# MEDIATING ROLE OF TRUST ON THE RELATIONSHIPS BETWEEN PRICE, SERVICE QUALITY AND CUSTOMER LOYALTY IN THE NIGERIAN TELECOMMUNICATION INDUSTRY

BY

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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE (M.Sc.) DEGREE IN BUSINESS ADMINSTRATION

DEPARTMENT OF BUSINESS ADMINISTRATION,
AHMADU BELLO UNIVERSITY BUSINESS SCHOOL,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA

APRIL, 2018

## DECLARATION

I hereby declare that the work in this dissertation entitled "Mediating Role of Trust on the Relationships between Price, Service Quality and Customer Loyalty in the Nigerian Telecommunication Industry" has been performed by me under the supervision of Dr. M. S. Badara and Dr. L. B. Dogarawa in the Department of Business Administration, Ahmadu Bello University, Zaria. The information derived from literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other institution.

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## CERTIFICATION

This dissertation entitled MEDIATING ROLE OF TRUST ON THE RELATIONSHIPS BETWEEN PRICE, SERVICE QUALITY AND CUSTOMER LOYALTY IN THE NIGERIAN TELECOMMUNICATION INDUSTRY meets theregulations governing the award of the degree of Master of Science degree in Business Administration of the Ahmadu Bello University, Zaria, and is approved for its' contribution to knowledge and literacy presentation.

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## ACKNOWLEDGEMENTS

Glory to the Almighty God, who has been my strength and has helped me this far. Special appreciation goes to my supervisors, Dr M. S Badara and Dr L. B Dogarawa. I thank them for their constructive criticisms and their guidance from the beginning to the completion of this work. Worth mentioning are Dr M. I Aminu, Dr Salisu Umar, Dr A. J. C. Onu and Dr NasiruAbdullahi for their contributions to this work. I also appreciate my examiners for their constructive criticisms and additions to make this work a quality one.

My appreciation further extends to my parents, Mr and Mrs Johnson Ojarikre. They have been my financial and spiritual support from the beginning of this journey. I appreciate my siblings for their support throughout my stay in Ahmadu Bello University, Zaria. Their prayers have brought me this far. My appreciation further extends to the head of department of business administration, Dr M. Y. Abubakar for ensuring this work get to the completion stage. It is also very important to appreciate Professor Bello Sabo, Dr Idris Ahmed, Dr Nafiu Bashir, Dr Mohammed Ibrahim and Hajia Fatima Mahadi for their unique contributions to ensure the successful completion of this work. I am very grateful to all of them.

My appreciation goes to my classmates who have in one way contributed to this work. To mention but a few, Maryam Shomoye, KunleOyelakin, Ahmed Sarafa, Samuel Ademola, OtoriAbdulrahim, AdbdullahiSodiq, SariatAragbada, among others. I remain grateful to them.

I also appreciate Airtel Nigeria, Globacom, 9mobile and MTN Nigeria for giving me the opportunity to distribute questionnaires in their various customer centres in Zaria local government area of Kaduna State, Nigeria. My profound gratitude also goes to the subscribers that willingly agreed to participate in this survey. May God richly bless them all for making this work a success.

## DEDICATION

This dissertation is dedicated to Almighty God. Also to my Parents Mr. and Mrs. Johnson Ojarikre for their unwavering support throughout my stay in Ahmadu Bello University, Zaria.

## ABSTRACT

Service providers having competitive prices and rendering quality services cannot solely rely on these to enjoy high customer loyalty. Relationships built on trust go a long way in solidifying such relationships. However, there are lack of sufficient studies that have assessed the mediating role of trust on the relationship between price and customer loyalty and between service quality and customer loyalty. As a result, this study investigated the mediating role of trust in the relationships between price, service quality and customer loyalty in the Nigerian telecommunication industry. Copies of the questionnaire were distributed using stratified and systematic sampling. 416 copies of the questionnaire distributed were used for analysis. PLS-SEM path modelling was employed to analyze the data. Four hypotheses were developed in alternate form and result supported the hypotheses. Statistical evidence shows that there is significant relationship between price and customer loyalty and between service quality and customer loyalty. Statistical evidence also show trust significantly and positively mediate the relationships between price and customer loyalty and between service quality and customer loyalty. The study therefore recommends that for service providers to gain the trust and hence loyalty of their subscribers, service providers should from time to time, carry out online polls, to determine the satisfactory level of their subscribers regarding their pricing scheme and the quality of services they deliver. Having this knowledge will allow managers to make improvements where necessary and also make adjustments where necessary.



**Keywords:** Price, service quality, trust, customer loyalty, telecommunication industry

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# CHAPTER ONE
# INTRODUCTION

## 1.1 Background to the Study

The Nigerian telecommunication industry is a very important industry in the country, as the industry contributes enormously to the Nigerian economy. According to the report on the Nigerian Communications Commission's (NCC) website, the telecommunication industry contributed 9.8 percent to the country's gross domestic product as at June, 2016 (NCC, 2016). This figure shows the importance of the industry to the Nigerian economy. The continuous development of the telecommunication industry in the country has the potential to boost economic growth and development (Salisu& Ibrahim, 2014). The industry facilitates speedy communication which helps in facilitating business activities all over the country. The activities of the telecommunication industry have led to more people in the country being informed. Without doubt, the telecommunication industry has led to economic growth of the country and generated thousands of employment for Nigerians (Salisu& Ibrahim, 2014).

The telecommunication industry in Nigeria has been growing at a fast pace. This is clearly evident in the number of subscribers in Nigeria. Report shows that in 2010 there were a total number of 81,195,684 active subscribers in the country (NCC, 2010). As at July 2016, the total number of active subscribers grew as high as 149,708,077 (NCC, 2016). This demonstrates the viability of the Nigerian telecommunication market and the development overtime as a result of the deregulation of the industry.

Ibok and George (2013) observed that the deregulation of the telecommunication industry in Nigeria has led the industry into hyper-competition leading to intense rivalry among service providers. These authors noted that the industry has been maturing and that there is the need for service providers in Nigeria to know important factors that makecustomers loyal even in

the face of hyper competition.They further argued that subscribers frequently switch service providers or patronise more than a single service provider. Affirming what Ibok and George (2013) said, Rashmi and Krishnakumar (2015) related that winning and retaining existing customers is always an important issue to telecommunication service providers due to intense competition.

Because of the competition to win and retain more subscribers by service providers, a Subscriber Identification Module (SIM) card sell at a very cheap amount (Adeleke&Aminu, 2012).Therefore, subscribers may find it very easy to switch service providers as a result of the very cheap cost of buying a SIM card. A loyal customer may find it very difficult to switch to other competitors even when faced with various reasons to switch (Lovelock &Wirtz, 2007).

Most customers were still apprehensive in switching even with the very cheap cost of purchasing a new SIM card, because of the fact that they do not want to lose their mobile number. (http://www.ncc.gov.ng). With this sense, came in the Mobile Number Portability (MNP). MNP is a service that enables a subscriber keep his mobile phone number even when changing from one mobileservice provider to another. So, when people switch between serviceproviders, they do not have to go through the pain of sending their new numbers to friends, family, colleagues and other contacts because their number stays the same (ncc.gov.ng). This invention has made it easy for customers to switch, and has further intensified the scramble by service providers to win and retain customers.

Since the founding of the MNP in March, 2013, a total of 670,326 subscribers have used the porting system between May 2013 and October 2016 (NCC, 2016). More precisely, for only

the month of October 2016, 5,243 subscribers ported out of Airtel Nigeria to patronise other service providers. Similarly, 1,369 ported out of 9mobile, while 4,638 ported out of Globacom to patronise other service providers. MTN Nigeria had the highest numbers of subscribers porting out with 6,409. In total, for the month of October only in 2016, 17,659 subscribers ported from their service providers to other service providers. These figures show subscribers are actually using the MNP scheme on a steady base, making it more difficult for service providers to keep hold of their customers.

As of December 2015, MTN Nigeria was having 61,252,387 million subscribers (NCC, 2015). As of March 2016, their number of active subscribers dropped by over five million to 57,045,721 active subscribers (NCC, 2016). As at September 2016, the number of their subscribers increased by 3,512,848 to 60,558,569, which contributed to a 1.13% drop-off in growth (ncc.gov.ng) between December 2015 and September 2016. Globacom subscribers have been increasing over the years. As of December 2015, they had 32,999,384 active subscribers (NCC, 2015). As of March 2016, they had 34,608,793 active subscribers (NCC, 2016), which indicates an addition of over 3million subscribers and this led to a 4.88% gain in growth (NCC, 2016). Then as at September 2016, they had 36,967,712 subscribers, which indicates a 6.82% growth between December 2015 and September 2016.

