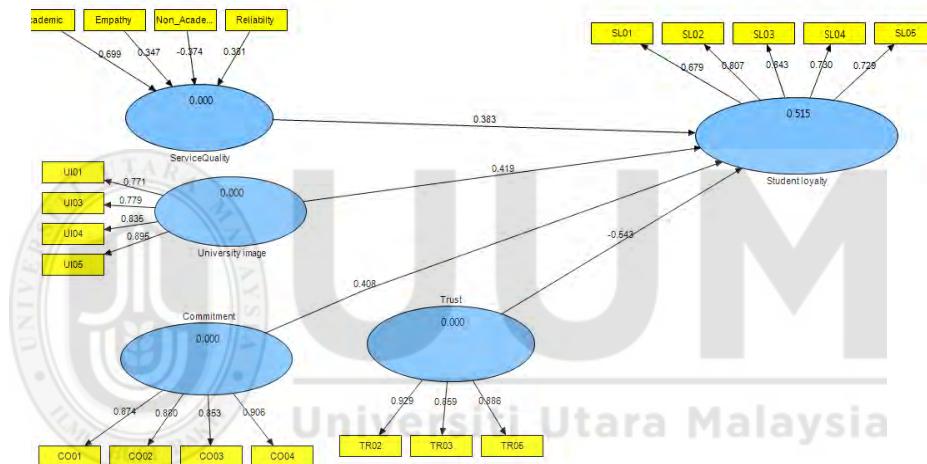


Figure 5.3 Measurement Model for Direct Effects

Table 5.10:
Convergence and Reliability Analysis

Contracts	Items	Loadings	CR	AVE
Commitment	CO01	0.874	0.931	0.771
	CO02	0.880		
	CO03	0.853		
	CO04	0.906		
Student loyalty	SL01	0.679	0.872	0.577
	SL02	0.807		
	SL03	0.843		
	SL04	0.730		
	SL05	0.729		
Trust	TR02	0.929	0.921	0.795

	TR03	0.859		
	TR05	0.886		
University image	UI01	0.771	0.892	0.675
	UI03	0.779		
	UI04	0.835		
	UI05	0.895		

Notes; CR, composite reliability; AVE, average variance extracted

We used the factor loadings, CR, and AVE to assess convergence validity. The loadings for all items exceeded the recommended value of 0.5 (Hair et al., 2010).

5.10 Discriminant Validity of Constructs

Discriminant validity is the extent to which the measures is not a reflection of some other variables and is indicated by low correlations between the measure of interest and the measures of other constructs (Cheung & Lee, 2010).

Table 5.11:
Discriminant validity of constructs

Constructs	1	2	3	4	5
Commitment	0.878				
Service Quality	0.725	Formative			
Student loyalty	0.586	0.585	0.760		
Trust	0.708	0.798	0.367	0.892	
University image	0.679	0.809	0.598	0.752	0.822

The diagonal are the AVE while the off-diagonals are the squared correlations

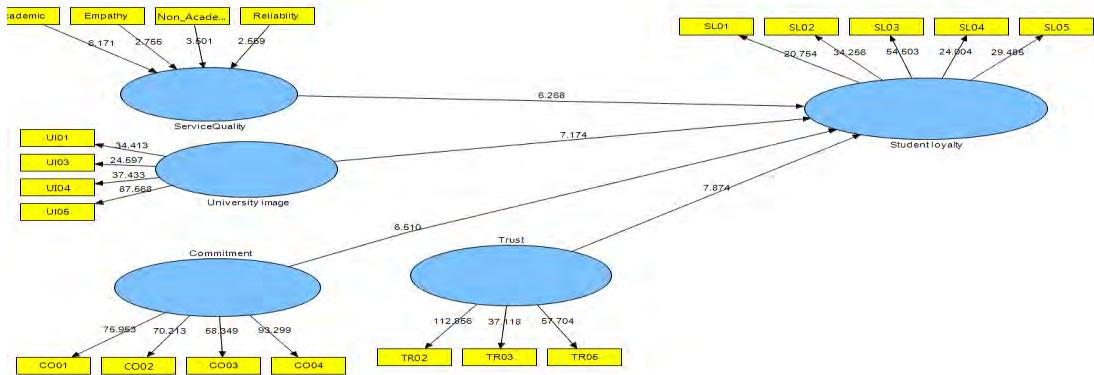
It can be examined by comparing the squared correlations between the constructs and the AVE for a construct (Claes Fornell & Larcker, 1981a). As shown in Table 5.11 above, the squared correlations for each of the constructs are less than the AVE by the indicators measuring the constructs indicating adequate discriminant validity. Therefore, the measurement model demonstrated the adequate convergent validity and discriminant validity.

Table 5.12
Cross loadings of constructs

	Commitment	Student loyalty	Trust	University image
CO01	0.874	0.462	0.665	0.615
CO02	0.880	0.562	0.648	0.612
CO03	0.853	0.473	0.581	0.534
CO04	0.906	0.549	0.597	0.622
SL01	0.337	0.679	0.221	0.367
SL02	0.471	0.807	0.290	0.497
SL03	0.468	0.843	0.302	0.536
SL04	0.369	0.730	0.235	0.401
SL05	0.548	0.729	0.329	0.449
TR02	0.688	0.359	0.929	0.731
TR03	0.564	0.292	0.859	0.596
TR05	0.633	0.325	0.886	0.674
UI01	0.516	0.533	0.634	0.771
UI03	0.599	0.354	0.611	0.779
UI04	0.475	0.424	0.592	0.835

All the indicators loadings were greater than the cross loadings, suggesting an adequate discriminant validity for further analysis.

Assessment of Structural Model Direct Effect



5.4Figure 5.4.Structural Model Direct Effect

Table 5.13:
Summary of Findings

H	Constructs	Path coefficient	Standard Error	T Statistics	P-Value	Decision
H1	SQ -> SL	0.383	0.061	6.268***	0.000	Supported
H2	UI -> SL	0.419	0.058	7.174***	0.000	Supported
H3	CO -> SL	0.408	0.063	6.510***	0.000	Supported
H4	TR -> SL	-0.543	0.069	7.874***	0.000	Supported

Note: ***Significant at 0.01 (1-tailed), Table 5.13 above, summarizes the results of the hypotheses, whereby all the four hypotheses were significant at 1%.

Table 5.13 and figure 5.4, showed that the relationship the variables, Hypothesis 1 predicted that service quality has a significant relationship with student loyalty. Results, revealed a significant positive relationship between service quality and student loyalty ($\beta = 0.383$, $t = 6.268$, $p < 0.000$) supporting hypothesis 1. In examining the influence of university image on student loyalty, results show that university image has a significant relationship with student loyalty ($\beta = 0.419$, $t = 7.174$, $p < 0.000$) yielding support for hypothesis 2. As for the predicted significant relationship between commitment and student loyalty in hypothesis 3, the result ($\beta =$

0.408, $t = 6.510$, $p < 0.000$) demonstrated support for the hypothesis. Trust was also predicted to have a significant relationship with student loyalty (hypothesis 4). Results showed a significant association between trust and student loyalty ($\beta = -0.543$, $t = 7.874$, $p < 0.000$). Thus, hypothesis 4 was fully supported.

5.11 Effect Sizes of the Latent Variables

Effect size (f^2) for multiple regressions is computed accordingly as follows (Chin, 1998b; Cohen & Wang, 1988):

$$\text{Effect size } (f^2) = \frac{R\text{-squared Included}}{1-R\text{-squared Included}} - R\text{-squared Excluded} - Excluded$$

Table 5.14
Effect Sizes

Variables	R^2 Included	R^2 Excluded	f^2 -Squared	Effect size
Student Loyalty				
Commitment	0.515	0.444	0.071	Small
Service quality	0.515	0.480	0.035	Small
Trust	0.515	0.425	0.09	Small
University image	0.515	0.464	0.051	Small

Table 5.14 show the effects sizes of the latent variables of the structural model as small. Thus, the effect size describes values of 0.35 as large, 0.15 as a medium, 0.02 as small and 0.00 as none, respectively (Cohen, 1988).

5.12 Assessment of Measurement Model

To assess the measurement model the study focus on individual item reliability, content validity, internal consistency, convergent validity and discriminant validity (Hair et al., 2014).

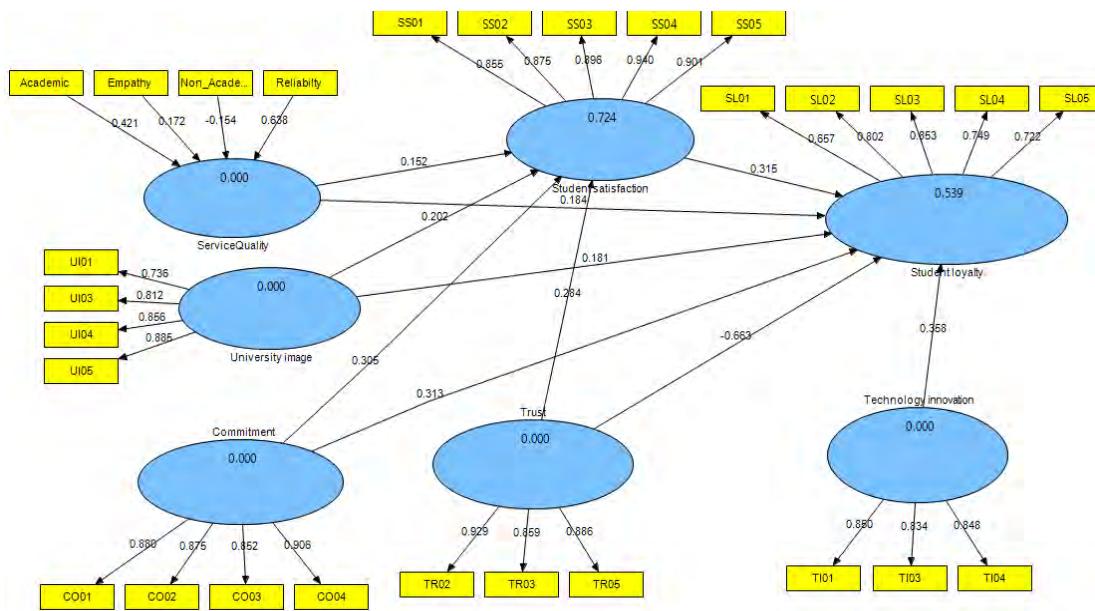


Figure 5.5 Measurement Model

5.12.1 Individual Item Reliability

Individual items reliability focus on exiting, the outer loadings of each construct measure (Hair, Ringle, & Sarstedt, 2012). Going by the rule of thumb for retaining items with loading ranged from 0.04 to 0.07 (Hair et al., 2014). It was discovered that only 14 items were deleted out of 65 items because of their loadings of below the threshold of 0.50. Therefore, the entire model retained only 51 items because they have loadings between 0.501 and 0.951.

