



The moderating effect of brand loyalty on service quality and customer satisfaction in the telecommunications industry in northwest Nigeria

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Abstract

This study investigates the moderating effect of brand loyalty on service quality and customer satisfaction in the telecommunications industry in Northwest Nigeria. A cross-sectional descriptive survey design was utilized, which permits the collection of data from respondents at a certain point in time. The convenience sampling method was used, and structured questionnaires were administered to the customers of Airtel Nigeria telecommunications company using a service performance (SERVPERF) model. Out of the 768 questionnaires administered, 390 valid responses were analyzed, and the hypotheses were tested with the aid of SmartPLS 4. The results for the direct relationships indicate that reliability, assurance, responsiveness, and tangibility were significantly and positively related with customer satisfaction, while empathy had no significant effect on customer satisfaction. For the indirect relationships, brand loyalty was not found to moderate the relationships between the five SERVPERF dimensions and customer satisfaction. The study concludes that regardless of brand loyalty, service quality remains the only driving force of customer satisfaction in the Nigerian telecommunications industry. It is therefore recommended that Airtel should find ways to transcend their competitors and ensure the continued loyalty of their subscribers, especially by tailoring services to customers' needs. It is also recommended that the company should ensure a pleasant and seamless experience for their subscribers during calls or when accessing the internet. The Nigerian Communications Commission (NCC) should continue to monitor the quality of the services provided by telecommunications companies and sanction those that provide sub-standard services.

Keywords:

Brand loyalty
Customer satisfaction
Northwest Nigeria
Service quality
Telecommunications.

JEL Classification:

L19; L96; M31.

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1. Introduction

Service-oriented organizations are becoming more common globally. Regardless of the category of business, service quality is a critical component of customer satisfaction. Service quality fosters customer satisfaction and it improves the relationship between company and customer (Abubakar, 2016). There is increasing development of new technologies in the mobile telecommunications industry aimed at enhancing service quality to attract and retain customers (Dharmadasa & Gunawardane, 2017). Declining profit can be linked to the inability of a business to satisfy its customers (Mishal, 2015). The success of most businesses can be linked to their ability to satisfy customers, which in turn results in repeat purchases, loyalty, and positive word-of-mouth (Angelova & Zekiri, 2011). In today's dynamic and competitive world, delivering a quality service to customers is necessary to ensure customer satisfaction (Alolayyan, Al-Hawary, Mohammad, & Al-Nady, 2018) and increasing patronage level.

Creating brand loyalty is essential for many businesses, especially in the services industry, and has been acknowledged as one of the determinants of successful businesses over the years (Zhang, Dixit, & Friedmann, 2010). There are four major global systems for mobile telecommunication (GSM) players in Nigeria's telecommunications industry. These are Mobile Telecommunications Network (MTN), Airtel Nigeria, Globacom, and Emerging Markets Telecommunication Services (trading as 9mobile Nigeria). With stiff competition within Nigeria's oligopolistic telecommunications industry, customer satisfaction is a necessity for survival in the market. However, statistics have shown a decline in terms of the number of subscribers, who frequently switch from one network carrier to another to find a better quality of service. For example, in March 2021, the total number of GSM subscribers was 192,081,282, which was 12,147,396 lower than in December 2020 (a drop of 16.8%) (NCC Nigeria, 2022a). Also, according to the Nigerian Communications Commission (NCC), Nigeria's \$70 billion telecommunications industry ended 2021 with 195.5 million active subscribers after losing 14.68 million customers representing 4.4% (Elizabeth, 2022). Airtel Nigeria is not an exception, as it saw its subscriber numbers fall from 55,642,209 in December 2020 to 50,384,950 in March 2021 (a drop of 9.28%), and this trend continued (NCC Nigeria, 2022a). NCC Nigeria (2022b) also reports that in terms of porting activities, there were a total of 11,250 outgoing porters (subscribers that moved across network carriers) in 2021. This decline in subscribers and movement across networks may be connected to poor customer satisfaction.

