Mediating Effect of Satisfaction on Service Quality, Image and Student Loyalty in Higher Education

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Abstract*: The higher education sector is characterized by the rapid growth of innovation trends as well as regular growing competition. Service quality, university image, and student satisfaction and student loyalty are thought of as key solutions to this predicament. However, the main purpose of this study was to test the mediating effect of student satisfaction on service quality, university and student loyalty. Data was collected via questionnaires from both undergraduate and postgraduate students from six federal universities in Nigeria and the data was analyzed using Partial Least Squares structural equation modelingtechnique. The result revealed that service quality, university image had a direct significant positive impact on student loyalty, and while a test of mediation also confirmed that student satisfaction mediated the relationship between service quality; university image and student loyalty. Implications of these findings are further explored.Finally the study suggests that, future studies need to adopt non-probability sampling technique to go beyond using only one sample frame.*
Keywords*: Satisfaction, Service quality, Image, Student Loyalty*

I. Introduction

The expansion strategy of an increase in the number of higher education in the country is to address the issues of the demand of the growing population and to attract student's loyalty from other African countries. However, HEIs has issues related to instructional quality, funding, staffing and in term of the availability of facilities such as the lecture halls are severely overcrowded, the lecturer to students ratio have skyrocketed, with an estimated of 40% University positions and while 60% of polytechnic position are unstaffed. They are issues facing higher education institution in Nigeria to attract, retain, maintain and enhances student loyalty from other African countries (Adeyemi & Adenuga, 2011).

According to Wallet(2015) in the African continent Morocco is rated to be with the highest population of students pursuing higher education abroad and while Nigeria is rated to be the second country in Africa that sends their students population to overseas to acquire higher education. The total number of Nigerian students studied abroad as at the year 2014 is estimated to be not less than thirty nine thousand (39,000) students and many educationist are of the view that the number is considerably higher because many Nigerian students are currently taking admission place in private neighboring universities such as Ghana and south African etc.

1.1 Research Issues andObjectives

Similarly, higher education institutions are facing issues related to instructional service quality delivery, low funding of university education, staffing with lower qualification and in term of the availability of facilities such as the lecture halls are severely overcrowded, the lecturer to students ratio have skyrocketed, with an estimated of low staff to students ratio.

The main objective of the study was to test the mediating effect of student satisfaction on the relationship between service quality, university and student loyalty in higher education institution in Nigeria. And other specific objective include

  i. To examine the relationship between service quality and student loyalty in the Nigerian HEI's.
 ii. To examine the relationship between university image and student loyalty in the Nigerian HEI's.
iii. To examine the mediating effect of student satisfaction on the relationship between service quality and student loyalty in the Nigerian HEI's.
 iv. To examine the mediating effect of student satisfaction on the relationship between university image and student loyalty in the Nigerian HEI's.
  v. To determine the relationship between student satisfaction and student loyalty in the Nigerian HEI's.

Section A: Materials and Methods
Student Loyalty and Higher Education Institutions

Student loyalty who are the customer to the higher education institutions (HEIs)is the behavior of customer to maintain a relation with an institute through purchase of its products and services (Behara, Fontenot, & Gresham, 2002; Singh & Sirdeshmukh, 2000). Similarly, customer loyalty can be further placed into two categories; one is a long-term, and while arguably the more valid relationship, on the other hand is a short-term relationship, where the customer will likely switch if and when a relatively better alternative is to be presented to him or her (Jones & Sasser, 1995).

Service Quality and Student Loyalty

Basically, customer satisfaction is relatively, based on the quality of the service received from the HEIs and the benefits obtained from such service providers(Iacobucci, Ostrom, & Grayson, 1995). Positive customer satisfaction in respect of service quality is commonly observed as the means of creating customer loyalty in the service sectors such as the HEIs (Iacobucci et al., 1995). Customer satisfaction and service quality are concepts that would seem to be very similar in nature. The distinction between the concepts is thus a common topic of discussion. Hence several research into the relationship between service quality, purchase motivation and customer satisfaction shows that service quality positively affects customer satisfaction and customer loyalty. However, it was observed that customer satisfaction affects purchasingmotivation, suggesting a connection with customer loyalty (Cronin & Taylor, 1992). According toBitner, Faranda, Hubbert, & Zeithaml (1997) view customer as being wider in scope than service quality, and includes factors such as service quality, price, product quality, other surrounding factor such as personal. Therefore, several studies have related service quality and student loyalty as seen above and in view of the discussion above leads to the formulation of the following hypothesis.