5.12.2 Internal Consistency Reliability

Internal consistency reliability means the extent to which all items on a particular subscale are measuring the same concept. In most institutions, are the most commonly used estimators of the internal consistency of instruments are Cronbach's alpha coefficient and composite reliability coefficient (Murray et al., 2015). For the purpose of this study, composite reliability coefficient was chosen to ascertain the internal consistency reliability of the measured adopted. The main motives for the justification of the use of composite reliability coefficient is because its, provides a much less biased estimate of reliability than Cronbach's alpha coefficient because the later normally assumes all items contribute equally to its latent variable without considering the actual contribution of each individual loading (Gotz, Liehr-Gobbers, & Krafft, 2010).

In addition, Cronbach's alpha may under or over-estimate the scale reliability. While the composite reliability takes into consideration that each indicator has different loadings and can be interpreted in the same way as Cronbach's α (normally the reliability coefficient, an internal consistency reliability value above 0.70 is regarded as satisfactory for an adequate model, however, a value below 0.60 indicates a lack of reliability. Therefore, the interpretation of internal consistency reliability using composite reliability coefficient was based on the rule of thumb as suggested that, the composite reliability coefficient should be least 0.70 or even more(Bagozzi & Yi, 1988) as well as (Hair et al., 2011).

In the table 5.15 shows the composite reliability (CR) of the latent variables. All the CR coefficient of each the latent variables ranged from 0.7 to 0.9 and each exceeding the minimum acceptable level of 0.70 suggesting adequate internal consistency reliability of the measures used in this study (Bagozzi & Yi, 1988; Hair et al., 2011).

*Table 5.15:
Result of the Measurement Model*

Constructs	Items	Loadings	Composite Reliability	AVE
Commitment	CO01	0.880	0.931	0.772
	CO02	0.875		
	CO03	0.852		
	CO04	0.906		
Student Loyalty	SL01	0.657	0.871	0.577
	SL02	0.802		
	SL03	0.853		
	SL04	0.749		
	SL05	0.722		
Student Satisfaction	SS01	0.855	0.952	0.799
	SS02	0.875		
	SS03	0.896		
	SS04	0.940		
	SS05	0.901		
Technology Innovation	TI01	0.850	0.882	0.713
	TI03	0.834		
	TI04	0.848		
Trust	TR02	0.929	0.921	0.795
	TR03	0.859		
	TR05	0.886		
University Image	UI01	0.736	0.894	0.679
	UI03	0.812		
	UI04	0.856		
	UI05	0.885		

5.12.3 Convergent Validity

Convergent validity refers to the extent to which items truly represent the intended latent variable and indeed correlate with other measures of the same latent variable (

Hair et al., 2011). The convergent validity was normality and assessed by examining the Average Variance Extracted (AVE) of each latent construct, as suggested by (Claes Fornell & Larcker, 1981c). In order to achieve an adequate convergent validity, it was recommended that AVE of each latent variable should be 0.50 or more (Chin, 1998b). (See table 5.10 above)

5.12.4 Discriminant Validity

Discriminant validity means is the extent to which a particular latent variable is really different from other latent variables (Duarte, Alves, & Raposo, 2010). However, this study has achieved the discriminant validity the AVE as suggested (Claes Fornell & Larcker, 1981b). This can be seen clearly by comparing the correlations among the latent variables with the square of the AVE (Claes Fornell & Larcker, 1981c). Therefore, the discriminant validity was determined following (Chin, 1998b) criterion by comparing the indicator loadings with other indicators in the cross loadings, So, as a result, a rule of thumb for evaluating discriminant validity, researchers are of the opinion that the AVE with a score of 0.50 or more (Claes Fornell & Larcker, 1981c).

Table 5.16
Latent Variable Correlations and Square Roots of AVE

Constructs	1	2	3	4	5	6	7
Commitment	0.843						
Service quality	0.731	Formative					
Student loyalty	0.571	0.570	0.759				
Student satisfaction	0.749	0.784	0.559	0.894			
Technology innovation	0.673	0.881	0.597	0.682	0.844		
Trust	0.719	0.824	0.372	0.769	0.746	0.851	
University image	0.658	0.837	0.582	0.749	0.823	0.729	0.824

Note: Entries shown in boldface represent the square root of the AVE

As seen, clearly in table 5.16 above, the correlations among the latent variables were compared with the square root of AVE (i.e. values in boldface). Usually, the square roots of the AVE were extracted and were all greater than the correlations among the latent variables with an adequate validity (Claes Fornell & Larcker, 1981c).

Table 5.16 below compares the indicator loadings with other reflective indicators. All the indicators loadings were greater than the cross loadings, suggesting an adequate discriminant validity for further analysis.

Table 5.17:
Cross loadings of constructs

	Commitment	Student loyalty	Student satisfaction	Technology innovation	Trust	University image
CO01	0.88	0.46	0.676	0.668	0.665	0.607
CO02	0.875	0.56	0.665	0.645	0.648	0.609
CO03	0.852	0.469	0.603	0.513	0.581	0.537
CO04	0.906	0.548	0.705	0.562	0.597	0.621
SL01	0.337	0.657	0.315	0.297	0.221	0.356
SL02	0.468	0.802	0.42	0.506	0.29	0.482
SL03	0.466	0.853	0.527	0.498	0.302	0.531
SL04	0.37	0.749	0.396	0.466	0.235	0.387
SL05	0.547	0.722	0.433	0.463	0.329	0.43
SS01	0.627	0.541	0.855	0.455	0.536	0.563
SS02	0.635	0.425	0.875	0.65	0.698	0.713
SS03	0.698	0.497	0.896	0.718	0.777	0.742
SS04	0.705	0.536	0.94	0.593	0.708	0.68
SS05	0.705	0.498	0.901	0.62	0.752	0.644
TI01	0.516	0.536	0.519	0.85	0.634	0.736
TI03	0.595	0.434	0.558	0.834	0.612	0.672
TI04	0.617	0.53	0.65	0.848	0.663	0.674

Table 5.17: Continued

TR02	0.689	0.357	0.765	0.713	0.929	0.733
TR03	0.564	0.294	0.619	0.636	0.859	0.59
TR05	0.634	0.323	0.693	0.667	0.886	0.67
UI01	0.516	0.536	0.519	0.75	0.634	0.736
UI03	0.598	0.354	0.646	0.552	0.611	0.812
UI04	0.475	0.428	0.673	0.616	0.592	0.856
UI05	0.64	0.587	0.631	0.698	0.634	0.885

5.13 Assessment of Significance of the Structural Model

In addition, to the measurement model, the study assessed the structural model. The present study applied the standard bootstrapping procedure with 5,000 bootstrap samples and 446 cases in order to assess the significance of the path coefficients (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Figure 5.5 below shown clearly the estimates for the full structural model which consist of the moderator variable.

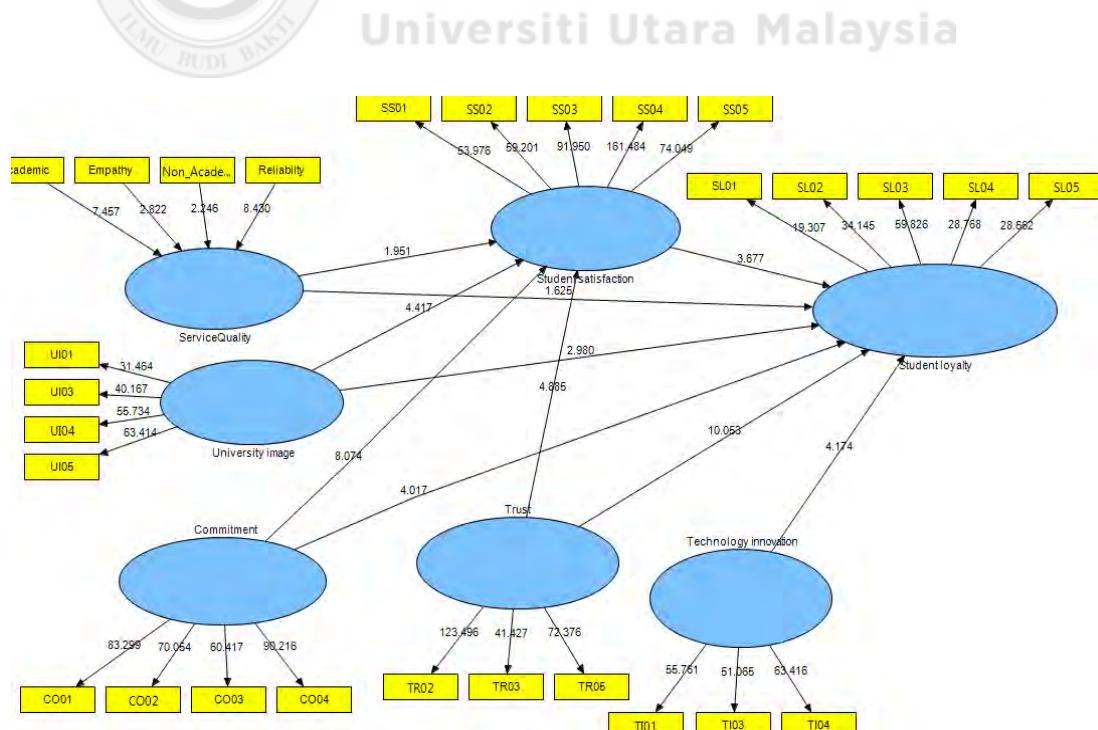


Figure 5.6 Structural Model

The results in figure 5.6 and table 5.18, showed that the relationship the variables. Hypothesis 5 predicted that service quality has a significant relationship with student satisfaction. Results indicated that service quality indeed has significant influence on student satisfaction ($\beta = 0.152$, $t = 1.951$, $p < 0.027$) supporting hypothesis 5. Similarly, in examining the association between university image on student satisfaction, results revealed that university image has a significant positive relationship with student satisfaction ($\beta = 0.202$, $t = 4.417$, $p < 0.000$), indicating support for hypothesis 6. Hypothesis 7 postulated that commitment has a significant relationship with student satisfaction. Results demonstrated that commitment has significant association with student satisfaction ($\beta = 0.305$, $t = 8.074$, $p < 0.000$) indicated support for the hypothesis. With respect to hypothesis 8 which predicted the significant relationship between trust and student satisfaction, results demonstrated a significant correlation between trust and student satisfaction ($\beta = 0.284$, $t = 4.885$, $p < 0.000$), thus, hypothesis 8 was supported. Thus, hypothesis 9 which predicted the significant relationship between student satisfaction and student loyalty, results demonstrated a significant correlation between student satisfaction and student loyalty ($\beta = 0.315$, $t = 3.677$, $p < 0.000$), hence, hypothesis 9 was supported.

*Table 5.18
Structural Model Assessment*

H	Relationship	Path Coefficients	Std.Error	T Value	P-Value	Decision
H5	SQ -> SS	0.152	0.079	1.951**	0.027	Supported
H6	UI -> SS	0.202	0.046	4.417***	0.000	Supported
H7	CO-> SS	0.305	0.039	8.074***	0.000	Supported
H8	TR -> SS	0.284	0.058	4.885***	0.000	Supported
H9	SS -> SL	0.315	0.085	3.677***	0.000	Supported

Source: SmartPLS

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed). Table 5.18 above, summarizes the results of the hypotheses, where eight of the hypotheses were significant at 1% and while one of the hypothesis is significant at 5%.