Similarly, Airtel Nigeria has also experienced an addition of over 2.5million subscribers from September 2015 to March 2016 (NCC, 2015). This contributed to a 4.95 percent gain in development according to the NCC. But as at September 2016, they had 0.28 percent drop-off in growth (NCC, 2016) between December 2015 and September 2016. 9mobile recorded over 1.6million decrease in the number of subscribers (NCC, 2016), which means 1.28 percent drop-off in growth. But overall, 9mobile had an increment of 1.68 percent as at

September 2016.These figures show how easily subscribers switch service providers easily, and how difficult service providers are finding it hard to keep customers loyal.

Thus, it is clearly evident that subscribers are on frequent basis switching between service providers. This frequent switching by subscribers is loyalty related. This means subscribers are loyal to some service providers above other service providers. Consequently, it means subscribers value some service providers over others, which may be as a result of the benefits they get from the relationship with their valued service providers.

Customer loyalty has been identified as key to the survival and growth of any business organisation (Oghojafor, Ladipo, Ighomereho & Odunewu, 2014). According toNimako (2012b), service organisations should not be interested only in acquiring new customers, but more importantly, retaining existing customers through customer loyalty.Nimako (2012b) argued that service providers in the mobile telecommunication industries in many developing countries are in fierce competition with one another, and are therefore always developing up-to-date and effectivestrategies towards achieving customer loyalty. Yet, according to Oghojafor*et al*., (2014), subscribers still switch from one service provider toanother or mostly patronise more than one service provider even with the efforts put in by these service providers. Thus, this study set out to assess factors that make customers loyal to a particular service provider even when they are faced with various options and marketing efforts produced by rivals.

## 1.2 Statement of the Problem

The commitment-trusts theory developed by Morgan and Hunt (1994) posits that trust can act as a mediator in the relationships between price, service quality and customer loyalty. The authors concluded that price and service quality may directly influence customer loyalty, and also trust could mediate such relationships.

Price is seen as very important predictors of customer loyalty (Ojo, 2010). Price is seen as an important feature because it determines the value of a product (Meldrum &Mcdonald, 2007). According to Kotler and Armstrong (2006), price is one of the key factors that affect buyers' decisions. Therefore, price is a key element that should not be overlooked, as it may ensure customer loyalty (Fifield, 2008). However, most previous related studies (e.g., Haghighi, Dorosti, Rahnama& Hoseinpour, 2012) have majorly considered the direct relationship between price and customer loyalty, largely ignoring the mediating role of trust in such a relationship, as propounded by the commitment-trust theory. Even studies (e.g., Iddrisu, Nooni, Fianko & Mensah, 2015)that have considered including a mediating variable in a studies as this, have largely considered customer satisfaction as a mediating variable and not trust. This study, hence fills this knowledge gap by examining the mediating role of trust on the relationship between price and customer loyalty.

Service quality on the other hand as observed by Ullah, Khan and Shahzad (2015) in most cases influences buying decisions of consumers. Lovelock and Wirtz (2007) argued that delivering quality of services might be a solid foundation for organisations to build customer loyalty. The authors further argued that service quality serve as a prerequisite for organisations to achieve customer loyalty. Therefore, service quality might be regarded as a key concept that may influence customer loyalty. Similarly, as in the case of price, most

previous related studies (e.g., Mahmudi & Abdoli, 2016; Lee & Moghavvemi, 2015) have mostly examined the direct relationship between service quality and customer loyalty. Some previous related studies have included a mediating variable on the relationship between service quality and customer loyalty. However, in most cases, previous related studies (e.g., Iddrisu *et al.,* 2015; Roostika, 2011) used customer satisfaction as a mediating variable, other than trust, as proposed by the commitment-trust theory. This study therefore fills this gap in the literature by examining the mediating role of trust on the relationship between service quality and customer loyalty.

In addition, most previous related studies have largely used statistically unacceptable number of samples for their data analysis. For example, Vaghela, Shree and Shree(2012) used just 100 samples for data analysis. Similarly, John (2011) used only 100 cases for data analysis. A study of this nature should use higher sample sizes. Studies as this deals majorly with consumers, and consumers are mostly very high in number, with special reference to the telecommunication industry. Some of related previous studies that use small sample sizes for their study include Yee, Ling, and Leong(2015); Al-shammariand Kanina (2014); Hossain and Suchy (2013); Ocloo and Tsetse (2013). Therefore, this study fills this gap in the literature by using statistically acceptable sample size for data analysis. Thus having statistically acceptable findings, conclusions and recommendations.

Most previous related studies used non-probability sampling in the form of convenience sampling and purposive sampling to distribute questionnaires to respondents. This may create an avenue for bias in such studies. Some of these studies include Yee *et al.*, (2015); Poku, Zakari, and Soali (2013) and Saeed *et al*. (2013). In empirical studies such as this, researchers always try hard to avoid bias, and non-probability sampling might come with some form of

bias. Therefore, based on this identified gap in the literature, this study fills this gap by employing probability sampling methods in the form of stratified and systematic sampling to collect needed data from respondents. This automatically nullifies any form of bias in this study.

Finally, the Nigerianeconomy as at the time of carrying out this study was experiencing economic recession, according to the report of the National Bureau of Statistics in 2016. According to Grundey(2009), customers may be more price sensitive and less loyal during a period of economic recession. Findings of previous studies shows that there are variations when ranking which of price and service quality affects customer loyalty the more. Previous studies such asButt and Run(2009); Hanif, Hafeez and Riaz (2010); Rajpurohit and Vasita(2011);Kouser, Qureshi, and Shahzad(2012)found price to be the most important factor affecting customer loyalty amongst other determinants. However, Bhukyaand Singh (2013)as well as Vaghela *et al.,* (2012) found service quality to be the highest ranking factor that affects customer loyalty. In the light of this, it is important for an investigation to be done to determine which of the determinants (price and service quality) affects customer loyalty and which has the most effect on customer loyalty during the period of economic recession.

In summary, this study will fill the aforementioned identified gaps in the literature, by examining the mediating role of trust on the relationship between price, service quality and customer loyalty, based on the propositions on the commitment-trust theory. It has earlier been established in this section, that most previous related studies used largely statistically unacceptable samples sizes for a study of this nature. This study thus improves the knowledge in the literature by using more statistically acceptable sample size. In addition, established in the literature that most previous related studies used non-probability sampling

method to sample respondents, which may in some way show the presence of bias in most of the previous related studies. This was remedied by this study by using probability sampling method to sample and collect data from respondents of this study. Finally, there has been discrepancies in the body of knowledge, as to which of price and service quality predicts customer loyalty the more. This study thus significantly enriches the body of knowledge by examining which of price and service quality is the more important predictor of customer loyalty, more so in the time of economic recession. This understanding is lacking in the body of knowledge.

### 1.3 Research Questions

This study seeks to answer the following questions;

1. Does price have an effect on customer loyalty in the Nigerian telecommunication industry?
2. Does service quality have an effect on customer loyalty in the Nigerian telecommunication industry?
3. Does trust mediate the relationship between price and customer loyalty?
4. Does trust mediate the relationship between service quality and customer loyalty?

### 1.4 Research Objectives

The main objective of this study is to assess the mediating role of trust on the relationships between price, service quality and customer loyalty in the Nigerian telecommunication industry. The specific objectives of this study are to:

1. determine the effect of price on customer loyalty in the Nigerian telecommunication industry.
2. assess the effect of service quality on customer loyalty in the Nigerian telecommunication industry.

3. assess the mediating effect of trust on the relationship between price and customer loyalty.

4. determine the mediating effect of trust on the relationship between service quality and customer loyalty.

### 1.5 Research Hypotheses

The following hypotheses were formulated for testing:

$H_1$: Price has significant effect on customer loyalty in the Nigerian telecommunication industry.

$H_2$: Service quality has significant effect on customer loyalty in the Nigerian telecommunication industry.

$H_3$: Trust mediate the relationship between price and customer loyalty.

$H_4$: Trust mediate the relationship between service quality and customer loyalty.

### 1.6 Significance of the Study

This study set out to confirm the commitment-trust theory, by studying trust as a mediator on the relationships between price, service quality and customer loyalty. This study thus theoretically enhances the body of knowledge by including trust as a mediator in the model. Furthermore, most previous related researches studied the direct relationships between price, service quality and customer loyalty. Very few studies have considered introducing a mediator into the model. In addition, studies that have included a mediator in the model have mostly studied customer satisfaction as a mediating variable between price, service quality and customer loyalty. This study thus contributes to the body of knowledge by studying trust as a mediating variable between price, service quality and customer loyalty, as there is scarcity of related studies that have applied trust as a mediating variable in a study of this nature.

No study in the available related studies to the researcher has determined the effect of price and service quality on customer loyalty and which of price and service quality has the most effect on customer loyalty during periods of economic recession. This study thus bridges this gap in the literature by carrying out this study during periods of economic recession to determine which of price and service quality has the most effect on customer loyalty during economic recession.

The findings of this study may benefit service providers in Nigeria considering that customer loyalty plays a crucial role in helping organisations remain competitive in an ever competitive environment. Increase in customer loyalty leads to more subscribers patronising regularly a particular service provider, and less likely to switch. Service providers having high number of loyal customers may amount to higher profitability levels of such service provider.Service providers that applies the recommendation of this study, may be able to attract new subscribersand retain existing ones.