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

University Image and Student loyalty

Several literatures on a general consensus on the significance of university image on student loyalty who are the customer to the service of the university(Smith &Park, 1992). Similarly, which is a valid observation that has undergone empirical verification(Selnes, 1993).University institutional image is a symbol of institutional image of product and services this relationship provide the customers with some preliminary understanding of an institutional value and thus decrease customer uncertainty in making purchasing decisions(Robertson & Gatignon, 1986).In conclusion therefore, a good institutional image can leads to student loyalty. The following hypothesis will therefore be investigated:

H2 University Image is positively associated with student's loyalty in the HEIs

2.4 The Relationship between Student Satisfaction, Service Quality, University Imageand Customer Loyalty.

According toBitner (1990)is with the believed that customer satisfaction has a positive relationship with loyalty. When customer satisfaction increase that will motivates customers to continues and repeat their purchase at the given service provider(E. W. Anderson & Sullivan, 1993; Hart, Heskett, & Sasser, 1990; Reichheld & Sasser, 1990; Woods et al., 2006).In some studies conducted by previously researchers such as Martensen, Grønholdt, Eskildsen, & Kristensen(2000), it was found that in more service oriented industries such as telecommunications and financial services, there is a positive and significant relationship between customer satisfaction,service quality, university image and loyalty. The study suggests that customer satisfaction is greatly relevant in competitive industries. The study suggests that student satisfaction who is the customer of the institution is greatly relevant in competitive industries. Two hypotheses are thus presented from the above discussion;

H3 Does student satisfaction mediates the relationship between service quality and student's loyalty in the HEIs.
H4 Does student satisfaction mediates the relationship between university image and student's loyalty in the HEIs.

II. Methods
Data collection and Analysis

A total of 566 questionnaires were sent out to both undergraduate and postgraduate students at six selected federal universities in Nigeria. The selection of these universities is based on the simple random sampling and the target respondents were undergraduate and postgraduate students.Out of 566 questionnaires distributed, 546 (96%) were returned, and only 446 (82% respondents) were sets are usable.
To assess the research model developed in figure 1 above 1, SmartPLS 2.0 was used to analyze the data collected. This included path modeling and then bootstrapping (Chin, 1998; Gudergan, Ringle, Wende, & Will,

2008; Wong, 2013). A total of 500 re-samples were used to generate the standard error of the estimate and *t*-values. As stated by Chin, Marcolin, & Newsted(2003), PLS can give more accurate estimates of mediating effects by accounting for the error that attenuates the estimated relationships and improves the validation of theories (Helm, Eggert, & Garnefeld, 2010; Jörg Henseler & Chin, 2010).

An assessment of Measurement Model
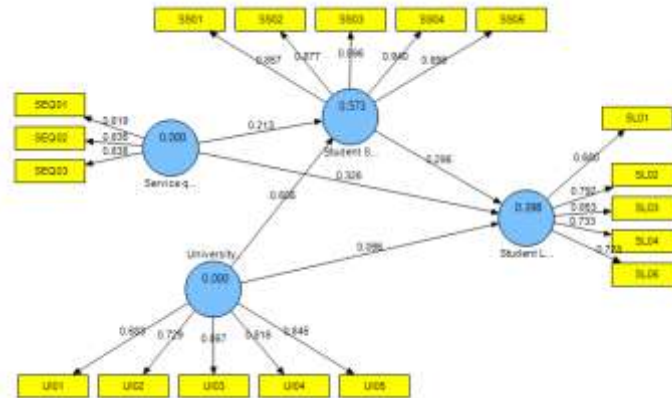
Source: Researcher   Figure 1; Measurement Model

Construct Validity

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 (Barclay, 1995; Compeau & Higgins, 1995; Götz, Liehr-Gobbers, & Krafft, 2010; Lutz & Thompson, 2003).

The confirmatory factor analysis (CFA) was conducted to test the reliability, convergent validity and discriminant validity of all the items in the measurement scale. As shown below in Tables 1,2,3 and 4, all the items loading exceeded the minimum cut off point of 0.50 (Anderson & Gerbing, 1988; R. P. Bagozzi, Yi, & Phillips, 1991; Gefen, Straub, & Boudreau, 2000); therefore, the internal consistency was achieved.

However, in order to testify the reliability of the constructs ,Cronbach's alpha (see Table 1) was also used to validate the reliability of the variability of the variable and also the minimum cut off points must be above of 0.70 (Cronbach, 1951). Therefore from the table below all the internal reliabilities of the scales were ranged from 0.775 to 0.952 which was clearly acceptable. In conclusion therefore,the measurement model was satisfactory and provided sufficient evidence from the previous literature to accept its reliability, convergent validity and discriminant validity.