5.13.1 Assessment of Variance Explained in the Endogenous Latent Variables

In PLS-SEM, another significant criterion for assessing the structural model is the R-squared value, which mainly known as the coefficient of determination (Jörg Henseler, Ringle, & Sarstedt, 2012b). Even though, the acceptable levels of the R-squared value depend on the research context of the study (Hair, Anderson, Tatham, & Black, 2010). However, an R-squared value of just 0.10 as the minimum acceptable level (Falk, 2009). While, other researchers propose that the R-squared values of 0.19, 0.33 and 0.67 in PLS as weak, moderate and substantial respectively (Chin, 1998d). The table below presents the R-squared values of the two endogenous latent variables.

Table 5.19:

Assessment of Variance Explained in the Endogenous Latent Variables

Latent variables	Variance explained (R)
Student Loyalty	0.539
Student Satisfaction	0.724

As indicated in table 5.19 above, the research model explains 54% of the total variance in student loyalty and while 72% of the total variance is explained in student satisfaction of the variance. Therefore, the two endogenous latent variables have

shown the acceptance levels of R-squared values, which were considered as moderate and substantial respectively as seen in table 5.19 above (Chin, 1998b).

5.13.2 Assessment of Effect Size

The effect size indicates the relative effect of particular exogenous latent variables on the endogenous latent variables by the means of changes in the R-squared (Chin, 1998b). Thus, the effect size describes values of 0.35 as large, 0.15 as a medium, 0.02 as small and 0.00 as respectively (Cohen, 1988). Table 5.13 show the effects sizes of the latent variables of the structural model. Effect size (f^2) for multiple regressions is computed accordingly (Chin, 1998a; Cohen, 1988).

$$\text{Effect size } (f^2) = \frac{\text{R-squared Included}}{1 - \text{R-squared Included}}$$

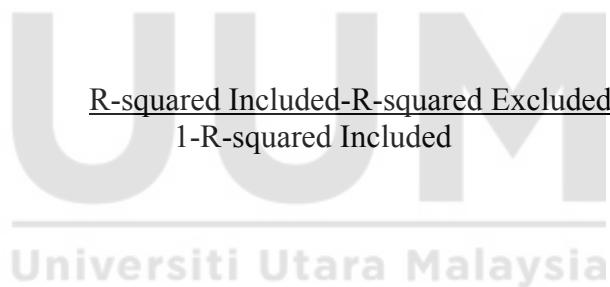


Table 5.20
Effect Sizes of the Latent Variables

Variables	R ² Included	R ² Excluded	f – Squared	Effect size
Student Loyalty				
Commitment	0.539	0.503	0.078	Small
Service quality	0.539	0.535	0.009	None
Technology innovation	0.539	0.514	0.054	Small
Trust	0.539	0.431	0.234	Medium
University image	0.539	0.533	0.013	None
Student Satisfaction				
Commitment	0.724	0.685	0.141	Small
Service quality	0.724	0.720	0.015	None
Trust	0.724	0.701	0.083	Small
University image	0.724	0.712	0.044	Small

Effect Sizes of the Latent Variables on Cohen's (1988) Recommendation

As indicated in Table 5.20 as shown above, the effect sizes for commitment, service quality, technology innovation, trust, university image on student loyalty were 0.078, 0.009, 0.054, 0.234 and 0.013 respectively and while service quality, trust, university image, commitment on student satisfaction were 0.141, 0.015, 0.083 and 0.044 respectively. Hence, based on the guideline for the interpretation of the effect size of the exogenous latent variables can be considered as none, small and medium respectively (Cohen, 1988). The effect size had shown the contributions of each independent variable on the dependent variable and for policy implications to consider the strongest contributors.

5.13.3 Assessment of Predictive Relevance

The study applied Stone-Geisser test of the predictive relevance of the research model using blindfolding (Geisser, 1974; Stone, 1974). The Stone-Geisser test of predictive relevance is normally used as a supplementary of goodness –of-fit in partial least squares structural equation modeling (SEM) (Duarte et al., 2010). Hence, this study used blindfolding to ascertain the predictive relevance of the research model of the study, “blindfolding procedure is only applied to endogenous latent variables that have a reflective measurement model operationalization”. Similarly, all the endogenous latent variables were reflective in nature; a blindfolding procedure was applied mainly to these endogenous latent variables (Ringle, Sarstedt, & Mooi, 2010). Therefore, a cross-validated redundancy measure (Q^2) was applied to assess the

predictive relevance of the research model and the (Q^2) is a criterion to a measure on how well a model make prediction of the data omitted cases (Chin, 2010).

Table 5.21
Construct-Cross Validated Redundancy

Total	SSO	SSE	1-SSE/SSO
Student loyalty	2230.000	1551.867	0.304
Student satisfaction	2230.000	953.553	0.572

As shown in Table 5.21 above, the cross-validation redundancy measure Q^2 for all endogenous latent variables were seen as above zero (0), suggesting predictive relevance of the model (Chin, 1998e; Jörg Henseler et al., 2009).

5.13.4 Testing Mediating Effect

The goal of mediation test is to determine if a mediator variable can significantly carry the effect of an independent variable to a dependent variable (Ramayah, Lee, & In, 2011). Mediation test assesses the indirect effect of the exogenous latent variable on the endogenous latent variable through an intervening variable. In multivariate analysis, mediation analysis can be achieved through several techniques, including, Simple techniques, which comprise of the causal steps approach (R M Baron & Kenny, 1986b); or the Sobel test, (1982); Newer techniques that require more realistic statistical assumptions. These include product distribution technique (Mackinnon, Lockwood, & Williams, 2004). And resampling approaches like bootstrapping (Bollen & Stine, 1990; Preacher & Hayes, 2004). The re-sampling approach through bootstrapping which remains the central procedure used in PLS context represents the

mediation approach employed in the current study. Although the sober test is still in use for mediation analysis, the Baron and Kenney's (1986) causal steps approach to mediation analysis is losing popularity nowadays because it is found to be unscientific and inconsistent with the basic assumptions of inferential statistics (Hayes, 2015). Specifically, the mediation test employed in the present study was based on the PLS approach. In effect, the hypotheses for this study were tested via the partial least squares (PLS) structural equation modeling (SEM) technique (Wold, 1985). The PLS procedure for a test of mediation effect is a single step test of the indirect effect of the independent variable (s) on the dependent variable (s) (Zhao, Lynch Jr., & Chen, 2010). The PLS popularity in marketing strategy and related studies has multiplied in the last two decades (Jorg Henseler, Ringle, & Sinkovics, 2009). Because the technique is appropriate for testing complex multivariate models, involving direct, indirect and interaction effects (Hair et al., 2014). Although, PLS is usually associated with studies involving small sample size (Hayes, 2015). PLS is also employed to make inferences about parameters in studies involving large samples (Starkweather & Moske, 2011). It is argued that PLS technique can enhance prediction in studies involving large samples (Hair et al., 2014) . Thus, the mediation effect is examined by means of bootstrapping analysis along with the formulated hypotheses (Hair et al., 2013). Specifically, the mediation tests of this study were conducted to ascertain that, if student satisfaction could mediate the relationship between four exogenous latent variables (service quality, university image, commitment, trust) and the endogenous latent variable of student loyalty.

Table 5.22
Structural Model Assessment with a Mediating Variable

H	Relationship	Path a	Path b	a*b	SE	T-Value	P-Value	Decision
H10	SQ > SS>SL	0.152	0.315	0.048	0.033	1.435	0.076	Not Supported
H11	UI > SS>SL	0.202	0.315	0.064	0.021	2.989***	0.001	Supported
H12	CO > SS >SL	0.305	0.315	0.096	0.028	3.410***	0.000	Supported
H13	TR > SS>SL	0.284	0.315	0.089	0.024	3.744***	0.000	Supported

***Significant at 0.01 (1-tailed), **significant at 0.05, *significant at 0.1 (1-tailed).

In table 5.22 above, As for hypothesis (H10) which proposes the mediation effect of student satisfaction on the link between service quality and student loyalty, the results (Figure 5.5, Table 5.22) demonstrate insignificant indirect relationship between service quality and student loyalty ($\beta = 0.048$, $t = 1.435$, $p < 0.076$). Thus, hypothesis (H10) was not supported. Meanwhile, hypothesis (H11) predicted that student satisfaction mediates the relationship between university image (UI) and student loyalty. Results (Figure 5.5, table 5.22) show a significant and indirect relationship between university image and student loyalty ($\beta = 0.064$, $t = 2.989$, $p < 0.001$), thus, hypothesis (H11) was supported. The mediating effect of student satisfaction on the relationship between commitment and student loyalty is displayed in figure 5.5 and table 5.22. The result indicates a significant indirect relationship between commitment and student loyalty in HEIs ($\beta=0.096$, $t=3.410$, $p<0.000$). Hence, hypothesis (H12) which predicted the mediation effect of student satisfaction on the relationship between commitment and student loyalty was fully supported. Regarding hypothesis (H13), which predicted the mediating effect of student satisfaction on the association between trust and student loyalty, results (Figure 5.5, Table 5.22) indicated an significant and indirect relationship between trust and student loyalty ($\beta = 0.089$, $t = 3.744$, $p <0.000$), thus, hypothesis (H13) was supported.

5.13.5 Testing the Moderating Effect

In the present study, the product indicator approach, utilizing Partial Least Squares Structural Equation Modeling was employed to detect and also estimate the strength of the moderating effect of technology innovation on the relationships between student satisfaction and student loyalty (Jörg Henseler & Chin, 2010b). The choice of the product term approach for testing moderation is in consideration of the fact that the moderating variable in question is a continuous variable (Rigdon, 1998). However, when the results of the product term approach are usually equal or better than those of the group comparison approach, we recommend always using the product term approach (Jörg Henseler & Fassott, 2010). To employ the product term approach in testing the moderating effect of technology innovation on the relationships between student satisfaction and student loyalty, the product terms between the indicators of the latent independent variables and the indicators of the latent moderator variable has to be created, hence, these product terms would be used as indicators of the interaction term in the structural model (Kenny & Judd, 1984). However, to determine the strength of the moderating effects, the present study applied the criteria for determining the effect size (Cohen, 1988). Figure 5.3 and Table 5.13 above; therefore indicate the estimates after applying the product indicator approach to determine the moderating effect of technology innovation on the relationship between the exogenous and the endogenous latent variables.