This study assessed the perception of subscribers as regard service quality and pricing strategies of their service providers. Service providers on a steady base roll out various schemes with regard to price to the market. It is important that subscribers' perception of these schemes are measured to determine if actually subscribers are actually happy with the various pricing schemes being rolled out by service providers. Service providers adopt various technology to make sure they provide quality services to subscribers. Again, it is important to ascertain the perception of subscribers as against these technologies. To determine whether subscribers actually feel these technologies have gone a long way in improving the quality of service of their service providers. It is also important to measure the trust subscribers have in service providers in Nigeria. This may help service providers assess

the trust levels of their subscribers. Knowing the trust level of their subscribers may go a long way in helping management make improvements and adjustments where necessary.

### 1.7 Scope of the Study

This study focused on all subscribers of the four mobile service providers (i.e., Airtel Nigeria, Globacom, 9mobile and MTN Nigeria) in Zaria local government area of Kaduna State. This research is cross sectional in nature, and therefore was carried out within a possible shortest period in relation to respondents' cooperation. The researcher collected data from Zaria because, as at the time of carrying out this study, the Nigerian economy was in recession, which was a national problem. This implies that an average Nigerian might have been affected in some ways by the economic recession, and this study was particularly carried out during the period when the Nigerian economy was in recession to come up with new findings. More so, the prices charged by individual service providers are in most cases uniform across Nigeria. This means subscribers of an individual service provider in Nigeria are mostly paying uniform prices for the services they get from their service providers. The reason why data were collected from Zaria. Respondents for this study were garnered from customer centres in Zaria of the four mobile service providers in Nigeria.

### 1.8 Limitations of the Study

Data were collected only from customer centres of service providers in Zaria. Therefore, subscribers that do not visit these centres were automatically not part of the respondents of this study. In addition, data were only collected from Zaria local government, ignoring subscribers form other parts of the country.This stood as another limitation to the study.

# CHAPTER TWO

# LITERATURE REVIEW AND THEORETICAL FRAMEWORK

## 2.1 Introduction

Price, service quality, trust and customer loyalty were explained in this chapter. These variables were explained in this study as explained by authors in the field. This chapter further explain the relationship between the independent variables (price and service quality) and customer loyalty, which is the dependent variable, based on related empirical studies.Trust was shown has been able to perform the role of a mediating variable as obtained in the literature. Various empirical studies were reviewed and their weaknesses pinpointed. The weaknesses of these studies reviewed later in this chapter were remedied by this study. The Theory of Consumption Values (TCV) was used to explain the relationship between price and customer loyalty and between service quality and customer loyalty. Further, the commitment-trust theory was used to show that trust can act as a mediating variable between price and customer loyalty and between service quality and customer loyalty. From the review of empirical literature, and based on the theories used to underpin this study, a research model was finally proposed.

## 2.2 Concept of Customer Loyalty

Loyalty in the services industry has been appreciated by many as very crucial to the existence of a product and for achieving competitive edge (Auka, 2012). Oliver 1997 (as cited in Li & Green (n.d.) defined customer loyalty as a deep-held commitment to rebuy or re-patronize a preferred product in the future despite situational influence and marketing efforts having the potential to cause switching behaviour and recommending the product to friends and associates. Gremler and Brown 1996 (as cited in Gremler& Brown 1998) defined customer loyalty as the degree to which a customer exhibits repeat purchasing behaviour from a service

provider, possesses a positive attitudinal disposition toward the provider and considers using only this provider when a need for this service arises. This shows how important customer loyalty is to the survival of service providers Touzani and Temessek (2009), the reason why emphasis of getting it right the first time in the services industry is very crucial, as the first impression of using a service last a very long time and very difficult to change. Concurring to the getting it right the first time in the services industry, Rai and Srivastava (2012)submitted that customer loyalty is more sensitive in the services industry as a result of the fact that there is higher human involvement when compared with the manufacturing industries. There is little margin for error when it comes to service delivery, because of the nature of intangibility of services makes it important for organisations to get it right the first time.

Customer loyalty is an important concept for all organisations(Dib & Al-msallam, 2015; Bagram & Khan, 2012; Ganiyu, Uche, & Elizabeth, 2012) because it determines the viability and continuous existence of all organisations(Rasheed & Abadi, 2014). Even though making consumers loyal toward an organisation is not an easy job,it plays an important role inhelping organisations achieve competitiveadvantage and maintaining it (Bagram & Khan, 2012).Having and keeping customers loyal is a key factor that helps service organisations attain sustainable success.

Organisations with a lot of loyal customers perform wonderfully than organisations with less loyal customers. This can be said because according to Rasheed andAbadi (2014) customer loyalty can contribute to the improvement of corporate revenues and ultimately, profit margins while decreasing cost expenditures (Bagram & Khan, 2012). Businesses can hardly survive without having a large pool of customers (Touzani&Temessek, 2009; Setiowati&Andradea, 2012;Ganiyu, Uche& Elizabeth, 2012).Making existing customers

loyal is less costly than attracting a new customer (Ndubuisi, 2006). In this study, customer loyalty is a situation where subscribers of service providers continually patronise a service provider, recommend their service providers to others and where subscribers' preference for their service providers does not willingly change.

### 2.3 Phases of Customer Loyalty

According to Oliver (1999), customers pass through four phases of loyalty. Loyalty start at the cognitive stage, develop to the affective, further to the conative stage and finally to the action stage.

#### 2.3.1 Cognitive Loyalty

The cognitive loyalty is the first stage of the loyalty phase.During this phase, information available to a consumer about a particular depicts the brand to be preferable to others (Oliver, 1999). The commitment here is based on brand belief only (Rai & Srivastava, 2012).The customer trusts the product to be superior when compared to others and thus, takes it over others. Information about the brand and its perceived benefits affect the buying decision (Rai & Srivastava, 2012). Consumers thus exhibit cognitive loyalty to a brand after critically examining all available options and then arrive at a decision rationally (Manzuma-Ndaaba, Harada, Rome &Shamsudin, 2015). At this phase of loyalty, consumers tend to patronise a brand they have the most information about. That is to say, they buy a special product not because the product is the best, only because that is the product they have more information about and they perceive it to be the best.

### 2.3.2 Affective Loyalty

Consumers grow from the cognitive stage to the affective stage. At this stage, consumers begin to develop apositive attitude toward the brand has developed on the basis of cumulatively satisfying usage occasions (Oliver, 1999). When organisations repeatedly meet the expectations of consumers, they develop afavourable attitude toward the brand, which is an affective form of loyalty (Rai & Srivastava, 2012; Aboul-Ela, 2015).This level is defined by consumers' commitment to the product cognitively and affectively (Aboul-Ela, 2015).

### 2.3.3 Conative Loyalty

The next phase is the conative stage, which is characterised by a consumer's willingness to repurchase or re-patronise a brand. Conative loyalty is a loyalty stage where consumers hold deep commitment toward a brand (Oliver, 1999). At this stage, consumers are highly motivated to repurchase a brand fuelled by motivation and strong buying intentions (Rai & Srivastava, 2012). A conative loyal customer might not be easily swayed to switch brands, but can be moved by repeated delivery failures on the part of the organisation (Blut, Evanschitzky, Vogel and Ahlert, 2007) which might lessen the strong allegiance of the consumer to the brand (Oliver, 1999).

### 2.3.4 Action Loyalty

This is the last stage of the loyalty stage. This stage is characterised by strong motivations that remove any barrier that might pose a problem, or that might hinder the loyalty driven decision of purchasing aspecific brand (Rai & Srivastava, 2012). This phase is controlled by emotions in conjunction with the additional desire to surmount obstacles that might want to entice someone to switch loyalty (Oliver, 1999). At this phase, action loyal consumers put

their loyalty into action through strong emotions towards the brand. It is the highest peak of loyalty.

**2.4 Measurement of Customer Loyalty**

Various measurement of customer loyalty has been used in previous research. Eid (2011) measured customer loyalty in relation to Saudi consumer willingness to visit websites more frequently and keep purchasing. Trif (2013) measured customer loyalty in terms of behavioral and attitudinal loyalty; the items were adapted from previous study to suit the context of the study. Ahmad, Rizwan, Ahmad and Haq (2014) measured customer loyalty using six questions, the questions are; this brand would be my first choice, I consider myself to be loyal to this brand, I will not buy other brands if the same product is available at the store, I recommend this brand to someone who seeks my advice, I get good value for my money, I say positive things about this brand. Three items were adapted by Gul (2014) as a measure of customer satisfaction, they are: If necessary, I would make a few small sacrifices so I could continue this brand, I tend to praise and defend this brand and I think I will appreciate this brand for a long time. Customer loyalty was measured by Al-Bostanji (2013) using scale developed by previous researchers and it consisted of seventeen statements that measure customer loyalty through the following four dimensions: Word-of-Mouth communication, re-dealing intention, non-price sensitivity and complaining behavior.