Furthermore, an investigation by the editor of the Guardian newspaper showed that customer complaints are widespread, and these complaints include continued poor reception on the phone; hidden charges passed to customers; unsolicited value added services (VAS), such as caller ring back tune and alert services; unwanted renewal of data services; and difficulty reaching customer care. In a similar investigation by Taiwo (2018), subscribers complained of airtime depletion and poor services. Considering these statistics and customer complaints, it is worth conducting an empirical study to build an accurate picture in terms of service quality and customer satisfaction.

There are many studies offering exciting insights into the service quality of other sectors in the Nigerian economy and other countries, including Abubakar (2016); Danaher and Gallagher (1997); Iddrisu, Nooni, Fianko, and Mensah (2015); Siddiqi (2011); Lily (2008) and Turel and Serenko (2006). There is a lack of empirical evidence available regarding the relationship between service quality and customer satisfaction in Airtel Nigeria, and measurements of service quality show differences from country to country. Hence, research findings from other countries cannot be generalized in Nigeria. More so, the relationship between service quality and customer satisfaction reported by previous studies is inconsistent. In comparison, some strands of literature have reported a positive relationship between service quality and customer satisfaction (Al-Azzam, 2015; Fida, Ahmed, Al-Balushi, & Singh, 2020; Ojo, 2010; Priyo, 2017; Safi & Alagha, 2020; Siddiqi, 2011; Timothy, Egena, & Richard, 2017; Wang, Lo, & Yang, 2004). Several studies have reported that some service quality constructs had a positive influence and others had a negative influence (Atia, AbdMajid, Azis, & Hamid, 2020; Dharmadasa & Gunawardane, 2017; Lily, 2008; Munusamy, Chelliah, & Mun, 2010), and others have failed to support that service quality significantly enhances customer satisfaction (Abubakar, 2016; Arthur, Evans, & Walter, 2016). Therefore, to address these inconsistencies, this study incorporates brand loyalty as a moderator that affects this relationship. Also, while almost all the literature reviewed uses the service quality (SERVQUAL) model, this study uses the service performance (SERVPERF) model because it is a refined and improved version of the SERVQUAL model. This study therefore investigates the moderating effect of brand loyalty on service quality and customer satisfaction in the telecommunications industry in Northwest Nigeria.

In view of this, the null hypotheses of the study are as follows:

- H1: Reliability is not significantly linked to customer satisfaction.*
- H2: Assurance is not significantly linked to customer satisfaction.*
- H3: Tangibility is not significantly linked to customer satisfaction.*
- H4: Empathy is not significantly linked to customer satisfaction.*
- H5: Responsiveness is not significantly linked to customer satisfaction.*
- H6: There is no moderating effect of brand loyalty on the link between reliability and customer satisfaction.*
- H7: There is no moderating effect of brand loyalty on the link between assurance and customer satisfaction.*

- H8: There is no moderating effect of brand loyalty on the link between tangibility and customer satisfaction.
- H9: There is no moderating effect of brand loyalty on the link between empathy and customer satisfaction.
- H10: There is no moderating effect of brand loyalty on the link between responsiveness and customer satisfaction.

2. Literature Review

2.1. Concept of Service Quality

Service quality has been difficult to describe in the literature (Abubakar, 2016). Service quality is seen as the entire judgment of a company’s customer service (Eshghi, Roy, & Ganguli, 2008). Service quality is the variation between a customer’s perception and their expectation of a service (Shahin & Janatyan, 2011). We thus define service quality as customers’ overall seamless experience of a service.

2.2. Concept of Customer Satisfaction

Customer satisfaction is a feeling based on the experience of using a product or service (Mohammed, 2013). Customer satisfaction is the fulfilment of customers’ desires and expectations arising from a company’s performance (Angelova & Zekiri, 2011). Customer satisfaction is the judgments by a customer regarding expectations from business activities (Chidambaram & Ramachandran, 2012; Kheng, Mahamad, & Ramayah, 2010). We define customer satisfaction as a positive, after-purchase experience arising from using a product or service.