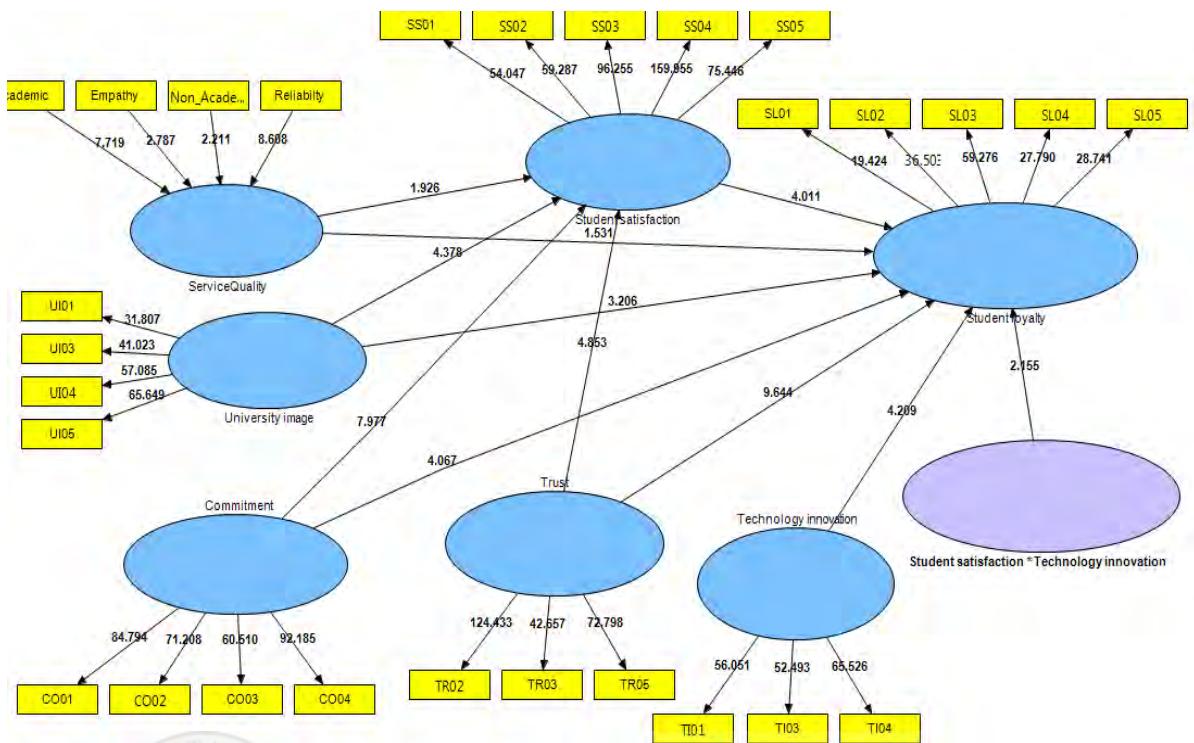


Figure 5.7 Measurement Models with Moderation

Table 5.23
Moderating Effect of Technology Innovation

H	Relationship	Path	Std Error	T- Value	P-Value	Decision
H14	SS* TA> SL	0.089	0.041	2.155**	0.016	Supported

***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed).

It could be recalled, this study hypothesized that technology innovation moderates the relationship between student satisfaction and student loyalty. This relationship is particularly stronger for individual student high technology innovation than for individual student with low technology innovation. As expected, the results shown on (Figure 5.6 & Table 5.23) indicated the interaction terms representing student satisfaction multiplied by technology innovation ($\beta = 0.089$, $t = 2.155$, $p < 0.016$) was significant. Hence, the result fully supports hypothesis H14. Information from the

path coefficients was used to plot the moderating effect of technology innovation on the relationship between student satisfaction and loyalty (Dawson, 2014). Figure 5.4 below shows the interaction effect.

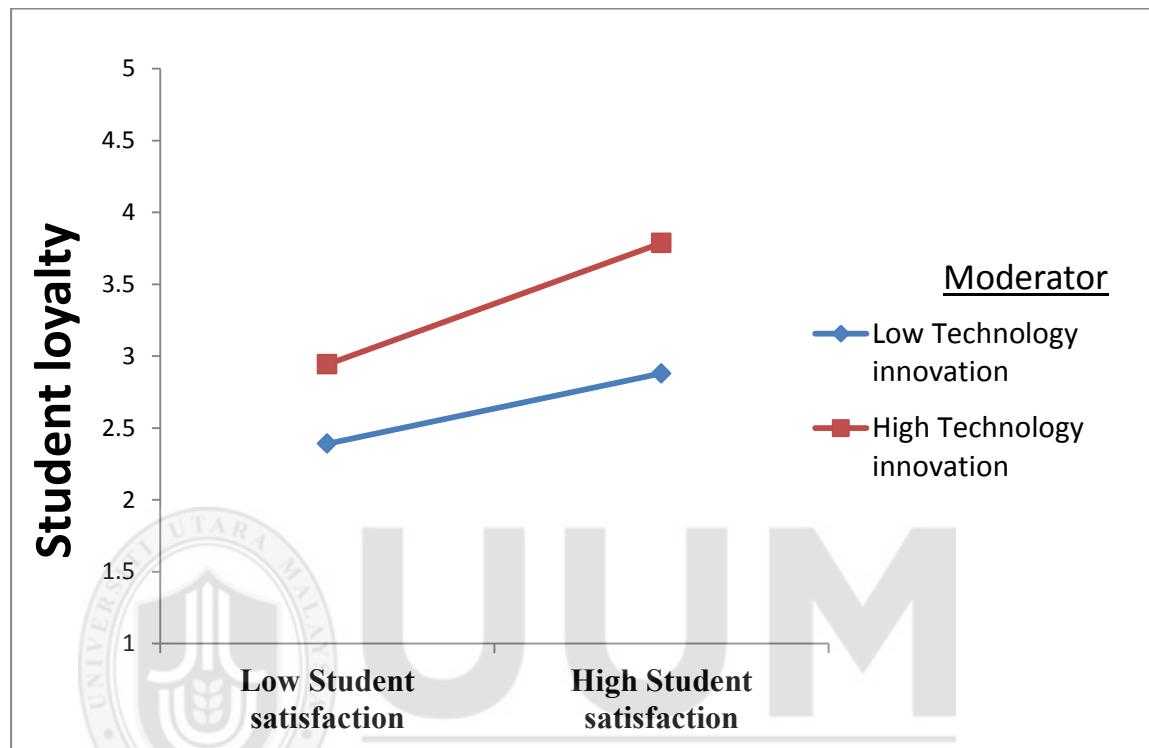


Figure 5.8: Interaction Effect

Interaction effects of student satisfaction and technology innovation on student loyalty. As figure 5.8 above shown clearly, the relationship between student satisfaction and student loyalty is weaker for students with low-technology innovation than it is for student's high technology innovation. However, technology innovation dampens the positive relationship between student satisfaction and student loyalty in HEIs. Technology innovation strengthens the positive relationship between student satisfaction and student loyalty.

5.13.6 Determining the Strength of the Moderating Effects

In order to determine the strength of the moderating effects of technology innovation on the relationship between student satisfaction and student loyalty, effect sizes were calculated. Furthermore, the strength of the moderating effects can be assessed by comparing the coefficient of determination (R -squared value) of the main effect model with the R -squared value of the full model that incorporates both exogenous latent variables and moderating variable (Wilden, Gudergan, Nielsen, & Lings, 2013b).

Moderating effect sizes (f^2) values of 0.02 can be considered as weak, effect sizes of 0.15 as moderate while the effect sizes above 0.35 may be regarded as strong (Cohen, 1988; Henseler & Fassott, 2010). However, according to (Chin, Marcolin, & Newstead, 2003), a low effect size does not necessarily mean that the underlying moderating effect is insignificant. Even a small interaction effect can be meaningful under extreme moderating conditions, if the resulting beta changes are meaningful, then it is important to take these conditions into account (Chin et al., 2003). Result of the strength of the moderating effects of technology innovation is presented.

Table 5.24

Strength of the Moderating Effect

Variable	R^2 Included	R^2 Excluded	F-Squared	Effect size
Student Loyalty	0.544	0.539	0.005	Weak

Strength of the Moderating Effects Based on Cohen's (1988) and Henseler and Fassott's (2010) Guidelines

Following the rule of thumb for determining the strength of the moderating effects (Henseler & Fassott, 2010). Table 5.24 shows that the effect size for student loyalty

was 0.005 and suggesting that the moderating effect was small (Wilden, Gudergan, Nielsen, & Lings, 2013a).

5.14 Summary of Findings

The result was previously presented which include the main effects, mediating effects and moderating effects in the preceding section of the work. Table 5.20 below, summarizes the results of all hypotheses tested and respective outcomes.

Table 5.25
Summary of Findings of the study

H	Statement of Hypotheses	Findings
H1:	Service quality is positively associated with student loyalty in HEIs.	Supported
H2:	University image is positively related to student loyalty in HEIs.	Supported
H3:	Commitment is positively associated with student loyalty in HEIs.	Supported
H4:	Trust is positively associated with student loyalty in HEIs.	Supported
H5:	Service quality is positively associated with student satisfaction in HEIs.	Supported
H6:	University image is positively related with student satisfaction in HEIs.	Supported
H7:	Commitment is positively associated with student satisfaction in HEIs.	Supported
H8:	Trust is positively associated with student satisfaction in HEIs.	Supported
H9:	Student satisfaction is positively associated with student loyalty in HEIs.	Supported
H10:	Student satisfaction mediates the relationship between service quality and student loyalty in HEIs.	
H11:	Student satisfaction mediates the relationship between university image and student loyalty in HEIs.	Not supported
H12:	Student satisfaction mediates the relationship between commitment and student loyalty in HEIs.	Supported
H13:	Student satisfaction mediates the relationship between trust and student loyalty in HEIs.	Supported
H14:	Technology adoption moderates the relationship between student satisfaction and student loyalty in HEIs.	Supported

In table 5.25 above, the PLS bootstrap results have demonstrated that three teens out of the fourteen formulated hypotheses are supported and while one of the hypotheses was not supported.

5.15 Summary

In this chapter, the measurement model in this study was presented and the assessment of the significance of the path coefficients, and the main findings of the study were presented. The moderating effects of technology innovation on the relationship between student satisfaction and student loyalty, and while student satisfaction mediates the relationship between trust and university image and student loyalty revealed a negative relationship. Hence, all the four path coefficients from the independent variables to the dependent variable are positively significant and therefore are supported. The next chapter six of the study will focus on the findings of the study, followed by the implications of the study, limitations of the study, suggestions for future research directions and conclusion.

The findings of this study fill the gap addressed in the chapter of the decline in funding for HEIs, driving HEIs to look into improving the service quality, high university ranking, commitment and student trust on the service providers that will lead to student satisfaction. It should also be added that with the adoption of technology innovation it will transform into student loyalty and that will boost internal revenue for the HEIs and further address the problem of funding.

CHAPTER SIX

DISCUSSIONS

6.1 Introduction

In this chapter, the main findings in chapter five are discussed bearing in mind the underpinning theories and previous studies on student loyalty in HEIs context. The chapter is organized into five sections. The findings in line with the previous literature and underpinning theories of the study follow the section which elaborates on the practical and theoretical implications of the study. Finally, the limitations of the study based on the findings, suggestions for future research directions and conclusion of the study were able to be drawn.