Akhtar, Ahmed, Jafar, Rizwan and Nawaz (2016) measured customer loyalty in their research conducted on the impact of packaging, price and brand awareness on brand loyalty: a resellers perspective in mobile sector of Pakistan using item adapted from previous researchers using seven questions, I consider myself to be loyal to the brand, I am willing to pay more for the brand than other brands on the market, If brand is not available at the store, I would buy it in another store, I recommend people to buy the brand, If I were going to

purchase a luxury product I would consider buying this brand, If I were shopping for a luxury brand, the likelihood I would purchase this luxury brand is high and finally, I like this brand image. Three items were used to measure customer loyalty by Nguyen, Leclerc and LeBlanc (2013) which are customer's intention to consider the firm as a first choice for this type of service, the intention of continuing to do business with the firm, and the intention to recommend the firm to others. This study adapted the items for measuring customer loyalty from the study of Eid (2011) because it measures customer loyalty from the perception of overall measurement in order to record customers' response to different attributes of products and services.

### 2.5 Concept of Price

The price of a product is what the company gets in return for all the effort that is put into producing and marketing the product (Jobber 2010). Kotler and Armstrong (2010) defined price as the amount of money a consumer pays in exchange for a product or service. Fierce competition in the mobile telecommunication industry has led to drastic fall in prices charged by service providers. Price is a very important concept for any organisation (Jobber, 2010). It is essential and important for managers to understand how to set prices because both undercharging and overcharging can have great effects on profitability and satisfaction of customers (Jobber, 2010). According to Adeleke and Aminu, (2012) the service provider with the lowest prices in most cases leads to such provider having a large pool of customers. Service providers that have reasonable prices will create customer satisfaction and hence customer loyalty.

Price is the sum of all the values that consumers exchange for the benefits of having or using a product or service (Kotler & Armstrong, 2006). Price is always an important feature since it

is one of the key determinants of a product's value (Meldrum &Mcdonald, 2007; Schewe& Smith, 1980), and it is one of the major factors that affects buyer choice (Kotler & Armstrong, 2006). Thus, price is an extremely important consideration for marketers in satisfying the needs and wants of consumers (Shewe& Smith, 1980). Price is a very difficult aspect of the marketing mix to manage, as it is subject to many pressures which are independent of marketing objectives (Lovelock &Wirtz, 2007; Meldrum &Mconald, 2007; Kotler & Keller, 2006). Price is far too difficult to allow it to float free or be decided with little considerations (Fifield, 2008). It is important organisations set price in support of their overall marketing strategy and to ensure customer loyalty (Fifield, 2008). Similarly, a key goal of effective pricing strategy is to manage prices in ways that support an organisation's profitability objectives, and it requires understanding competitors pricing, and the value created to customers (Lovelock &Wirtz, 2007). Price represents the only element in the marketing mix that produces revenue, all other elements in the marketing mix represents costs (Fifield, 2008; Kotler & Keller, 2006).

It is important that pricing decisions must be buyer oriented. Where a subscriber perceives that the prices of his or her service provider is greater than the product's value, such subscriber may stop patronising the service provider (Kotler & Armstrong, 2006). On the other hand, where a subscriber perceives his or her service provider's price is below the product's value, such subscriber may continue patronising the service provider (Ojo, 2010). But this may lead to the service provider losing profit opportunities (Kotler &Armstong, 2006). This thus make price to be one of the most sensitive elements of the marketing mix, and giving organisations a big headache (Fifield, 2008; Kotler & Keller, 2006). It is therefore important for organisations to make priority to know how consumers arrive at their perception of prices (Kotler & Keller, 2006).

When setting price, it is important for organisations to take into consideration competitor's costs, prices, and possible price reactions into account (Lovelock &Wirtz, 2007; Meldrum &Mcdonald, 2007; Kotler & Keller, 2006; Kotler & Armstrong, 2006). This is because, prices set by an organisation can affect a firm's entire marketing programme, which, in turn may determine an organisation's success as well as the perception of consumers as regards the prices set by an organisation (Fifield, 2008; Shewe& Smith, 1980). However, pricing in the services industry is more complex than in the manufacturing industry, because it is much more difficult for managers to determine the financial costs of creating a service than creating a physical good (Lovelock &Wirtz, 2007). Thus making price setting in the service industry very sensitive (Rai &Srivastava, 2012).

### 2.5.1 Types of Pricing Strategies

Organisations often use different strategies to achieve their organisational goals. Jobber (2010) asserted that there are three types of marketing strategies. They include cost-oriented pricing, competitor-oriented pricing and marketing-oriented pricing.

#### 2.5.1.1 Cost-Oriented Pricing

Cost-oriented pricing is a type of pricing strategy where marketers first calculate the costs of acquiring or making a product and their expenses of doing business. After putting these things into consideration, then they arrive at a price that would them achieve their profit objectives. Organisations in most cases use cost-orientated pricing strategy when setting prices (Jobber, 2010). According to the author, cost-oriented pricing comprises full cost pricing and direct cost pricing.

Full cost pricing is a type of cost-oriented pricing strategy where all costs and expenses of manufacturing a product are calculated, and then an amount is added to arrive at a reasonable profit margin (Jobber, 2010). On the other hand, direct cost pricing also known as marginal cost pricing is the calculation of only those costs that are likely to rise as output increases.Direct cost can be directly traced to individual products, indirect costs, or over-heads, are calculated as a per-unit contribution of the coverage of common or joint costs that are initially not directly attributable to products.

### 2.5.1.2 Competitor-Oriented Pricing

Competitor-oriented pricing is a type of pricing strategy where emphasis is laid on competitors' pricing strategies. It comes in two forms. They are going-rate pricing and competitive bidding. An advantage of competitor-based pricing is that it makes organisations focusmore on their industry and their competitors.

Going-rate pricing is a type of pricing strategy where organisations examine the prices of their competitors and then set their own prices broadly in line with the prices of their competitors. Mostly, going-rate is used by organisations where there is no product differentiation. According to different marketing scholars, going-rate pricing is likely to occur when there is a degree of price leadership taking place within a particular market. Where businesses are reluctant to set significantly different prices because of the risk of setting off a price war, which would reduce profits to all firms. Finally, there is a degree of collusion taking place between firms (Kotler & Armstrong, 2010). On the other hand, contracts are won or lost on the basis of competitive bidding (Jobber, 2010). The author opined that usually, the process is made up of detailed specifications for a product and putting he contract out for a tender. Potential suppliers then quote a price that is confidential to

themselves and the buyer. In most cases, the buyer will select the supplier that quotes he lowest price.

#### 2.5.1.3 Marketing-Oriented Pricing

Jobber (2010) opined that marketing-oriented strategy is more difficult than both cost-oriented or competitor-oriented pricing, as it takes in to account wider range of factors into account. The price of a product should be set in line with marketing strategy. According to Jobber (2010), ten factors need to be considered when adopting a marketing-oriented approach. These are: marketing strategy, value to customer, price-quality relationships, product line pricing, negotiating margins, political factors, costs, effect on distributors/retailers, competition and explicability.

### 2.5.2 Relationship between Price and Customer Loyalty

Studies have been carried out to determine the relationship between price and customer loyalty. Oyatoye, Adebiyi and Amole (2013) in their study in Nigeria concluded that price plays a role in making consumers have apreference for a particular service provider and others.In the regression analysis of Olatokun and Nwonne (2012) in Ibadan, Nigeria, results showed that that price is an important tool when consumers make choices among mobile service providers in Nigeria. Consistent with the results of Oyatoye*et al*. (2013) and Olatokun and Nwonne (2012) is the results of Bhukya and Singh, (2013)in India. Price was found to have a significant relationship with students' intention to choose a service provider in India. Zikiene (2012) in her study in Lithuania found price to be one of the factors that support switching issues during the period economic hardship in the country.

Virvilaite, Saladiene, and Skindaras(2009) in their study found price to be of the issues that makecustomer loyal in the services industry. They found price fairness to be significantly related to customer loyalty. Also asserting this relationship is the study of Ullah *et al.*, (2015). The study found price to be an important predictor of customer retention among university students. Studying customer retention practices among the major retailers in Malaysia by Sharmeela-Banu, Gengeswari, and Padmashantini (2012) also found price to influence customer retention at great length. Martins, Hor-meyll, and Ferreira (2011) did a study on mobile users' switching intention comparing both German and Brazilian markets. They found price to affect the intentions of customers in the two markets.

In summary, there are scarce studies (e.g., Damtew&Pagidimarri, 2013; Akbar &Parvez, 2009) that have examined the relationship between trust and customer loyalty. More so, there are fewer studies (e.g., Haghighi, Dorosti, Rahnama, & Hoseinpour, 2012) that have examined the mediating effect of trust on the relationship between price and service quality. This study thus filled this gap by examining the relationship between trust and customer loyalty and also determined the mediating effect of trust on the relationship between price and customer loyalty.