2.3. Brand Loyalty

Creating brand loyalty is a critical success factor for any business (Zhang et al., 2010). Creating a strong brand leads to brand loyalty. Loyalty connects consumers to the brands, and loyal consumers are reluctant to switch brands (Viktor, Isac, & Dasaret, 2015). Companies with a high proportion of loyal customers are likely to be more profitable due to declining costs (Ladhari, Souiden, & Ladhari, 2011).

2.4. Conceptual Framework

This framework depicted below is vital as it portrays the direction of the study. The independent variable (IV) of the study is service quality comprising five dimensions—reliability, assurance, tangibility, empathy, and responsiveness. The moderating variable (MV) is brand loyalty, and the dependent variable (DV) is customer satisfaction. Figure 1 illustrates that the relationship between service quality and customer satisfaction is moderated by brand loyalty. The figure proposes that it is the interaction between service quality and brand loyalty that determines customer satisfaction. In other words, service quality alone without the influence of brand loyalty cannot guarantee customer satisfaction.

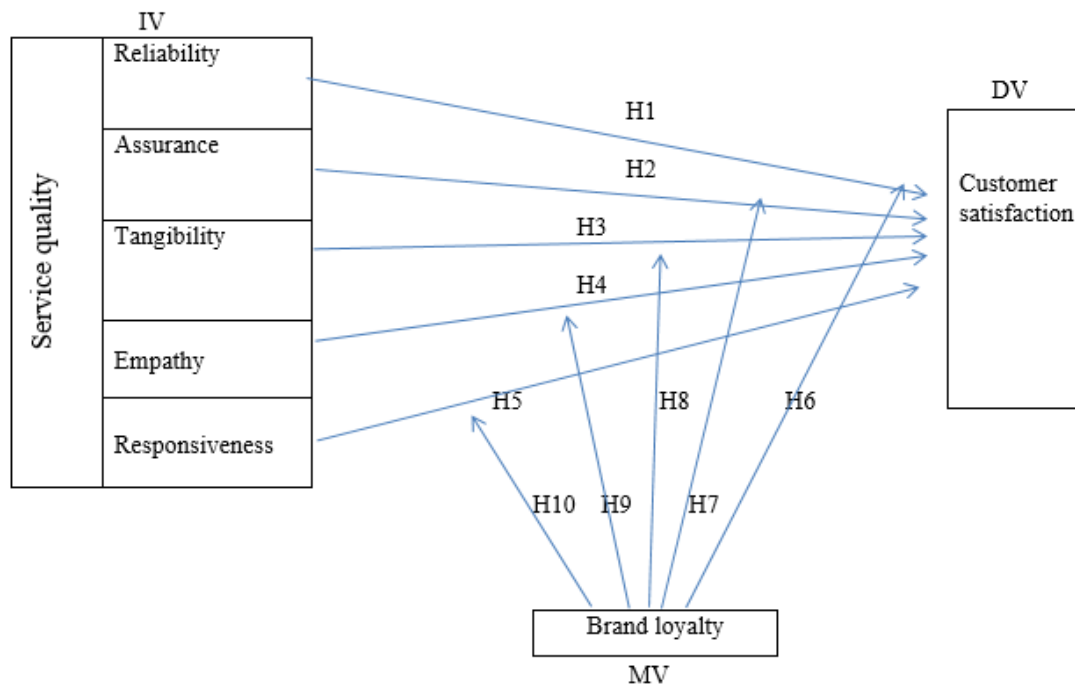


Figure 1. Conceptual framework for the study.

The dimensions are the five SERVPERF model constructs according to Cronin and Taylor (1992), and they are used to guide the study and fill the methodological gap.

2.5. Theoretical Framework

Expectation disconfirmation theory and the SERVPERF model were found to be relevant and are used to guide the study. Expectation disconfirmation theory is alternatively called expectation confirmation theory, a cognitive theory propounded by Oliver (1977). The theory tries to provide an explanation in relation to inter-relationships among post-purchase satisfaction, perceived performance, and the disconfirmation of beliefs. The theory posits that expectations together with perceived performance give rise to post-purchase satisfaction.