6.2 Recapitulation of the Study Findings

The main objective of this study is to assess the influence of service quality, university image, relationship marketing dimensions and technology innovation on student loyalty among Nigerian HEIs students. In specific, this study has succeeded in advancing the current understanding of the key influence of student loyalty in HEIs in Nigeria, by providing answers to the following research questions:

1. Do service quality, university image, commitment and trust influence student loyalty in HEIs?
2. Do service quality, university image, commitment and trust influence student satisfaction in HEIs?

3. Does student satisfaction influence student loyalty in HEIs?
4. Does student satisfaction mediate the relationship between service quality, university image, commitment, trust and student loyalty in HEIs?
5. Does technology innovation moderate the relationship between student satisfaction and student loyalty in HEIs?

Hence, all the entire nine (9) a direct relationship between the exogenous latent variables and the endogenous latent variables of the study indicated that the nine (9) hypotheses are all supported. The result managed to show that commitment was significantly and positively related to student satisfaction and student loyalty. Service quality was also found to be significantly and positively related to student satisfaction and loyalty. Also, trust was found to be significantly and positively associated with student satisfaction and student loyalty. Findings further revealed that university image was found to be significantly and positively related to student satisfaction and student loyalty in the institutes. Moreover, student satisfaction was found to be significantly and positively linked with student loyalty.

The result further revealed that student satisfaction mediates the relationship between commitment and student loyalty was significantly and positively related. In the same vain, student satisfaction was found to mediate the relationship between trust and student loyalty and additionally, the result indicated that student satisfaction mediates the relationship between university image and student loyalty in these Nigerian educational agencies. In contrast, student satisfaction was not found to mediate the relationship between service quality and student loyalty was not significantly and

positively related. In terms of the technology innovation as a moderator on the relationship between the exogenous latent variables and endogenous latent variables, particularly, it was found to significantly and positively moderate the relationship between student satisfaction and student loyalty in HEIs. The next section discusses the findings bearing in mind the previous findings and theories that have been gathered.

6.3 Discussion of Results

This section weighs the findings of the study in line with the previous research and underpinning theories of the study. Similarly, the subheadings of the discussion section are mainly structured following closely the research questions. In figure three (3) and Table 5.17 above, the structural model result with the coefficients for each path that indicates the causal relationship between the constructs in the model (Lee, 2010) is provided. The tests on the significance of the path and hypothesis in the path model were performed using the Smart PLS's bootstrap re-sampling technique (5,000 re-samples).

6.3.1 Influence of Service quality on Student Loyalty

Service quality can be defined as the extent to which an institution can serve and fully cater for the purpose of their students' needs successfully. Hence, the student who is the customer to an HEI determines that the perceived value of the service based on their previous experience with the service is delivered by the service providers (Berry, Parasuraman, & Zeithaml, 1990b). The first research question seeks to find out

if the service quality influences student loyalty in the Nigerian HEIs. In line with the research questions, the first objective of the study was to examine the relationship formed between service quality and student loyalty in the educational institutions in Nigeria.

H1: Service quality is positively related to student loyalty in the Nigerian HEIs.

The hypothesis (H1), that service quality is positively correlated to student loyalty is discovered to be significant and supported. In other words, HEIs must be able to proffer good service and sound education frequently not only satisfies the student but also it delights the student who is the customer, so that HEIs can establish, maintain and enhance the relationship between the student and the HEIs. The result is in line with the previous study (Wong & Sohal, 2003). Thus, in both cases, HEIs should provide good quality service and sound education to establish a strong and positive relationship with the students. Similarly, for HEIs to satisfy the students and assure student's loyalty, the HEIs need to attain goodwill for an excellent service delivery. Therefore, student loyalty is the main rationale behind customer relationship marketing (Akbar & Parvez, 2009; Turk & Yuksel Avcilar, 2009).

In addition, the evaluation and delivery of service quality to the students are seen as one of the remarkable components which belong to the study process itself and significance information to the student and the attractiveness of the courses can become greatly beneficial for future skills and professionalism. Also, the quality of academic and non-academic staff is considered to be one of the most vital components in the study of cause evaluation and the level of appreciation by the

students, the skill, attitude, and knowledge of academic staff to deliver the knowledge as well as the students and staff relationship development and sustenance. Therefore, the importance of the service support elements, such as the administrative staff, library, and information system, turns out to have a statistical effect on the students' perceived service quality with the service provider, but the students will associate themselves with what the service providers have and can, offer.

6.3.2 Influence of University Image on Student Loyalty

The concept of university image and reputation can be defined as the overall impression which lingers in the minds of the students as a result of accumulative attitudes, feelings, ideas and experiences with the HEI services (Bravo et al., 2009; Grund, 1996; Hatch & Schultz, 2003). The first research question is to find out if university image influences student loyalty in the Nigerian HEIs. In line with the first research question, the first objective of the study takes a closer look into the relationship between university image and student loyalty in the Nigerian HEIs.

H2: University Image is positively associated with student loyalty in HEIs

The university image is statistically significant on student loyalty, the hypothesis (H2), that university image is positively correlated to student loyalty is significant and therefore supported. Similarly, the student must account for the fact that the university institutional image must be evaluated from his point of view. The HEIs must be equipped with an image builder that should try to meet student expectations. Hence, HEIs generally innovate and innovation contributes to the society and the economy at large. Moreover, a significant relationship between university image and student

loyalty was anticipated (Andreassen & Lindestad, 1998a), also the path coefficient between university image and student loyalty was significant and the result is in line with the previous studies carried out (Nha Nguyen & Leblanc, 2001).

6.3.3 Influence of Commitment on Student Loyalty

Commitment is conceptualized as a psychological commitment based on the student's sense of identification with and belongingness toward a service provider (Verhoef et al., 2002b). The first research question aims to find out if commitment influences student loyalty in the Nigerian HEIs. In line with the first research question, the first objective of the study seeks to examine the relationship between commitment and student loyalty in the Nigerian HEIs.

H3: Commitment has a significant positive relationship with student loyalty in the Nigerian HEIs.

In relation to commitment and student loyalty in the HEIs, this study found a positive significant relationship that commitment does influence student loyalty and therefore hypothesis (H3) is supported. The findings of the study in H3 have collaborated with previous studies (Hennig-Thurau, 2001; Kotzé & Plessis, 2003a; Strauss & Volkwein, 2004). It can also be considered that an emotional connection between the students and the service providers in the form of commitment is required to yield a stable relationship, and therefore this determines student loyalty. Similarly, these findings are in line with previous studies suggesting that the formation of emotional bonds leads to very strong behavioral outcomes. The result revealed that commitment is a

strong predictor of student loyalty (Harrison-Walker, 2001; Hennig-Thurau & Gwinner, 2002; Wetzel et al., 1998).

Thus, student commitment was found to be significant and a direct determinant of student loyalty in HEIs. Therefore, the formation of student commitment based on emotional and a very strong sense of belonging was found to have positive perceptions of the university and student relationship (Kara, & Kaynak, 2005; Kotzé & Plessis, 2003). Similarly, a student is willing to continue attending the same HEIs (Strauss & Volkwein, 2004). Therefore, the development of a strong and meaningful relationship leaning on strong emotional and personal connections between the service providers and the student are therefore highly significant to HEIs. Moreover, the integration into the academic and social activities of the HEIs have the tendency to affect the likelihood of continuance and loyalty towards HEI services (Keefe et al., 1993). Thus, the real integration into the system can occur through active collaboration in HEIs programs, activities, as well as via the development of a strong relationship with all HEI stakeholders (Hennig-Thurau et al., 2001a; Strauss & Volkwein, 2004).

Thus, adequate integrations into the systems may increase the likelihood of students to create a strong relationship with their HEIs. Therefore, HEIs could create a strong relationship with potential students at secondary schools level via seminars and workshops. Hence, it is here that the expectations of the HEIs experience are established. Also, to initiate the university and student relationship at the secondary

school level mainly through the regular creation of an emotional bond with the HEIs. Additionally, when such strategy is formulated, it would assist the first-year students to feel a greater sense of belonging upon the commencement of HEIs experience. To add, HEIs could aim to promote and provide a range of services and values signifying that the students' patronage is valued and important. HEIs as part of its activities should endeavor the provision of both social and academic aspects to delight the students such as (e.g., societies, clubs, career advice, employment assistance, alumni membership etc.) and also HEIs can show students that the student relationship should continue and extend beyond time of enrolment and a long time partnership with HEIs. Thus, leaning on the study findings, HEIs should pay attention to satisfying the students, and also to developing a strong relationship with the students to improve student retention and loyalty. Students as customers of HEIs normally engage in a relationship with the service providers in anticipation of tangible economic benefits such as the opportunity to graduate with degree qualifications that will ultimately allow the student to secure employment with reputable institutions. Conversely, intangible non-economic benefits may include the opportunity to develop social bonds and relationship with peers in the HEIs, and the opportunity to network with and form a life-long partnership with the HEIs and its staff and friends all around the world.

6.3.4 Influence of Trust on Student Loyalty

In HEIs, student trust is defined as the degree to which a student exudes confidence and faith in the HEIs to take appropriate steps that can benefit him/her and help him/her achieve his learning and career objectives. From another source, trust has

been defined as the willingness of a student to rely on an exchange partner in whom they have confidence and reliability (Morgan & Hunt, 1994c). For the relationship to exist, it must work both ways for both parties i.e. both HEIs and the student (Berry, 1995). Similarly, trust was conceptualized as the basis of exchange relationships (Morgan & Hunt, 1994a). The first research question seeks to find out if trust relates with student loyalty in the Nigerian HEIs. In line with the research question, the first objective of the study concerns with examining the relationship between trust and student loyalty in the Nigerian HEIs.

H4: Trust is positively associated with student loyalty in the Nigerian HEIs.

The findings of the study have shown that trust is statistically significant to student loyalty in the Nigerian HEIs, and therefore hypothesis (H4) is supported. Trust has been found to be significant and it positively influences student loyalty through word-of-mouth recommendation (Sergio Carvalho & de Oliveira Mota, 2010b), increased retention and also student loyalty (Ghosh & Mukerjee, 2001). Therefore, trust is positively and significantly associated with student loyalty. Previous empirical studies in HEIs have found that trust is a significant determinant of student loyalty (Leonard Berry, 1995a; Chaudhuri & Holbrook, 2001a; Verhoef et al., 2002b).

Hence, trust was found to have a positive relationship with loyalty in the HEIs Nigerian. These findings are in line with the previous studies on the role of trust in HEIs (Bowden & Wood, 2011). If a student wants to engage in a relationship with service providers that already exist, the student will perceive that there are very limited risks involved in forming such a relationship. HEIs are normally, endorsed

and regulated service industry, so an evaluation of trust may be based on the goodwill and reputation of the HEIs, prestige, overall reputation and longevity in the market (Bowden & Wood, 2011). In the present study, HEIs is supervised by the National University Commission (NUC) involved in the setting of minimum quality standard, as well as in administering the curriculum development of HEIs in Nigeria.