### 2.6 Concept of Service Quality

Service quality has been studied by different researchers in various fields of study (Tefera, 2015) and has been regarded by researchers as one of the major determinants of customer loyalty (Gaurav & Khan, 2013; Ivanauskiene & Volungenaite, 2014). Quality is the variation between expected performance and actual performance (Mohammed, 2013; Dehghan, 2013; Jeremiah, Ojera & Ochieng, 2015;Ehsani & Ehsani, 2015). Service quality has been defined

by many researchers as the comparison between expectations and the actual service received (Parasuraman, Zethaml& Berry, 1985). Service quality has been defined by Kihara and Ngugi (2015) as the consumer's overall impression of the relative efficiency of the organisation and its services.

Quality in most cases influences the buying decisions of consumers (Ullah*et al*., 2015).When an experience surpass what a customer expects, there is positive disconfirmation of the expectation, and a favourable customer evaluation is perceived (Kabir, Mirza & Alam 2009). Most customers prefer good service to lower prices (Ojo, 2010). A service is an economic activity that creates value and provides benefits for customers at specific timesand places by bringing about a desired change in or on behalf of the recipient of the service (Poku, Zakari&Soali, 2013). The intangibility of services makes it very important for organisations to place more emphasis on ensuring quality of services. Because of the sensitivity of services, service organisations now place emphasis on service quality, leading to organisations competing on the basis of providing better services (Mahmudi & Abdoli, 2016). For organisations to survive the competition on the basis of rendering service quality, it is of essence they deliver quality services to their customers (Mahmudi & Abdoli, 2016; Kheng, Osman, Ramayah, & Mosahab, 2010).

Amiruddin (2013) described quality of service as the outcome and process quality of the service from all previous service encounters, hence, quality of service evaluation does not depend solely on the outcome quality of the service but it also involves evaluation of the process of service delivery. Perception of service quality is related to feelings and attitudes of customers in relation to their experience during the service provided by the operator (Hazra& Srivastava, 2009).The cause of organisations and service providers' success is inseparable

from the form of services provided to create customer satisfaction and loyalty, a few things that need to be improved, among others, (Basir, Modding, Kamase& Hassan, 2015), therefore, service quality is of utmost importance for organisational growth.

According to Al-Bostanji (2013) service quality is defined as standard level of service actual performance that matches with customers' expectations. When the customers interact with the service provider every customer assumes the service quality individually, the service provider should utilize this relation in such a way that it can handle the customers by providing them what they want and what they need (Malik, Ghafoor& Iqbal, 2012). This is because service quality is one of the most effective means of establishing a competitive position and improving profit performance (Saravanakumar&Jayakrishnan, 2014). Service quality in the context of this study is therefore defined as the difference between expectations of subscribers regarding the services they render and the actual service received by subscribers. This definition is adapted from the study of Parasuraman, Zethaml and Berry (1985).

### 2.6.1 Relationship between Service Quality and Customer Loyalty

Several studies have been carried to determine the relationship between service quality and customer loyalty using different measurement models. The study of Al-shammari & Kanina (2014) found service quality to be a determinant of customer loyalty. Concurring to this is the study of Auka (2012) in Kenya, where service quality was found to be one of the critical factors affecting loyalty of bank customers in Kenya. Jahanshahi, Gashti, Mirdamadi, Nawaser and Khaksar (2011) in their study in India automobile industry found service quality to be a predictor of customer loyalty just has Lee and Moghavvemi (2015) found service quality to have a positive significant relationship with customer loyalty in Malaysian banking

industry. Service quality was also found by them to be a very important determinant of customer loyalty in the Malaysian banking industry.

Lee (2013) carried out a study and found service quality to positively affect customer loyalty, while Khan and Fasih (2014) also found to significantly and positively affect customer loyalty in the banking sector of Pakistan. In the study of John (2011), service quality was found to enhance customer loyalty in the telecommunication industry in India. In a study in the telecommunication industry carried out in North-Western Nigeria by Hashim (2014) also found service quality to positively affect customer loyalty.

Similarly, as in the case of the mediating effect of trust on the relationship between price and customer loyalty, very few studies (e.g., Ahmad, Rizwan, Ahmad &Haq, 2014; Haghighi *et al.,* 2012) have determined the mediating effect of trust on the relationship between service quality and customer loyalty.

### 2.7 Concept of Trust

Trust is viewed as one of the most relevant antecedents of customer loyalty (Akbar &Parvez, 2009).The management of customer trust is important (Roostika, 2011). Trust is basically the emotional commitment of subscribers with a particular service provider (Kiyani, Niazi, Rizvi & Khan, 2012). According to Chinomona and Sandada (2013), trust is when subscribers are confident that their service provider is competent and reliable in keeping promises. Trust is the willingness to rely on another party in the face of risk (Upamannyu, Gulati, Chack& Kaur, (2015).

Subscribers that believe their service providers have genuine concern for their needs, they trust their service provider (Chinomona&Sandada, 2013). Subscribers that trusts their service provider engenders positive behavioural intentions towards the service provider (Akbar &Parvez, 2009). Morgan and Hunt (1994) opined that trust exist when a subscriber has confidence in a service provider's integrity. Consumers who trust a firm expect promises to be respected as advertised (Nguyen, Leclerc&LeBlanc, 2013).

According to Sawar, Abbasi and Pervaiz (2012), trust is defined as a relation that attaches a customer with the organisation. When trust exists, the customer willingly believes the service providers based on the expectation that the service provider will be honest and meet up with the customers' needs. Customer trust refers to some dimensions of customers' beliefs which lead them to commitment and obligation (Ghasemi&Beiranvand, 2016), which implies that if customers trust the service providers, they can count on the long term availability and benefit attached to the services provided. Service providers can build emotional trust if they can prove that the brand is only for the customers and meet their expectations (Ahmad, Rizwan, Ahmad &Haq, 2014). Therefore, to gain customer trust, the service provider should be reliable and competent in the cause of service delivery.

According to Gul (2014), trust is a significant intervening factor between behaviour of customers before and after the purchase of particular product. It results in the long-term loyalty and makes stronger the association between the service provider and the customer. Accordingly, when a customer trusts a business or brand, that customer is willing to form a positive buying intention towards the business (Vurren, Lombard &Tonder, 2012). It is explained by Kassim and Abdullah (2008) that a relationship is crucial to managing trust, because a customer typically must buy a service before experiencing. Trust in the context of

this study is defined as the believe subscribers have in their service providers to always provide them with quality services as competitive prices. This is similar to the conceptualization of Chinomona and Sandada (2013).

### 2.7.1 Mediating Role of Trust

The choice of using trust as a mediator in the relationship between price and customer loyalty and between service quality and customer loyalty, is not based solely on inconsistencies in the literature and scarcity of literature but also on theoretical backing. The theory backing the choice of using trust as a mediator is the commitment-trust theory. The theory posits that trust has antecedents and outcomes. One of the antecedents of trust is relationship benefits, which can come in form of price and service quality (Delafrooz, Paim, Haron, Sidin&Khatibi, 2009; Holdford& White, 1997), while trust also leads to readiness on the part of a consumer to continue a relationship with their organisations.

A study by Rasheed and Abadi (2014) studied the effect of service quality on trust. The study found service quality to have a significant effect on trust. Cho and Hu (2009) studied the effect of service quality on trust. The study found service quality to have an effect on trust. Likewise, is the study of Ghalandari in 2012 where e-service quality was found to have an effect on e-trust. Service quality was also found to have significant effect on trust by Kundu and Datta (2015). Eisingerich and Bell (2008) also found service quality to have an effect on trust.

Chinomona, Okoumba and Pooe (2013) found perceive value to positively related to trust.In the study of Akbar and Parvez (2009) and Damtew and Pagidimarri (2013), trust was found to

have an effect on customer loyalty, likewise, in the study of Chinomona and Sandada (2013), customer trust was found to have positive effect on customer loyalty (Madjid, 2013).In the study of Upamannyu*et al*. (2015), customer trust was said to have a positive effect on customer repurchase intention. Ahmed *et al.,* (2014) found trust to be a mediating variable between service quality and customer satisfaction, and between perceived value and customer satisfaction.

Service quality has been seen to have an effect trust. Price is also seen to have an effect on customer trust. On the other hand, trust does also have an effect on customer loyalty based on the findings of previous studies. These findings show trust to be a potential mediator between service quality and customer loyalty, and between price and customer loyalty.

### 2.8 Review of Empirical Literature

Agyei and Kilika (2013) did a study on the relationship between service quality and customer loyalty in telecommunication industry. The study examined the direct relationship between service quality and customer loyalty. A significant relationship was found between service quality and customer loyalty. Similarly, Auka (2012) determined the direct relationship between service quality and customer loyalty. Findings revealed that there was a positive and significant relationship between service quality and customer loyalty. In the study of Jahanshahi*et al.* (2011), the direct effects of product quality on customer loyalty in India was examined by the authors. Results of the study show that product quality has an effect on customer loyalty. Ivanauskiene and Volungenaite(2014) did a study to determine if there is a relationship between service quality and customer loyalty in retail stores in Lithuania, Latvia and Estonia. The study concluded that service quality has a direct effect on customer loyalty.