Table 1 Reliability and validity of constructs

	AVE	Composite Reliability	Cronbachs Alpha	Loadings range	Number of Items
Service quality	0.688	0.869	0.775	0.819-0.835	03
Student Loyalty	0.577	0.872	0.815	0.680-0.853	05
Student Satisfaction	0.799	0.952	0.937	0.857-0.898	05
University image	0.626	0.892	0.851	0.683-0.867	05

Source: Researcher

Table 2   Loadings and cross-cross loadings

	Service quality	Student Loyalty	Student Satisfaction	University image
SEQ01	**0.819**	0.506	0.529	0.602
SEQ02	**0.825**	0.518	0.475	0.501
SEQ03	**0.835**	0.350	0.463	0.440
SL01	0.401	**0.680**	0.315	0.345
SL02	0.368	**0.792**	0.419	0.388
SL03	0.504	**0.853**	0.528	0.494
SL04	0.354	**0.733**	0.397	0.338
SL05	0.479	**0.728**	0.433	0.379
SS01	0.458	0.544	**0.857**	0.577
SS02	0.530	0.424	**0.877**	0.682
SS03	0.587	0.496	**0.896**	0.724
SS04	0.558	0.536	**0.940**	0.678

SS05	0.508	0.498	**0.898**	0.631
UI01	0.395	0.326	0.407	**0.683**
UI02	0.429	0.290	0.510	**0.729**
UI03	0.486	0.355	0.646	**0.867**
UI04	0.555	0.427	0.674	**0.816**
UI05	0.580	0.592	0.632	**0.845**

Source: Researcher

Convergent validity

We tested the convergent validity, which is the degree to which multiple items to measure the same concept are in agreement.In the table 1 above shows the composite reliability (CR) of the latent variables. All the CR coefficient of each of the latent variables ranged from 0.869 to 0.952 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; Jahoda & Christiano, 2011).

Similarly, in terms of convergent validity, all the composite reliability (CR) values are all above 0.70 Henseler & Chin(2010) and while the average variance extracted (AVE) value meet the minimum criteria of 0.50 (Jörg Henseler, Ringle, & Sinkovics, 2009; Parsons et al., 2003).

Table 3 Result of measurement model

Constructs	Items	Loadings	CRa	AVEb
Service quality	SEQ01	**0.819**	0.869	0.688
	SEQ02	**0.825**		
	SEQ03	**0.835**		
Student Loyalty	SL01	**0.680**	0.872	0.577
	SL02	**0.792**		
	SL03	**0.853**		
	SL04	**0.733**		
	SL05	**0.728**		
Student Satisfaction	SS01	**0.857**	0.952	0.799
	SS02	**0.877**		
	SS03	**0.896**		
	SS04	**0.940**		
	SS05	**0.898**		
University image	UI01	**0.683**	0.892	0.626
	UI02	**0.729**		
	UI03	**0.867**		
	UI04	**0.816**		
	UI05	**0.845**		

Source: Researcher

Discriminant validity

Next, we preceded to text the discriminant validity in which the measures are not a reflection of some other variables and it is indicated by low correlations between the measure of interest and the measures of other constructs (Cheung & Lee, 2010). In PLS discriminant validity can be examined by comparing the squared correlations between constructs and variance extracted for a construct (Fornell & Larcker, 1981). Similarly, for the discriminant validity table 4 below ,the value of AVE was square rooted and tested against the inter correlations of the construct with other constructs in the research model Henseler & Chin, 2010; Komiak, Wang, & Benbasat, (2004) and all the values noted as greater than each of the constructs correlations Chin(2010), therefore, the satisfactory of the measurement model was achieved.

Table 4 Discriminant validity

	1	2	3	4
Service quality	**0.830**			
Student Loyalty	0.561	**0.760**		
Student Satisfaction	0.592	0.559	**0.894**	
University image	0.628	0.519	0.738	**0.791**

Note: Entries shown in bold face represent the square root of the AVE

Source: Researcher

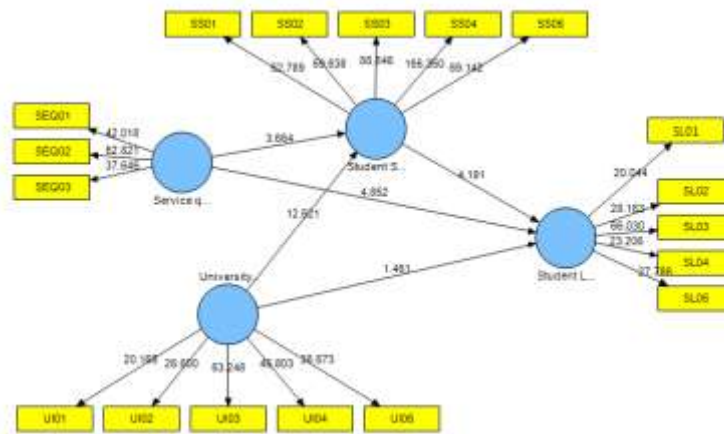**Assessment ofthe Significance of the Structural Modelwith a mediator variable (Full model)**