6.3.5 Influence of Service quality on Student Satisfaction

Thus, service quality refers to the student's judgment on the status of an entity overall superiority (Ziethaml et al., 1996). The second research question aims to find out if service quality influences student loyalty in the Nigerian HEIs. In line with the research question, the second objective of the study seeks to examine the relationship between service quality and student satisfaction in the Nigerian academic institutions.

H5: Service quality is positively related to student satisfaction in Nigerian HEIs.

The findings of the study have shown that service quality is statistically significant to student satisfaction and hence H5 is supported. Service quality has a positive impact on student satisfaction, thus, the HEIs should mainly throw some light on satisfying student's requirements and offering reliable and quality service to the student who is a customer to the HEIs. The significance of H5 is in line with researchers' standpoints for instance (Bitner, 1990). A very good and sound service quality is the key factor to create student satisfaction other than it becoming an antecedent (Anderson & Sullivan, 1993b). Thus, the student satisfaction is positively significant and to some large extent, it is influenced by perceived service quality. Similarly, student satisfaction is mostly connected with the implementation process rather than the

process supporting the key process. It is possible that the support process does not facilitate satisfaction, and if they are inappropriate quality they would bring about student dissatisfaction. Similarly, students were mostly very satisfied with the existing supporting services. Therefore, HEI administrators should mainly focus on courtesy, knowledge and the ability to satisfy the promised service delivery to improve service quality. The result confirms the path which stated that service quality is an antecedent of customer/student satisfaction in predicting the sense of loyalty of the students.

6.3.6 Influence of University Image on Student Satisfaction

University corporate image can be described as HEIs goodwill which is reflected and held in the students' memory (Nguyen & LeBlanc, 2001; Nguyen, Allen, & Fraccastoro, 2005). University image is denoted as subjective knowledge, an attitude such as ideology, corporate name, goodwill and reputation and delivery system quality level and all the above features contribute to the creation of the corporate image of an institution. The second research question needs to find out if the university image influences student satisfaction in the Nigerian HEIs. In line with the research question, the second objective of the study seeks to examine the relationship between university image and student satisfaction in the Nigerian HEIs.

H6: University image is positively associated with student satisfaction in the HEIs.

The results have shown that the relationship between university image and student satisfaction is significantly related and hence H6 is supported. In particular, the present findings of the study are in line with (Andreassen & Lindestad, 1998b). In this

case, the combination of a positive university image and student satisfaction is very significant as in this research student loyalty was explained by four significant indicators; the willingness to recommend and willingness to select the HEIs over and over again. In the case of a positive university image, there is a dual effect that is the willingness to recommend and popularize the institution name which, in turn, can interest new students. Similarly, the student himself, being confident of the HEIs service quality standard and professionalism, will tend to be ready to choose the services of the HEIs again.

6.3.7 Influence of Commitment on Student Satisfaction

The commitment was described as the desire of the HEIs to make an effort to maintain and sustain the relationship between a student who is a customer and the institutions, which is under normal circumstances, perceived as being worthwhile (Erin Anderson & Weitz, 1992). The second research question seeks to find out if commitment influences student satisfaction in the Nigerian HEIs. In line with the research question, the second objective of the study aims to examine the relationship between commitment and student satisfaction in the said institutions.

H7: Commitment is positively associated with student satisfaction in the HEIs.

The findings revealed a significant positive relationship between commitment and student satisfaction in HEIs in Nigeria and hence H7 is supported. The study agrees with the commitment-trust theory of relationship marketing which elaborates on this fundamental logic to propose that commitment as a dimension of RM has named

commitment as the key factor and the determinant of cooperative behaviors conducive to relationship marketing success (Morgan & Hunt, 1994b).

The findings of this study suggest that HEIs should focus on increasing students' willingness and their desire to enter into an exchange relationship with the HEIs. Furthermore, once the student is attracted to the service of the HEIs, and with a proper understanding of the initial benefits that can be obtained from patronizing the service providers, managers and administrators of HEIs can work better on and execute sound HEIs strategies aiming at deepening and maturing the relationship. Hence, this explained that the university and student relationship is not only enhanced and maintained through satisfaction and commitment but rather through students' perceptions of the benefits of the exchange relationship, as well as to maintain and enhance the exchange relationship, which also becomes a significant influence on student satisfaction and loyalty.

6.3.8 Influence of Trust on Student Satisfaction

The concept of trust can be defined as the willingness of the party to be vulnerable enough to the actions of another party based on the expectations that the other party will perform a particular action to the trustee, irrespective of the ability to keep track and follow the other party (Mayer & Davis, 1995). The second research question wants to find out if trust influences student satisfaction in the Nigerian HEIs. In line with the research question, the second objective of the study was to look into the relationship between trust and student satisfaction in the Nigerian HEIs.

H8: Trust is positively associated with student satisfaction in the HEIs.

The findings of this study also revealed a significant positive relationship between trust and student satisfaction in HEIs and hence H8 is supported. Thus, the result is in line with previous studies such as (Moorman, Zaltman, & Deshpande, 1992b; Morgan & Hunt, 1994d). Meanwhile, trust can also be described as being honest, confidence, truthfulness, and faith in business communication between parties (Tsiros et al., 2004). Trust is widely believed to be a second key construct in the exchange relationships between a student and HEIs. The student has the willingness to rely on and confides in the HEIs to provide learning materials and current journals for research, and once when trust increases in a relationship and also confidence in the students and HEIs the relationship increases accordingly.

6.4 Relationship between Student Satisfaction and Student loyalty

The concept of student satisfaction is summarized in this study as the extent to which students will experience a pleasurable level of consumption to fulfill certain needs (Oliver & Burke, 1999a). The third research question asks if student satisfaction influences student loyalty in the Nigerian HEIs. In line with the research question, the third objective of the study was to ascertain the relationship between student satisfaction and student loyalty in the Nigerian HEIs.

H9: Student satisfaction is positively associated with student loyalty in the Nigerian HEIs.

Student satisfaction has a positive influence on student loyalty and therefore H9 is supported. Hence, loyalty will show the behavior of repurchase for the same service providers of HEIs. Additionally, loyalty will retain a student to continue with studies in the same HEIs when he or she plans to further his or her studies. A student who is satisfied with a service provider will naturally increase his level of loyalty to the HEIs, and thus student satisfaction was found to have a significant positive effect on student loyalty. Thus, these findings sit well with previous research suggesting that satisfaction predicts loyalty, customer turnover, repeat purchase, recommendation (Bolton, 1998; Gremler & McCollough, 2002; Gustafsson, Johnson, & Roos, 2005b). This is also consistent with the prior findings in HEIs, suggesting that student satisfaction strongly predicts relationship continuity, a positive recommendation, a positive image of the institutions, along with the positive image and reputation of the program (Al-Alak, 2006b; Helgesen & Nessel, 2007a).

The findings of the studies have pointed to the effect of satisfaction on student loyalty in the service-oriented industries and the study was backed by prior studies (Martensen, Grønholdt, et al., 2000). In the same way, with regard to the effects on satisfaction, several studies have given proof that satisfaction is positively linked with loyalty (Cronin, Brady, & Hult, 2000; Greenland, Lam, & Irwin, 2004; McDougall & Levesque, 2000). In this study, student satisfaction has a strong positive and significant influence of student loyalty. This result suggests that maintaining satisfaction that will be enhanced in HEIs would lead to student loyalty to attract and maintain students post-graduation from the HEIs. In addition, the results support

earlier findings within the HEIs. The findings indicate that the establishment of student satisfaction is a remarkable component in the development of a commitment relationship between satisfaction and loyalty in the institutes. Therefore, student satisfaction is greatly determined by whether or not the expectations are fulfilled. HEIs providers, would, therefore, take advantage more from identifying student's expectations before they enter the HEIs. In addition, HEI managers must be able to establish a baseline for the minimum performance in the delivery of the HEIs educational services and data could also be obtained from online enrollment or survey data can be obtained before their entrance to HEIs and even while on campus.

Similarly, when student expectations are recognized earlier on, HEIs could formulate policies to achieve the student expectations. Thus, HEIs aim to provide the most appropriate facilities and resources to a student in order to improve student's participation in HEIs experience. This is very important because students are considered as co-creators of HEIs experiences and play a pivotal role in the extraction of value from the service provided, but satisfaction is found to be very important to assure loyalty in HEIs.

6.5 Mediating Effects

6.5.1 Student Satisfaction on Service quality and Student loyalty

The fourth research question was to find out if student satisfaction mediates the relationship between service quality and student loyalty in the Nigerian HEIs.

Harmonious with the research question, the fourth objective of the study was to check on the mediating effect on the relationship between service quality and student loyalty in the Nigerian HEIs.

H10: Students satisfaction mediates the relationship between service quality and student loyalty in the Nigerian HEIs.

The result revealed further that student satisfaction is not a mediator of the relationship between service quality and student loyalty in HEIs and hence H10 is not supported. An indirect relationship of service quality to student loyalty through the intermediate influence of student satisfaction is not significant and additionally, not supported. This finding is not inconsistent with the researchers' expectation, as it was found that there is a negative result, and many scholars have the view that a negative result may also be considered as a contribution as it tends to reveal the truth (Bertea & Zait, 2013). In addition, other studies conducted on four service industry namely communication, travel agency, health service and recreation, a mediating of customer satisfaction were found on the connection between perceived service quality and customer satisfaction. However, health industry confirms that there is no meditation on the link between perceived service quality and customer loyalty (Taylor & Baker, 1994).

The result of the study is in sync with the previous study for example SERVQUAL model that was used to measure the expectations and perception of public listed companies, where structured questionnaires were distributed to 500 public listed companies on the nature of services received from the audit firms. They found that

companies were content with only the tangible dimension of service quality, while they were unhappy with the other four dimensions. Nonetheless, the most common expressed dissatisfaction was empathy as the service quality dimension. However, customer satisfaction partially mediates the relationship established between reliability and customer loyalty.

The study is consistent with the social exchange theory stressing on the fact that students are psychologically indebted and hence compelled to return benefits that they have received in the form of quality service delivery to the HEIs that benefited them. Thus, students will be obligated to reciprocate good to those who have benefited them and this becomes the focus of the expectation-disconfirmation theory(Richard L. Oliver, 1980a), where it holds that satisfaction is considered as a function of previous expectations and disconfirmation, when the students are satisfied in the case of positive disconfirmation and dissatisfied in the case of negative disconfirmation. Therefore, the sound quality of service will lead to higher satisfaction and as a result, satisfaction will produce greater willingness among the students to recommend the service providers to others.

6.5.2 Student Satisfaction on University Image and Student Loyalty

The next research question asks if student satisfaction mediates the relationship between university image and student loyalty in the Nigerian HEIs. In this vein, the fourth objective of the study was to investigate the mediating relationship between university image and student loyalty in the Nigerian HEIs.

H11: Student satisfaction mediates the relationship between university image and student loyalty in the Nigerian HEIs.