Cronin and Taylor (1992) proposed the SERVPERF instrument as an alternative to the SERVQUAL model. The model views quality as the only function of performance. Cronin and Taylor (1994) asserted that the SERVPERF scale provides a more useful tool for measuring overall service quality than SERVQUAL.

2.6. Review of Empirical Studies

Atia et al. (2020) reported that the nexus between service quality and customer satisfaction is positive, but has no significant relation with customer loyalty. Dharmadasa and Gunawardane (2017) indicated that empathy, tangibility, and reliability impact customer satisfaction, while the impact of assurance, technical quality, and responsiveness on customer satisfaction is insignificant. The authors also reported that perceived value does not in any way moderate the link between quality of service and customer satisfaction. In Ghana, Arthur et al. (2016) reported a negative connection between service quality and customer satisfaction. Munusamy et al. (2010) showed that quality service dimensions (assurance, responsiveness, empathy, tangibility, and reliability) have no significant effect on customer satisfaction. Safi and Alagha (2020), Al-Azzam (2015), Fida et al. (2020), Timothy et al. (2017) and Ojo (2010) confirmed a positive connection regarding the association between the quality of service and the level of satisfaction experienced by customers. All these works used other contexts across different sectors in various countries.

3. Methodology

A cross-sectional research design was adopted to collect data within a given time from the target respondents. The population of this study consists of subscribers to Airtel Nigeria telecommunications company in Northwest Nigeria. A figure of 13,065,787 was obtained from the official website of the National Bureau of Statistics (2022) on June 30, 2022.

To determine the sample size for this study, a sample size formula for a finite population (Cochran, 1977) was used due to its appropriateness for large populations. The formula is specified below:

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

Where: n = sample size; N = population size; e = the desired level of precision or acceptable sampling error; p = the estimated proportion of an attribute present in the population; z = the z value at a specific reliability or significance level.

This study assumes 50% (0.5) for variability, a 95% confidence level, and a 5% level of precision.

Hence, z = 1.96; p = 0.5; e = 0.05 and N = 13,065,787. The sample size is therefore computed as follows:

$$n = \frac{0.5(1-0.5)}{\frac{0.05^2}{1.96^2} + \frac{0.5(1-0.5)}{13,065,787}} \quad n = 384 \text{ subscribers}$$

To cover the anticipated non-response bias and unreturned questionnaires, the figure of 384 was doubled, in line with Cochran's suggestion, making a revised sample size of 768. All the respondents were selected purposively. The questionnaire items were adopted from Bitner and Hubbert (1994) and Cronin and Taylor (1992). Descriptive statistics and partial least squares structural equation modeling (PLS-SEM) were the estimation techniques utilized.

Thus, the model used to test the study's hypotheses is expressed in the following equation:

$$CST = \beta_0 + \beta_1 REL + \beta_2 ASS + \beta_3 TAN + \beta_4 EMP + \beta_5 RES + \beta_6 BRL + \beta_7 REL * BRL + \beta_8 ASS * BRL + \beta_9 TAN * BRL + \beta_{10} EMP * BRL + \beta_{11} RES * BRL + \mu_t \quad (2)$$

Where:

$\beta_1 - \beta_{11}$ = Coefficients.

β_0 = Intercept.

μ_t = Error term.

REL*BRL = Interaction between reliability and brand loyalty.

ASS*BRL = Interaction between assurance and brand loyalty.

TAN*BRL = Interaction between tangibility and brand loyalty.

EMP*BRL = Interaction between empathy and brand loyalty.

RES*BRL = Interaction between responsiveness and brand loyalty.

Validity testing was carried out through both convergent validity and discriminant validity using SmartPLS. The reliability test was implemented through Cronbach's alpha.

4. Results and Discussion

Of the 768 questionnaires distributed to the respondents, 411 were retrieved. Of these, 21 were deleted after sorting the outliers based on the Mahalanobis distance measure. This produced a final total of 390 valid responses.

4.1. Measurement Model

The first order for the latent variables was the internal consistency reliability, convergent validity, and discriminant validity assessments. Reliability was measured at the construct and item levels. Cronbach's alpha was used to measure the internal consistency for the purpose of achieving reliability. All the alpha values in Table 1 exceed the required benchmark of 0.7. This confirms the reliability of the instruments.