A study was carried out in Iran by Mahmudi and Abdoli (2016). They focused on the effect of service quality on customer loyalty. The study concluded that service quality has direct effect on customer loyalty. Lee and Moghavvemi (2015) did a studyon the dimension of service quality and customer loyalty, studying Malaysian Banks. Result show that service quality impacts significantly on customer loyalty. Hafeez and Muhammad (2012) did a study on the impact of service quality on customer's loyalty: evidence from banking sector of Pakistan. The research focuses on finding the impact of service quality, customer satisfaction and loyalty programs on customer's loyalty in thebanking sector of Pakistan. The research found out that service quality has effect on the loyalty of a customer.

Afsar, Rehman, Qureshi, and Shahjehan (2010) studied the determinants of customer loyalty in the banking sector of Pakistan. Perceived quality and trust, were found to influence the loyalty of customers. This means, service quality and trust has direct effects on customer loyalty based on the findings of the study. Chen, Chen, and Yang (2008) studied the impact of service quality and trust on customer loyalty. Results showed that service quality and customertrust is positively influenced customerloyalty. Khan and Khawaja (2013) studied the relationship between customer satisfaction and customer loyalty. The study found out that there is a direct relationship between customer satisfaction and customer loyalty. So also, Akbar and Parvez (2009) did a study on the impact of service quality, trust, and customer satisfaction on customer loyalty. The result of the study shows that service quality and trust positively affect customer loyalty.

Iddrisu, Nooni, Fianko, and Mensah (2015) assessed the impact of service quality on customer loyalty in the cellular industry. Customer satisfaction was used as a mediating variable in their study between service quality and customer loyalty. Kheng, Osman, Ramayah, and Mosahab

(2010) examined the impact of service quality on customer loyalty, studying banks Malaysia. In the study, customer satisfaction was used to mediate the relationship between service quality and customer loyalty. Chinomona and Sandada (2013) did a study on customer satisfaction, trust and loyalty as predictors of customer retention to re-purchase. The study determined the mediating effect of trust between customer satisfaction and loyalty. The study found trust to mediate the relationship between customer satisfaction and customer loyalty.

Roostika (2011) did a study on the effect of perceived service quality and trust on loyalty on mobile internet adoption. The study examined trust as a mediator between service quality and customer loyalty. Using partial least square analysis, the study found out trust mediates the relationship between service quality and trust. Shpëtim (2012) explored the relationships among service quality, satisfaction, trust and customer loyalty. One of the objectives of the study is to determine the mediating effect of trust between service quality and customer loyalty. The study concluded that trust mediates the relationship between service quality and customer loyalty.

Based on the aforementioned related studies in this section, most previous studies (e.g., Agyei & Kilika, 2013; Auka 2012; Jahanshahi*et al.*,2011) have largely examined the direct relationship between price, service quality and customer loyalty. However, the proposition of the commitment-trust theory is that trust can mediate the relationship between price, service quality and customer loyalty, with price and service quality being the independent variables and customer loyalty being the dependent variable. Most studies (e.g., Iddrisu*et al.*, 2015; Kheng*et al.*, 2010) that have considered including a mediator in a study such as this, have largely examined customer satisfaction as a mediating variable between service quality and customer loyalty. Even studies that have considered studying trust as a mediating variable have

mostly studied the mediating effect of trust on the relationship between service quality and customer loyalty, ignoring price as a variable (e.g., Shpëtim, 2012; Roostika, 2011). The present study fills this knowledge gap by examining the how trust mediates the relationship between price and customer loyalty and between service quality and customer loyalty.

Vaghela*et al.,* (2012) carried out a study on customer preference for mobile number Portability (MNP) in India. 100 questionnaires were used for final analysis. The study found out that network coverage, customer care, quality of service are the main factors to switch over another service provider. Similarly, Ocloo and Tsetse (2013) carried out a study on customer retention in Ghana telecommunication industry. the authors used however a small sample size of 134 for data analysis. John (2011) carried out an analysis on customer loyalty in telecommunication industry in India. The study used just 100 cases for data analysis. In addition, their sample size was too short and grossly inadequate to have a fair finding. This study filled this gap by studying a larger sample. Al-shammariand Kanina (2014) did a study on service quality and its relationship with customer loyalty in a Saudi Arabian automobile company. However, the study used only 170 were used for analysis. Service quality, based on the finding of the study has significant effect on customer loyalty.

Hossain and Suchy (2013) did a study on the influence of customer satisfaction on loyalty, studying mobile telecommunication industry. The study aimed to explore the influence of customer satisfaction on customer loyalty in the context of Bangladesh. However, the study used only 150 questionnaires for analysis. Yee, Ling, and Leong(2015) carried out a study in Malaysia on the factors affecting customer loyalty in the telecommunications industry The authors however use only 100 samples for final analysis. Similarly, Sabir, Irfan, Sarwar, Sarwar and Akhtar (2013) carried out a study on the impact of service quality on customer

loyalty. However, data were collected from only 150 customers for final analysis. Ullah *et al.*,(2015) evaluated factors affecting customer loyalty in Pakistan. Only 100 questionnaires were distributed to respondents in the study.

Sarwar, Abbasi, and Pervaiz (2012) studied the effect of customer trust on customer loyalty and customer retention. The study only used 150 questionnaires for data analysis. The outcome of the study refers that customer trust positively affects customer loyalty. Further,Saeed *et al*. (2013) did a study to examine factors that influences brand loyalty. A samplesize of only 150 students and teachers, from different colleges and universities of Sahiwal, were selected and surveyed through questionnaires. Roostika (2011) did a study on the effect of perceived service quality and trust on loyalty on mobile internet adoption. The study only used 186 cases for final analysis.

It can be seen from the review of literature, that most studies related to this study have largely used grossly statistically inadequate sample sizes for their studies. Examples of such studies includes Ullah*et al.,* (2015); Hossain and Suchy (2013) and Vaghela*et al.,* (2012). However, this study fills this gap in the literature by using statistically acceptable sample size for data analysis.

Poku, Zakari, and Soali (2013) studied how service quality impacts on customer loyalty in the hotel industry in Ghana. The authors used convenience sampling to distribute questionnaires to respondents. The study found out that service quality thus impacts customer loyalty. Akeke *et al*. (2016) did a study on customers' preference of mobile phone service providers in Ekiti State. The authors similarly as Poku*et al.,* (2013) used non probability method to collect data from respondents. So also, Vaghela*et al.,* (2012), in their study on determining customer

preference for MNP in India, used convenience sampling to distribute questionnaires to respondents. Ocloo and Tsetse (2013) carried out a study on customer retention in the Ghanaian telecommunication industry. The study was carried out to find out whether quality service has a relationship with customer retention and whether there is theinterplay between customer satisfaction and retention. However, questionnaires for the study were distributed using non-probability method.

Hossain and Suchy (2013) did a study on the influence of customer satisfaction on loyalty in the telecommunication industry.The study used convenience sampling to distribute questionnaires to respondents. Yee, Ling, and Leong(2015) carried out a study in Malaysia on the factors affecting customer loyalty in the telecommunications industry in Klang Valley. The authors used convenience sampling to distribute questionnaires to respondents. Ullah, Khan, and Shahzad (2015) examined factors that influences customer loyalty. Questionnaires used for analysis in the study were distributed to respondents using convenience sampling. Saeed *et al*. (2013) evaluated factors that influences brand loyalty. The study used questionnaires to collect data from respondents. However, questionnaires were distributed using convenience sampling.

It can be deduced that most previous related studies have largely used non-probability sampling mostly in the form of convenience sampling and purposive sampling to distribute questionnaires to respondents (e.g., Yee *et al.,* 2015; Ocloo & Tsetse 2013; Saheed*et al.,* 2013). However, this study improved on this shortcoming of these study by using probability sampling in the form of stratified and systematic sampling to distribute questionnaires to respondents of this study.

Finally, Haghighi*et al.,* (2012) evaluated the factors affecting customer loyalty in the restaurant industry. The study used price and service quality in relation to customer loyalty. Trust was studied as a mediating variable between the relationships. 268 respondents were randomly sampled. Structural equation modelling was used by the study to analyse data. Price and service quality were seen to affect customer loyalty. On the other hand, price and service quality were seen to affect customer trust, while trust does affect customer trust. The study recommended that the restaurant managers should take into consideration the taste, appearance, and presentation of food, food healthiness, and also try to increase food diversity in order to cover various tastes of different customers. The study further recommended that management should focus on eliminating extra costs to prevent increase of price. The sample size of the study was inadequate for this kind of study, where their focus was on customers.