The result further showed that student satisfaction mediates the relationship between university image and student loyalty in the Nigerian HEIs and hence H11 is supported. In HEIs if the student's expectations are satisfied by the service provider, student positive experience and satisfaction will be certain. Hence, the results demonstrated that the relationship is significant and supported, which is in line with the expectation upheld in the social exchange theory. Students will feel the responsibility to patron university education where he or she already knows the goodwill and reputation of the HEIs, where students are more satisfied and comfortable with high ranking institutions in order to give them advantages while looking for a job in the wider market.

6.5.3 Student Satisfaction on Commitment and Student loyalty

The fourth research question seeks to know if student satisfaction mediates the relationship between commitment and student loyalty in the Nigerian HEIs. In line with the research question, this objective studies the mediating relationship between commitment and student loyalty in the Nigerian HEIs.

H12: Student satisfaction mediates the relationship between commitment and student loyalty in the Nigerian HEIs.

From the result, student satisfaction obviously mediates the relationship between commitment and student loyalty and hence H12 is supported. The social exchange theory which is in line with the direction of the study emphasizes that a satisfied

student is always psychologically committed to the service of the HEIs and are compelled to receive benefits in materials or non-material form from the HEIs which they have benefited from within certain periods of time. Alumni students will only be committed to reciprocating a strong sense of belonging with their HEIs which they feel have treated them well previously.

6.5.4 Student Satisfaction on Trust and Student loyalty

The fourth research question checks if student satisfaction mediates the relationship between trust and student loyalty in the Nigerian HEIs. The study objective seeks to examine the mediating relationship between trust and student loyalty in the Nigerian HEIs.

H13: Student satisfaction mediates the relationship between trust and student loyalty in the Nigerian HEIs.

The result revealed that student satisfaction mediates the relationship between trust and student loyalty in the Nigerian HEIs and hence H13 is supported. Meanwhile, this study probed into the role of trust in HEIs through the intermediate influence of student satisfaction and it is found that the role is significant. The result of the study is in line with social exchange once the students are satisfied with the service rendered by the HEIs and established confidence with HEIs; they will definitely make some contributions to the HEIs in whatever forms possible.

It is argued by the researcher that in the context of the study, student satisfaction mediates the relationship between trust and loyalty because trust and confidence make

up an attribute of trust, and it is very common in the context of the study for university students to demonstrate confidence and trust in the HEIs, which through time, will lead to loyalty.

6.6 Moderating Role

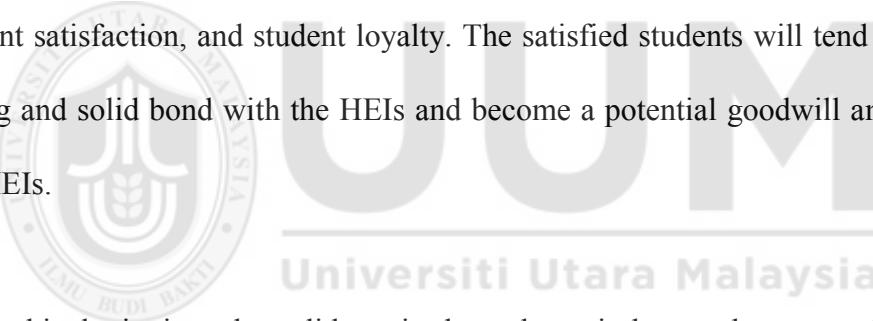
6.6.1 Technology innovation on Student Satisfaction and Student loyalty

By definition, the concept of technology innovation refers to the creation or a strategy of improvement of technological, strategic or managerial ideas, services rendered technically, or processes products (Tornatzky & Fleischner, 1990). The fifth research question revolves around whether technology innovation moderates the relationship between student satisfaction and student loyalty in the Nigerian HEIs. In line with the research questions, the fifth objective of the study wants to see whether technology innovation moderates the relationship between student satisfaction and student loyalty in the Nigerian HEIs.

H14: Does Technology innovation moderate the relationship between student satisfaction and student loyalty in the Nigerian HEIs?

From the result, it is a clear indication that technology innovation moderates the relationship between student satisfaction and student loyalty in the Nigerian HEIs and hence H14 is supported. In study context, technology innovation improves student satisfaction more effectively to lead to student satisfaction, which also leads to loyalty in HEIs, while it has a relation with both student satisfaction and student loyalty. Also, technology innovation is strongly and positively linked with student satisfaction

and student loyalty, technology innovation is positively significant. Technology innovative services do not just add value to the student but they also improve their learning experience and satisfaction in HEIs. In turn, this added value gives particular HEIs i.e. the university a greater competitive advantage over and above its competitors globally. This is because student loyalty helps retain existing students for future studies, and contributes to those who make recommendations for the HEIs. A recommendation by the student to others is a clear expression of the positive practical experience of a student of HEIs. Thus, HEIs who achieve higher levels of loyalty are most likely to achieve higher levels of student recommendations (word of mouth). Common wisdom suggests that innovation increases the value of service, influences student satisfaction, and student loyalty. The satisfied students will tend to develop a strong and solid bond with the HEIs and become a potential goodwill ambassador of the HEIs.



Also, this logic is only valid as it depends entirely on the type of technology innovation in question. Besides, students do not only expect to receive good value services but also they want to use a continuous stream of technology innovations so that they do not feel left behind as compared to other students in other HEIs. Thus, service providers who will focus on technology innovations will have the tendency to get higher levels of loyalty among their students. Technology innovation as a moderating variable is important because it plays a significant role in gaining student loyalty, it shapes the way individual students feel and think by being able to access materials online. HEIs with high technology innovation are more likely to get student

loyalty and the relationship will be stronger for HEIs with high technology innovation, instead of HEIs with low-technology innovation. Technology innovation has consolidated the relationship between student satisfaction and loyalty and gives HEIs a competitive advantage to attract student loyalty.

6.7 Theoretical Implications

The theoretical framework of the present study was obtained from the theoretical gaps and prior empirical evidence has been outlined in the literature review. The framework was supported and explained by two main underpinning theories which shed light on the constructs of the study. The studies focus mainly on the theoretical contribution by adding empirical evidence in the domain of Social Exchange Theory (SET) and Expectation-Confirmation Theory which mainly hinges on the relationship between student satisfaction and student loyalty as the integrating variables.

Furthermore, constructs such as student satisfaction mediate the relationship between three independent variables namely (university image, trust, commitment) and student loyalty as the dependent variable and the study tested the model in the Nigerian HEIs context which has, unfortunately, received very scant attention by researchers. This study has reduced the gap by bringing the picture technology innovation as a moderating variable to enhance the understanding of the influence of student loyalty on the relationship between student satisfaction and loyalty among students in the

Nigerian HEIs. Based on the results, one conclusion is that the adoption of technology innovation plays a significant role in explaining HEI students' loyalty.

6.8 Practical Implications

Based on the research findings, the present study has introduced several practical implications with regard to the service quality, university image, and relationship marketing in the context of the Nigerian university practices. Firstly, the results suggest that perceptions of student satisfaction are a significant consideration in managing, attracting and retaining student loyalty in Nigerian HEIs. HEIs can make considerable efforts in reducing the occurrence of student disloyalty by enhancing the service quality delivery to accomplish the goals of higher quality education as one of the primary objectives upheld by the HEIs in Nigeria.

The moderating role of technology innovation suggests that innovation can minimize the tendencies of students to get involved in disloyalty acts. Therefore, universities administrators may need to consider bringing technology innovation into the teaching, learning, research and development as a marketing strategy of attracting and retaining students' loyalty in the Nigerian HEIs. The university administrators can achieve this by making very credible selection criteria when making decisions in academic processes to select those academic and non-academic staff whose value and qualification sit well with the HEIs and also to filter those whose values are incompatible and incompetent for the service delivery.

In marketing, for HEIs that wish to retain its students who are the real customers of the HEIs, they need to get better acquainted with the students to identify their needs, expectations, and wants. This means that the institutions have to spend a lot of time outside the traditional functions with the students, in various ways. The main motive is for the HEIs to identify its students' expectations and manipulating the expectations to serve them better.

Another practical significant of the present study is the positive significant moderating effect of technology innovation on the relationship between student satisfaction and loyalty in the Nigerian HEIs- one that is said to have an important managerial implication. The intense globalization of HEIs market with foreign students across international boundaries coupled with the natural characteristics of individual students, also the technology innovation present the understandings of the cultural context with regard to attracting students and retaining their loyalty in the Nigerian HEIs.

Hence, the instant access to student profile online, HEIs that invests a lot in information and communication technology, and innovation should be able to win students' hearts and minds. With this type of information available, the HEIs management may do what they can to draw students' attention and loyalty more effectively.

6.9 Limitations and Future Research Directions

The above-mentioned discussion of the limitations proposes a host of additional research which may extend the findings of this study, even though the study has provided various hypothesized relationships between the exogenous and endogenous latent variables.

The present study offers and makes recommendations for future research to make the findings of the study more robust. The limitations based on the findings of the study include the following.

The present study only adopted one instrument that is a questionnaire to collect data that is quantitative in nature. Future studies may want to use qualitative techniques of data collection like in- depth observation, interview or mixed method to investigate the level of service quality, university image, commitment, trust towards loyalty among students studying in higher learning institutes.

The present study throws some light on HEIs, as future researchers may empirically test the constructs in other contexts to validate further the acceptability of the conceptual model as developed in this study.

The present study focuses mainly on student loyalty in the Nigerian HEIs and the case used in this study was only limited to 446 valid responses obtained from federal universities in Nigeria. Fundamentally speaking, the sample was sufficient which

resulted in 83% response rate. However, future studies that conduct a similar study in the same industry may need to use larger population, which should increase the sample size that is relative to their total population.

The study design used a cross-sectional research design which does not permit causal inferences to be made from the study population. Hence, this study was not being able to measure long terms influence of student loyalty in HEIs. On the other hand, a longitudinal method might be appropriate, where it will make an allowance for the researchers to analyze, the long-term influence of students loyalty in HEIs in Nigeria. Data can be collected a number of times during a period to see the influence of service quality and relationship marketing dimensions on student loyalty. A longitudinal study would permit an assessment of causality relationships normally impossible in cross-sectional data (Doucette & Child, 1996). Therefore, a longitudinal research design needs to be deliberated in the future measuring of the theoretical constructs at different points in time.

The present study adopts the probability sample technique and the findings of the study cannot speak for the entire population. In other words, only one sample frame has obtained the findings of the study which cannot be generalized to all students in the Nigerian universities. Therefore, the future study needs to adopt non-probability sampling technique so that more than one sample frame can be used.

The present study only covers undergraduate and postgraduate students in the Nigerian universities. Subsequent studies need to shed light on other HEIs in Nigeria such as the polytechnics, mono technics, and colleges of education.

Additionally, a research model was only able to explain 54% and 72% of the total variance in student loyalty and student satisfaction respectively, even though the coefficients of the determination obtained are considered acceptable and statistically adequate (Cohen, 1988; Falk, 2009). Previous studies have also recorded similar coefficients of determination in a related context such as (Caceres & Paparoidamis, 2007; Coelho & Henseler, 2012; Ehigie & Taylor, 2009), indicating that other variables that could also significantly explain invariance of student loyalty and student satisfaction respectively also exist. In other words, the rest- 46% and 28% of the variance for student loyalty and student satisfaction respectively could be explained by other factors. Therefore, future research is needed to consider other factors that can attract students and retain their loyalty in HEIs - these include perceived value, word- of- month and brand equity.