Figure 2: Source: Researcher

Table 5 Path coefficient and hypothesis testing

Hypothesis	Relationship	Coefficient	Standard Error	t.value	p.value	Decision
H1	Service quality -> Student Loyalty	0.326	0.067	4.852***	0.000	Supported
H2	Student Satisfaction -> Student Loyalty	0.295	0.070	4.191***	0.000	Supported
H3	University image -> Student Loyalty	0.096	0.066	1.461**	0.072	Supported
H4	Service quality -> Student Satisfaction> Student loyalty	0.074	0.024	3.068***	0.001	Supported
H5	University image -> Student Satisfaction>Student loyalty	0.235	0.025	9.413***	0.000	Supported

Source: Researcher

III. Discussions

In the assessment of the structural model in figure 2 and table 5 above the study present the result of the hypotheses testing. The results showed thatstudent satisfaction exists to be a mediating the relationship between service quality, university image and student loyalty in HEIs. However, service quality positively related to student loyalty and also university image positively related to student loyalty. All the five hypotheses namely H1, H2, H3, H4 and H5 were significant and therefore accepted.

From the result above service quality is positively related to student loyalty in the Nigerian HEIs is significant. The encounter which is critical in attaining goodwill for excellent service quality and keeping customers (students) satisfied and even become loyal. Therefore customer loyalty is the rationale for customer relationship marketing; this is in line with previous studies e.g. (Akbar & Parvez, 2009; Kapareliotis et al., 2010; Turk & Yuksel Avcilar, 2009).

Based on the result of the analysis performed above, a number of observations can be made, with all of the observations displaying positive influences. It is shown that both service quality and university corporate image have a direct and significant effect on student satisfaction as such, the validity of Hypothesis 1 and Hypothesis 2 is demonstrated. The results thus support the observation that the two studied dimensions, namely (1) the level of service quality provided by the institution (Iacobucci et al., 1995); and (2) the level of perceivedimage towards an institute Gronroos, (1988); Leslie & Brinkman (1987) do positively affect the extent of student satisfaction towards HEIs

The analysis also shows that student satisfaction has a direct and significant effect on their loyalty. Hypothesis 4 can thus be established and accepted. This is in line with the studies conducted by Martensen et al., (2000), which demonstrated the effect of student satisfaction on loyalty, especially in the service-oriented industries.

Therefore, the accepted Hypotheses 4 and 5 are suggestive of an indirect relationship of service quality to student loyalty through the intermediate influence of student satisfaction. Also university corporate image is significant and supported through the intermediate effect of student loyalty. The results of the present study is in line with the previous study conducted by Mittal &Lassar(1998), it was concluded that there is a linear relationship leading from service quality to student loyalty.

IV. Conclusions and Implications

This study mainly focused on the discussion and analysis of higher education institutions as the core service provider to its student body. Particularly, the studyfocused to examine the perception of university student of service quality provided and corporate university image in HEIs in Nigeria on their satisfaction with the HEIs. As a result, the mediating effect of student satisfaction was also examined and also student satisfaction

on student loyalty was examined. The study used the structural equation modeling to shows that both the extent of the service quality, corporate university image and student satisfaction are significant in accommodating a positive student experience at the HEIs and student having the desires to return for the same or related services in the future. Similarly, it must be highlighted that service quality and university corporate university have positive significant result with student loyalty in HEIs. Hence, thesefactors serve as catalysts to assist and maintain student loyalty. An increased in student satisfaction level, serves as the core driver to promote student loyalty in an ideal situation and vice versa. Student satisfaction forms the intermediate factor linking service quality, university image with resultant student loyalty.

The implications of these findings can be very significant and purposive to all stakeholders in the education sector, because the educational sector has evolved into a customer- oriented society. However, student satisfaction is considered to be a key factor to maintain a healthy relationship between HEIs and students as well as to promote, attract and retain student learning and loyalty to the service of the institution.

Limitations and suggestions for future research
The present study adopts simple random samplingtechnique and the findings of the study cannot be generalized to the entire population. Hence, only one sample frame is obtained the findings of the study which cannot be generalized to the entire students in the Nigerian universities. Therefore, future study needs to adopt non-probability sampling technique to go beyond using only one sample frame.

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