In summary, from the review of literature, it is seen that the study of Haghighi*et al.*, (2012) is the only available study to the researcher that has studied the mediating effect of trust on the relationships between price, service quality and customer loyalty. This thus amount to a great scarcity in the literature on the mediating effect of trust on the relationships between the exogenous and endogenous variables of the present study. This study thus add to the scarcity of studies in the literature by determining the mediating effect of trust on the relationships between the independent and dependent variables of this study.

However, there are some differences between this study and the study of Haghighi*et al.*, (2012). First, the sample size used for analysis in their study was statistically inadequate, this flaw was remedied by this study. Second, their study was carried out in the restaurant industry, while this study was carried out in the telecommunication industry. Third, methodologically, their study failed to report the validity of the constructs used in their study, i.e., convergent and discriminant validity. Also, the study failed to carry out test of nonresponse bias and test of

common method bias. These shortcomings were also remedied by this study. Fourth, the items used in measuring the variables in their study were adapted from different sources when compared to the present study. Finally, this study was carried out during the period of economic recession, to determine which of price and service has the higher effect on customer loyalty, which was not done in their study. Consequently, this study therefore differs from the study of Haghighi*et al.,* (2012) for these reasons. This study thus contributes to the body of knowledge. As at the time of carrying out this study, and in the available literature to the researcher of the present study, it was found that only the study of Haghighi*et al.,* (2012) has studied the mediating effect of trust on the relationships between price, service quality and customer loyalty.

## 2.9 Theoretical Framework

A number of theories have been used to explain the relationship between price, service quality and customer loyalty. Also, a number of theories have been used to explain the relationship between trust and customer loyalty. For this study, two theories were used to underpin it. They are the theory of consumption values and the commitment-trust theory. The theory of consumption values was used to explain the direct relationship between price, service quality and customer loyalty. On the other hand, the commitment-trust theory explains theoretically the mediating role of trust on the relationships between price, service quality and customer loyalty.

### 2.9.1 The Theory of Consumption Values

The theory of consumption values gives explicit reasons and motives why people buy what they buy (Bødker, Gimpel&Hedman, n.d).The theory was propounded by Sheth, Newman and Gross in 1991. The theory focuses on consumption values. The theory explains why

consumers choose to use or not to use a specific product. According to the theory, consumer choice is influenced by five values; functional value, conditional value, social value, emotional value and epistemic value. The five consumption values must not be necessarily present at the same time to influence consumer choice (Sheth*et al.* 1991). Specific choices made by consumers may be influenced by one of the five values, and at another time, choices made by consumers might be influenced by the five values (Sheth*et al.* 1991). The theory is based on three assumptions. Firstly, consumer choice is a function of multiple consumption values. Secondly, the consumption values make differential contributions in any given choice situation. Finally, the consumption values are independent. The consumption values mentioned here are the five values mentioned in the theory that influences consumer choice behaviour.

The relationship between price and customer loyalty and between service quality and customer loyalty is underpinned by the relationship between functional value and consumer choice behaviour. This can be said because the last assumption of the theory states that, consumption values are independent of each other. Functional value follows economic utility theory and assumes economic rationalism (Bødker*et al.* n.d). Consumer decisions to buy or use a product or service are based on the attributes of the product or service and how well consumers' needs are met (Tabassum, Zafar,Ali,Alam, &Ali, 2013).The dimension of functional values is described as the benefits obtained from the quality and price of a product or service (Candan, Ünal&Erciş, 2013). Researchers such as Tabassum*et al.* (2013) and Candan*et al.* (2013) found functional value to positively affect customer loyalty among consumers. This thus explain the relationship between price and customer loyalty, likewise between service quality and customer loyalty.

### 2.9.2 The Commitment-trust Theory

The commitment-trust theory was propounded by Morgan and Hunt in 1994. The theory assumes that trust influences relationship commitment, while commitment has effect on consumers' willingness to continue with a relationship. According to the authors, parties will only seek to work with trusted partners. This clearly shows the importance of trust in a relationship. The theory further assumes that for there to be a successful relationship between two parties, there must exist between the parties. Shpëtim(2012) pointed out that trust enhance customer loyalty.

The commitment-trust theory proposes that trust is akey constructs that function as mediating variables, having five antecedents (relationship benefits, relationship termination costs, shared values, communication, and opportunistic behaviour) and having five outcomes (acquiescence, propensity to leave, cooperation, functional conflict and decision-making uncertainty)(Holdford& White, 1997). For the purpose of this study, the relationship between relationship benefits, trust and greater willingness to cooperate in the commitment trust theory was used to underpin this study. Relationship benefits could come in the form of pricing benefits or quality of service (Candan, Ünal&Erciş, 2013; Delafrooz*et al.* 2009; Holdford& White 1997). In the study of Holdford and White (1997), relationship benefits was seen to have an effect on trust, while trust in turn led to greater willingness to cooperate. Based on the review of literature and theoretical backings, figure 2.1 presents the research model.

## 2.10 Research Model

This section was used to show the model of the study. Based on the review of literature and the theories used to underpin this study, figure 2.1 show the research model of the study.

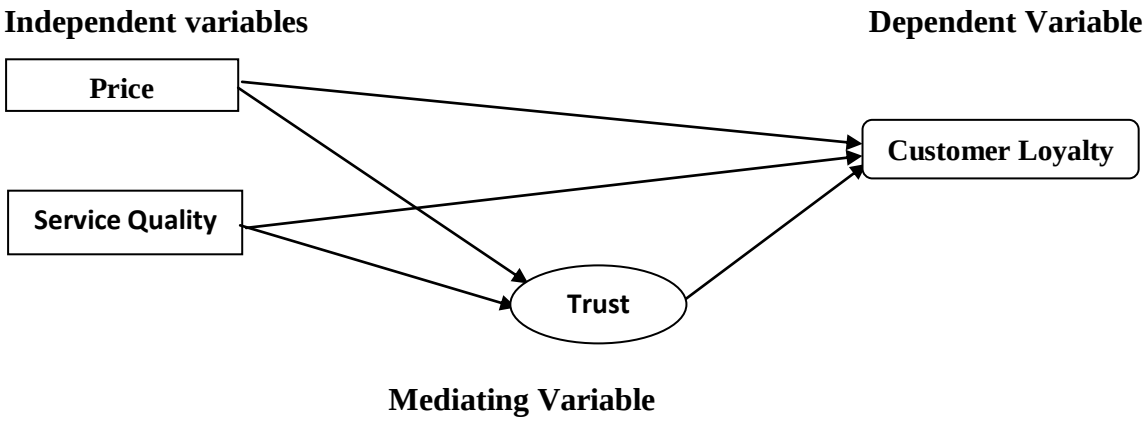


Figure 2.1: *Research Model*

Figure 2.1 represents the research model of this study. Price and service quality are the independent variables of this study, while customer loyalty is the dependent variable of the study. As seen on Figure 2.1, trust is the intervening variable between price and customer loyalty and between service quality and customer loyalty.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapterprovides information concerning the research design used by the study. It also gives information on the people that constitute the population of the study and how the sample for the study was drawn from the population using stratified and systematic sampling. The chapter provides information on the source and method of collecting needed data from respondents. The study used a structured questionnaire to collect data from respondents as contained later in the chapter. The items used in measuring each variable in this study were adapted from various sources to fit the objectives of this work. These sources where the items were adapted from were mentioned later in the chapter. This chapter also report the reliability and the validity of the questionnaire used by the study. Data collected went through series of

pre-tests to ensure they do not violate the assumptions of multiple regression. The pre-tests carried out on the collected data are later mentioned in this chapter.

### 3.2 Research Design

A cross-sectional research design was used for this study. This is viewed as the most appropriate for this study as the researcher could not carry out a longitudinal study because of time constraint. This is because longitudinal surveys need a longer time to be carried out when compared with cross sectional surveys (Kothari & Garg, 2014). Cross sectional surveys save time and is cost effective (Sekaran&Bougie, 2010), thus the reason why most researchers prefer cross sectional survey to longitudinal survey (Kothari & Garg, 2014).

### 3.3 Population of the Study

The population of this study constitute of every subscriber that patronises any of the mobile service providers in Zaria. Based on the data available on the NCC website, the number of subscribers in Zaria runs into hundreds of thousands. Research scholars have advised that whenever a population runs into hundreds of thousands, such population could be regarded as an infinite population, because such population are finite but yet inconceivable (Sa'id&Madugu, 2015).

### 3.4 Sample Size of the Study

Since the population of the study is infinite in nature, according to Rose, Spinks, and Canhoto (2015), the formula for determining the sample size of an infinite population is:

$$n_r = \frac{4pq}{d^2}$$

Where:

$n_r$ = required sample size, $p$= proportion of the population having the characteristic, $q$ = 1- p and $d$ = degree of precision (i.e. margin of error acceptable).

$p$ was set at 0.5 as advised by Rose *et al.*, (2015), $q = 1 - q = 1 - 0.5 = 0.5$, $d = 0.05$, ($d$ was set at5%, as the acceptable margin of error for this study). Substituting these figures into the formula we have:

$$\mathbf{n_r = \frac{4 \times .5 \times .5}{.05^2} = \frac{1}{.0025} = 400}$$

The minimum sample size of this study is 400. So as not to fall short of the minimum sample size of 400, it was advised by Israel (2013) that 30% should be added to the minimum sample size. 520 questionnaires were distributed by the researcher.