Convergent validity was evaluated through the average variance extracted (AVE) in line with Fornell and Larcker (1981). Table 1 shows that the AVE values range from 0.61 to 0.86, which are higher than the required minimum threshold.

Table 1. Item loadings, internal consistency, and average variance extracted (AVE).

Construct	Indicator	Loading	Cronbach's Alpha	AVE
Assurance	ASS1_1	0.826	0.833	0.664
	ASS2_1	0.849		
	ASS3_1	0.784		
	ASS4_1	0.800		
Brand loyalty	BRL1_1	0.806	0.874	0.662
	BRL2_1	0.736		
	BRL3_1	0.870		
	BRL4_1	0.831		
	BRL5_1	0.820		
Customer satisfaction	CST1_1	0.934	0.961	0.864
	CST2_1	0.959		
	CST3_1	0.943		
	CST4_1	0.919		
	CST5_1	0.892		
Empathy	EMP1_1	0.760	0.842	0.613
	EMP2_1	0.803		
	EMP3_1	0.782		
	EMP4_1	0.797		
	EMP5_1	0.772		
Reliability	REL1_1	0.796	0.874	0.727
	REL2_1	0.916		
	REL3_1	0.824		
	REL4_1	0.870		
Responsiveness	RES1_1	0.838	0.885	0.686
	RES2_1	0.768		
	RES3_1	0.861		
	RES4_1	0.854		
	RES5_1	0.817		
Tangibility	TAN1_1	0.896	0.845	0.686
	TAN2_1	0.878		
	TAN3_1	0.674		
	TAN4_1	0.846		

The cross loadings were examined to investigate discriminant validity (Henseler, Ringle, & Sinkovics, 2009). For discriminant validity to be confirmed and assured, the indicator loadings of the latent construct are expected to be higher than the cross loadings. This requirement for validity is achieved, as confirmed in Table 2.

Table 2. Cross loadings.

Indicator	ASS	BRL	CST	EMP	REL	RES	TAN
ASS1_1	0.826	0.548	0.618	0.712	0.717	0.653	0.577
ASS2_1	0.849	0.544	0.522	0.698	0.524	0.52	0.510
ASS3_1	0.784	0.526	0.458	0.646	0.485	0.424	0.452
ASS4_1	0.800	0.591	0.681	0.639	0.595	0.587	0.601
BRL1_1	0.418	0.806	0.476	0.427	0.444	0.418	0.511
BRL2_1	0.420	0.736	0.436	0.396	0.432	0.387	0.441
BRL3_1	0.557	0.870	0.637	0.548	0.657	0.642	0.577
BRL4_1	0.731	0.831	0.728	0.686	0.588	0.61	0.691
BRL5_1	0.564	0.820	0.450	0.55	0.438	0.409	0.498
CST1_1	0.689	0.609	0.934	0.663	0.729	0.724	0.655
CST2_1	0.717	0.660	0.959	0.669	0.753	0.733	0.686
CST3_1	0.693	0.647	0.943	0.625	0.716	0.724	0.691
CST4_1	0.637	0.662	0.919	0.603	0.679	0.671	0.672
CST5_1	0.586	0.660	0.892	0.61	0.695	0.691	0.739
EMP1_1	0.692	0.611	0.554	0.760	0.573	0.544	0.535
EMP2_1	0.666	0.490	0.519	0.803	0.628	0.593	0.549
EMP3_1	0.681	0.459	0.507	0.782	0.646	0.598	0.547
EMP4_1	0.585	0.477	0.554	0.797	0.575	0.568	0.523
EMP5_1	0.615	0.535	0.533	0.772	0.585	0.541	0.510
REL1_1	0.575	0.560	0.666	0.585	0.796	0.701	0.595
REL2_1	0.697	0.607	0.711	0.703	0.916	0.800	0.688
REL3_1	0.582	0.459	0.563	0.666	0.824	0.665	0.580
REL4_1	0.607	0.563	0.667	0.664	0.87	0.741	0.673
RES1_1	0.612	0.56	0.624	0.656	0.719	0.838	0.626
RES2_1	0.418	0.461	0.506	0.483	0.607	0.768	0.462
RES3_1	0.562	0.561	0.671	0.616	0.745	0.861	0.67
RES4_1	0.596	0.500	0.673	0.625	0.725	0.854	0.678
RES5_1	0.616	0.519	0.66	0.611	0.733	0.817	0.614
TAN1_1	0.583	0.601	0.686	0.586	0.669	0.663	0.896
TAN2_1	0.585	0.599	0.675	0.592	0.672	0.689	0.878
TAN3_1	0.591	0.524	0.416	0.627	0.457	0.441	0.674
TAN4_1	0.488	0.556	0.631	0.496	0.644	0.633	0.846