Similarly, future research may be timely when it comes to examining how technology innovation and student satisfaction could further cushion the relationship between service quality, university image, commitment, trust and student loyalty in other industries or sectors.

In particular, the non- mediating relationship between student satisfaction, service quality, and student loyalty is found to be not significant and with this, H10 is not supported. Therefore, future research needs to investigate such mediator on the relationship between the variables. Therefore, future research is necessary to confirm whether another mediating variable can consolidate this relationship.

This research sheds light on students in federal universities in Nigeria, as the respondents. Therefore, focusing only on students can also pose as a limitation. In this vein, future studies should take into account lecturers and university management as an equally important component in the Nigerian HEIs as their analysis unit.

6.10 Conclusion



The study has provided additional evidence to the growing body of knowledge with respect to the mediating and moderating variables of student satisfaction and technology innovation respectively, on the relationship between service marketing, relationship marketing, and student loyalty. All the results from this study have supported the theoretical propositions. Similarly, the current study has answered the entire research questions and the research objectives successfully despite the shortcomings. Furthermore, the study recognizes the theoretical and practical gaps from the literature reviews and it was addressed by incorporating technology innovation as a significant moderating variable on the relationship between student satisfaction and student loyalty in HEIs. On the same note, the study also addressed

the mediating significant on the relationship between university image, commitment, trust and student loyalty, and non-significant mediating of student satisfaction on the relationship between service quality and student loyalty in the Nigerian HEIs context.

However, the study results have provided some significant practical implications to HEIs administrators. Despite the limitations of the current study, several future research directions have been set. In sum, the current study has added valuable theoretical and practical contributions to the growing body of knowledge in the field of service and relationship marketing, especially in higher education institutes.



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Appendix A



I am a Ph.D. A research student of School of Business Management, College of Business, Universiti Utara Malaysia (UUM) conducting a research study on the factors influencing student loyalty in the Nigerian Higher Education Institutions. You are hereby solicited to give your objective opinion on the subject matter.

You are assured that your identity and response will be treated strictly confidential for academic purpose only. There is no right or wrong answers to the questions and statements. I will highly appreciate if you create time to fill this questionnaire, please.

Thank you very much for your willingness to participate in this survey study.

Ph.D. candidate

Umar Usman
School of Business Management
College of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman, Malaysia

Supervisor

Assoc. Prof. Sany Sanuri Mohd Mokhtar
School of Business Management
College of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman, Malaysia

Part A: Structured Questions

The factors Influencing Students Loyalty in Higher Education Institutions in Nigeria
Please tick the appropriate column as it applies to your view on each item in the questionnaire;

Strongly Disagree (SD)	Disagree (D)	Somehow Disagree (SD)	Moderate (M)	Somehow Agree (SA)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5	6	7

SL	Student loyalty	Strongly Disagree to			Strongly Agree			
		1	2	3	4	5	6	7
SL01	I say positive things about my university to others							
SL02	I recommend my university to a student who seeks my advice.							

SL03	I encourage friends and relatives to study in this university.	1	2	3	4	5	6	7
SL04	I consider my university to be my first choice for the post-graduate program.	1	2	3	4	5	6	7
SL05	I am willing to maintain my relationship with my university even after graduation.	1	2	3	4	5	6	7
NA	Non-Academic aspects							
NA01	The management used sympathetic and reassuring in solving problems in the university.	1	2	3	4	5	6	7
NA02	I have trust in the Non-Academic staff of the university.	1	2	3	4	5	6	7
NA03	The non-Academic staff of the university cares with student complaints.	1	2	3	4	5	6	7
NA04	The non-Academic staff has Knowledge of procedures in the university.	1	2	3	4	5	6	7
NA05	The non-Academic staff Provides service within a reasonable time in the university.	1	2	3	4	5	6	7
NA06	The non-Academic staff provides equal treatment and respect to students in the university.	1	2	3	4	5	6	7
NA07	I am satisfied with the fair amount of freedom in the university.	1	2	3	4	5	6	7
NA08	Staff provide confidentiality of information	1	2	3	4	5	6	7
NA09	The staff can easily be contacted by their cell telephone	1	2	3	4	5	6	7
NA10	The staffs provide counselling services to students.	1	2	3	4	5	6	7
NA11	The staff can easily standardized and simple delivery procedures for students	1	2	3	4	5	6	7
AA	Academic aspects							
AA01	The academic staff of this university has knowledge of course content.	1	2	3	4	5	6	7
AA02	The academic staff of this university show positive attitude to students.	1	2	3	4	5	6	7
AA03	The academic staff of this university has good communication skill to their students.	1	2	3	4	5	6	7
AA04	The academic staff of this university has good feedback on progress to their students.	1	2	3	4	5	6	7
AA05	The academic staff of this university has good excellent quality programs to their students.	1	2	3	4	5	6	7
AA06	This university has variety of programmes	1	2	3	4	5	6	7
AA07	This university has flexible syllabus and course structure.	1	2	3	4	5	6	7
AA08	This university has reputable academic programmes	1	2	3	4	5	6	7
AA09	This university has educated and experience academicians	1	2	3	4	5	6	7
AA10	This university provide feedback to improve	1	2	3	4	5	6	7

	service performance						
Reliability							
RB01	My university kept promises	1	2	3	4	5	6 7
RB02	I depend on the service of my university	3	4	5	6	7	6 7
RB03	My university provides services on time.	1	2	3	4	5	6 7
RB04	I feel secured in dealing with my university.	1	2	3	4	5	6 7
RB05	I am always polite in dealing with my university	1	2	3	4	5	6 7
RB06	I have Sufficient and convenient consultation time with my university	1	2	3	4	5	6 7
RB07	My university has positive work attitude student's union	1	2	3	4	5	6 7
EP Empathy							
EP01	My university respond to request promptly	1	2	3	4	5	6 7
EP02	My university show Individualized attention to students	1	2	3	4	5	6 7
EP03	My university give personalized attention	1	2	3	4	5	6 7
EP04	My university identify student needs	1	2	3	4	5	6 7
EP05	My university Keep student interests at heart	1	2	3	4	5	6 7
UI University Image							
UI01	The Perception of my university to the general public is high.	1	2	3	4	5	6 7
UI02	The perception of my university among employers is high	1	2	3	4	5	6 7
UI03	The university college has a good image to the students.	1	2	3	4	5	6 7
UI04	My university is an active sponsor of community events in the society.	1	2	3	4	5	6 7
UI05	My university has a good image in the minds of the students	1	2	3	4	5	6 7
SS Students Satisfaction							
SS01	My choice to select this university was a wise one.	1	2	3	4	5	6 7
SS02	I am always delighted with this university's service	1	2	3	4	5	6 7
SS03	Overall, I am satisfied with the service of this university	1	2	3	4	5	6 7
SS04	I think I did the right thing when I decided to select this university	1	2	3	4	5	6 7
SS05	I always feel good about using this university	1	2	3	4	5	6 7
TI Technology Innovation							
TI01	I used the Internet to support my studies at my university.	1	2	3	4	5	6 7
TI02	I used to download e-books from the university library.	1	2	3	4	5	6 7
TI03	While in the university used email to communicate	1	2	3	4	5	6 7
TI04	Learning to use the web to disseminate information is easy for me.	1	2	3	4	5	6 7

TI05	I can easily find what I am searching for through the university website.	1	2	3	4	5	6	7
TR Trust								
TR01	I count on my university to provide me with a good service	1	2	3	4	5	6	7
TR02	This university usually keeps the promises that it makes to me	1	2	3	4	5	6	7
TR03	This university puts the students' interests first	1	2	3	4	5	6	7
TR04	This university can be relied on to keep its promises	1	2	3	4	5	6	7
TR05	I have confidence on my university	1	2	3	4	5	6	7
COM Commitment								
CO01	I feel emotionally attached to this University	1	2	3	4	5	6	7
CO02	This University has a great deal of personal meaning to me	1	2	3	4	5	6	7
CO03	I have a strong sense of identification with this University.	1	2	3	4	5	6	7
CO04	I remain a strong customer to this university	1	2	3	4	5	6	7
CO05	I feel a strong sense of belonging to this university	1	2	3	4	5	6	7

Section B:

Please read and tick as appropriate option in the provided boxes your exact assessment of the following demographic information:

1. Gender:

Male	1
Female	2

2. Age:

Below-25years	1
26-33years	2
34-41years	3
42 & above	4

3. Marital Status:

Married	1
Single	2
(Others); Divorced/Widow/Separated	3

4. Highest Qualifications:

SSCE/NECO	1
ND/NCE	2
Degree	3

5. Student Status:

Undergraduate (UG)	1
Postgraduate (PG)	2

Thank you for your participation

Appendix B

Publications/Presentations and Publications-Published/Accepted

1. Umar, U. & Mokhtar S.S.M.(2015). Analysis of Service quality, University Image, and Student Satisfaction on Student Loyalty in Higher Education, Journal of International Business Management. Indexed in SCOPUS
2. Umar, U. & Mokhtar S.S.M.(2016). Mediating Effect of Satisfaction on Service Quality, Image and Student Loyalty in Higher Education. Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 7668. Volume 18, Issue 2 .Ver. IV (Feb. 2016), PP 69-72 www.iosrjournals.org
3. Umar, U. & Mokhtar S.S.M.(2016). Moderating Effect of Technology Innovation on Service Quality, Image and Student Loyalty in Higher Education. ISSN: 2249-7196 I. International Journal of Management Research & Review
4. Umar, U.& Mokhtar S.S.M.(2015).Empirical evidence of E-banking and customer perception of banks in Nigeria. Nigerian Journal of Management Technology and Development

Publications-Under Review

5. Umar, U. & Mokhtar S.S.M.(2016). Antecedents of Students Loyalty in Nigeria Mediating effects of Student Satisfaction. Manuscript Submitted to Asia Pacific Journal of Marketing and Logistics: Indexed in SCOPUS
6. Umar,U. & Mokhtar S.S.M.(2016). Relationship Marketing: The Hidden Driver of Customer Loyalty, An Unpublished textbook

Colloquiums/Conferences

7. Umar, U.& Mokhtar S.S.M.(2014). Impact of Relationship Marketing on HEIs Performance in Nigeria, presentation of Ph.D. Research Idea at Postgraduate Research Symposium on SBM UUM. May 2014.
8. Umar, U. & Mokhtar S.S.M.(2014). Effects of Global Financial Crisis on Employee's Health and Safety of Multinational Oil Companies in Nigeria, 21st-22nd May 2014 The 7th National Human Resource Management Conference, organized by SBM-COB-UUM.
9. Umar, U.& Mokhtar S.S.M.(2015).Employees Welfare and Social Benefit of Multinational oil companies in Nigeria. April 5-7, 2015, An International conference on Human Resource Development UTM.