4.2. Structural Model

The bootstrapping procedure through SmartPLS4 was used to estimate the path coefficients to assess their significance (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014), and 5,000 was set as the bootstrapping benchmark. This procedure was adopted to determine the significance of the coefficients required for hypothesis testing (Hair et al., 2014). Figure 2 and Table 3 show the full structural model with the moderator variable.

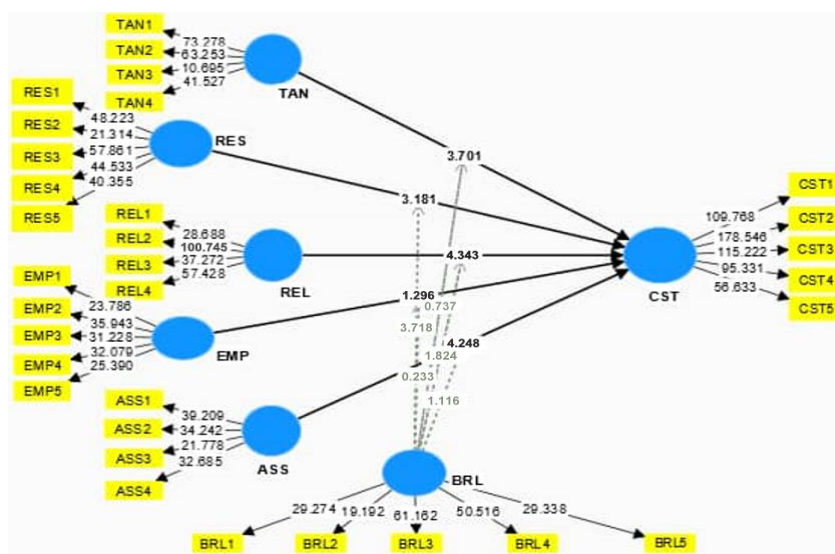


Figure 2. Structural model.

Table 3. Results of hypothesis testing.

Relationship	Beta value	Standard deviation	T-statistic	P-value	Decision
ASS -> CST	0.198	0.046	4.248	0.000	Rejected
EMP -> CST	-0.068	0.057	1.296	0.195	Accepted
REL -> CST	0.258	0.059	4.343	0.000	Rejected
RES -> CST	0.167	0.054	3.181	0.001	Rejected
TAN -> CST	0.151	0.042	3.701	0.000	Rejected
BRL x REL -> CST	0.125	0.074	1.824	0.068	Accepted
BRL x TAN -> CST	-0.027	0.039	0.737	0.461	Accepted
BRL x EMP -> CST	-0.015	0.062	0.233	0.816	Accepted
BRL x ASS -> CST	0.054	0.045	1.116	0.264	Accepted
BRL x RES -> CST	-0.222	0.060	3.718	0.000	Accepted

Table 3 presents the path coefficients, t-values, and p-values. At a significance level of $p < 0.05$, the results of the direct relationship show that ASS (t-value 4.248; p-value 0.00), REL (t-value 4.343; p-value 0.00), RES (t-value 3.181; p-value 0.001) and TAN (t-value 3.701; p-value 0.00) are positive and significant, while only EMP (t-value 1.296; p-value 0.195) was positive but insignificant. Moreover, for the indirect relationships (moderation results), the study found no moderating effect of brand loyalty between each of the five service quality constructs (reliability, assurance, tangibility, empathy, and responsiveness) and customer satisfaction.

4.3. Discussion of Findings

Hypothesis one is rejected since service quality was discovered to have a significant and positive effect on customer satisfaction at a 5% level of significance. The results indicate that $\beta = 0.258$, $t = 4.343$, and the p-value = $0.00 < 0.05$, which suggests that an increase in the reliability aspects of service quality will lead to greater customer satisfaction. This finding is particularly consistent and supported by past literature, such as Siddiqi (2011); Danaher and Gallagher (1997); Iddrisu et al. (2015) and Lily (2008). However, it fails to support Munusamy et al. (2010), who found reliability to have a negative effect on customer satisfaction.

Null hypothesis two was also rejected because the results show that $\beta = 0.198$, $t = 4.248$ and the p-value = $0.00 < 0.05$. These findings are supported by Al-Azzam (2015); Fida et al. (2020) and Priyo (2017).

Furthermore, null hypothesis three indicates that $\beta = 0.151$ and $t = 3.701$, which suggests that an increase in the tangibility aspect leads to greater customer satisfaction. The findings also indicate a significant and positive relationship between tangibility and customer satisfaction, with a p-value of 0.00. Hence the result justifies and rejects the null hypothesis. This result is in line with those of Munusamy et al. (2010); Siddiqi (2011); Lily (2008) and Iddrisu et al. (2015), among others.

The study accepts null hypothesis four, as the result shows that $\beta = -0.068$ and $t = 1.296$. The findings also show an insignificant relationship between empathy and customer satisfaction, with a p-value of $0.195 > 0.05$. This finding is supported by Arthur et al. (2016), who found empathy to have a negative effect on customer satisfaction.

Null hypothesis five is rejected, as the responsiveness component of service quality is positively significant in relation to customer satisfaction. This is in line with the findings of Al-Azzam (2015); Fida et al. (2020) and Priyo (2017), among others.

Moreover, null hypotheses six, seven, eight, nine and ten are all accepted, as all but one of the hypotheses does not significantly moderate the relationship between reliability, assurance, tangibility, and empathy. Responsiveness is the only significant moderating relationship, with a p-value < 0.00 , but the negative beta value of -0.222 shows the relationship is adverse, which results in the acceptance of the hypotheses.

5. Conclusion and Recommendations

This study investigated the moderating effect of brand loyalty on service quality and customer satisfaction using evidence from 390 subscribers of Airtel Nigeria. Ten hypotheses relating to the construct's dimensional relationships were tested. With regard to the main relationship, the findings show empirical support for the influence that empathy has on customer satisfaction, while no support for the four hypotheses relating to assurance, reliability, responsiveness and tangibility. With regard to the moderating effect, all but one of the null hypotheses were found to be insignificant. The only one that is significant (responsiveness) had a negative beta value. This results in the acceptance of null hypotheses six, seven, eight, nine and ten.

The study concludes that regardless of brand loyalty, service quality remains the only driving force of customer satisfaction in the Nigerian telecommunications industry. In other words, brand loyalty does not matter in the relationship between service quality and customer satisfaction. For customers to remain happy and satisfied, providers of telecommunications services must take the issue of service quality seriously.

The study recommends that Airtel Nigeria should train its employees to enhance dependability in handling customer service issues, as this will ultimately increase customer satisfaction. The company should also provide state of the art technology so that their staff will have visually appealing service facilities to enable them to resolve customer issues in the quickest way possible. More so, Airtel Nigeria should always

ensure a pleasant experience for customers whenever they want to make calls or surf the internet. This will create a bond between customers and the brand. The Nigerian Communications Commission should continue to monitor the services provided by telecommunications service providers with a view to monitoring the quality of service and sanctioning companies that provide sub-standard services.

This study only focused on subscribers of Airtel Nigeria as a telecommunications service provider in Northwestern Nigeria. Future studies should consider other locations and telecom companies in their studies.

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