### 3.5 Sampling Technique

The survey used proportionate stratified sampling technique. Stratified sampling is suitable where thesample to be drawn does not constitute a homogeneous group and stratified sampling technique is generally applied in order to obtain a representative sample (Kothari & Garg, 2014). The respondents of this study were divided into four strata since we have four mobile service providers in Nigeria. The four strata weresubscribers of Airtel Nigeria, subscribers of 9mobile, subscribers of Globacom and the subscribers of MTN Nigeria. Samples were drawn from each stratum proportionately to their sizes.

The formulae to get the required samples from each stratum is:

**SS (sub/total sub)**

Where;

SS = Sample size, which is 520

Sub = number of subscribers of each service provider

Total sub = total active subscribers in the industry as at October 2016, which is 153,086,710.

For, the number of subscribers for the individual service providers, this study utilised the data for September, 2016. The study used the data for September because, as at the time of carrying out this study, on the NCC website, the data available for the number of subscribers for individual service providers was for the month of September, 2016 and not for October, 2016. The total number of subscribers for individual service providers for September, 2016 are:

Airtel Nigeria = 32,775,916

9mobile = 22,534,800

Globacom = 36,967,712

MTN Nigeria = 60,558,569

The sample to be drawn from Airtel Nigeria is therefore:

520 (32,775,916/153,086,710) = 112

From 9mobile:

520 (22,534,800/153,086,710) = 77

From Globacom:

520 (36,967,712/153,086,710) = 126

From MTN Nigeria:

520 (60558569/153,086,710) = 206

Adding the samples together we arrive at 521.

Systematic sampling was employed by the researcher to administer the questionnaires at each customer centre of the strata.Systematic sampling is a kind of sampling where randomness is introduced into the sampling by using random numbers to pick up the unit with which to start (Kothari & Garg, 2014). The first respondent was selected randomly, and there after questionnairewas given to every 2nd walk-in customer at each customer centre of the strata.

### 3.6 Source and Method of Data Collection

This study employed the use of primary data through questionnaire, the questionnairewas self-administered assisted by research assistants to subscribers at the customer centres of the four mobile service providers in Zaria. The questionnaire was structured based on sections A and B. Section A was used to collect data on demographic distribution of respondents. Section B provided statements on variables of this study.

### 3.7 Measurement of Variables for the Study

The survey used a questionnaire to gather needed information from respondents.The questionnaire utilised for this study was adapted from various sources. Questions asked on Customer Loyalty (CL) were adapted from the study of Eid (2011). Customer loyalty was measured using three items. Three items were used to measure Trust (TR), adapted from Morgan and Hunt (1994).Price was measured using subscribers' perception of the prices of their service providers. Three items were used to measure price (PR), adapted from Herrmann, Xia, Monroe and Huber (2007). Finally, three items were used to measure overall service quality (SQ) adapted from Spreng and Mackoy(1997). The questionnaire was on a five-point Likert scale, ranging from strongly disagree (SD) to strongly agree (SA). The use of Likert scale has been often necessary because it is an interval scale that enables a

researcher to analyse questionnaire responses and give room to respondents to choose among multiple options.

### 3.8Pilot Study

To ensure content validity, the questionnaire was reviewed by two academics and pilot testing was carried out with a group consisting of forty subscribers of the four mobile service providers in Zaria, distributing 10 questionnaires to each of the subscribers of the four mobile service providers. Cronbach's Alpha was used to evaluate the questionnaire reliability. The variables were tested independently to check if the questionnaire to be used for the study is reliable enough. All variables have a figure above 0.7 except one which has a figure below 0.7. A Cronbach's Alpha figure below 0.7 can be accepted provided other variables in the study have a Cronbach's Alpha figure above 0.7 (Hair, Black, Babin& Anderson, 2014).

### 3.9 Methods of Data Analysis

Data collected underwent preliminary analysis. The data were tested for missing values. Missing values were replaced using mean substitution. Outliers were detected and screened. The data further underwent normality test using skewness and kurtosis statistics, and multicollinearity was tested using Variance Inflation Factor (VIF). The data collected underwent further processing using Partial Least Square Structural Equation Modelling (PLS-SEM) on SmartPls3. Structural equation modelling was used by this study as it is a tool that works better with small samples and a better tool for complex models (Urbach&Ahlemann, 2010). SmartPls3 has two models, the measurement model and the structural model, also known as the outer and inner model respectively. The outer model is used to cycle between path coefficients and path loadings, while the inner model is used to cycle among path coefficients, total effect coefficients, and indirect effect coefficients (Garson, 2016).

The data collected underwent some analysis so as to make certain the data show reliability, convergent validity and discriminant validity before running structural equation modelling (SEM).SEM helped test the hypotheses of this study. The following explains how the study carried out these pre-tests.

### 3.9.1 Construct Reliability and Validity

It is of importance that the items used in measuring the variables in the study, show reliability and validity. The data were tested for reliability and convergent validity. Convergent validity is often used to measure the correlation of a dimension's multiple indicators (Lee & Chen, 2013). Adjustments were made where necessary, where the data failed to pass any of the tests.

Constructs reliability were tested using Cronbach's Alpha and composite reliability. While convergent validity was tested using Average Variance Extracted (AVE) as suggested by Garson (2016). Cronbach's Alpha coefficient should be $\geq 0.7$ (Hair *et al.* 2014). Composite reliability coefficient should be $\geq 0.7$ also (Lee & Chen, 2013), while AVE coefficient should be $\geq 0.5$ (Garson, 2016). In the case where any of the construct fall short any of these minimum standard, adjustments were made. Items having the minimum effect on the construct falling short of any of the criteria were deleted. This process continued until all the constructs met the minimum requirements of each of the tests.

### 3.9.2 Factor Loadings

It is important for indicators to load consistently under their individual constructs. According to Hair *et al.* (2014), indicators should not load below 0.7. Items that loaded below 0.7 were

deleted (Hair *et al.* 2014). Only items loading above 0.7 were retained. Where, item(s) are deleted, it is important to submit the data for a second reliability and validity tests.

The data for a second time underwent tests for construct reliability and convergent validity, this time with the inclusion of discriminant validity. Discriminant validity is often used to assess whether a construct and its indicators is distinct from other constructs and its indicators in the outer model (Lee & Chen, 2013). Discriminant validity was tested using Fornell-larcker Discriminant Validity.

AVE can be used to establish discriminant validity by the Fornell–Larckercriterion. For discriminant validity to exist, the square root of the AVE should be higher than its correlation with other latent variables (Garson, 2016). In the correlations table, where it is observed that the square of AVE is higher than it correlations with other latent variables, the data will be assumed to show discriminant validity test using Fornell-larcker criterion.

At this point, it is assumed that the data collected have gone through the necessary screening and cleaning so as to engage in further analysis. This lead to the next stage. The next stage was used to test the hypotheses of the study.

### 3.9.3 Test of Hypotheses

The direct effects of price and service quality on customer loyalty was determined using a bootstrapped analysis of 416 cases using 5000 subsamples. It is important to determine the direct effects of price and service quality on customer loyalty before including trust in the relationship (Hair *et al.* 2014). This helped test the hypotheses of the study. Hypotheses were

tested using direct path coefficient and mediated path coefficient using 5% level of significance.

### 3.9.4 Direct, Indirect and Total Effects

Beyond testing the hypotheses of this study, the study further tested for the direct effects and total effects of price and service quality on customer loyalty without the inclusion of trust. Also, the study tested the direct, indirect and total effects of price and service quality on customer loyalty with the inclusion of trust.

### 3.9.5 Effect Size

The study further tested for the effect size of the direct relationship between price and customer loyalty and between service quality and customer loyalty using $f^2$ without the inclusion of trust. $f^2$test was repeated with the inclusion of trust in the model. That is, the effect of price on customer loyalty and the effect of service quality on customer loyalty. Further is the effect of price on trust, effect of service quality on trust and finally, the effect of trust on customer loyalty. According to Cohen in 1988, $f^2$values of 0.02, 0.15, and 0.35, represents small, medium, and large effects respectively.

### 3.9.6 Predictive Relevance for Direct and Indirect Relationships ($Q^2$)

The Stone-Gleisser $Q^2$value was used to assess construct cross-validated redundancy. The $Q^2$ criterion is an indicator of the predictive relevance of a model (Hair *et al*., 2014). $Q^2$ value of the direct effects of price and service quality was determined first without the inclusion of trust. Further, $Q^2$ value was determined with the inclusion of trust in the model. In the

structural model, a $Q^2$ value larger than zero for a certain reflective endogenous latent variable indicate the path model's predictive relevance for the construct. While a $Q^2$ with a 0 or negative value indicates the model is irrelevant to prediction of the given endogenous factor (Garson, 2016). A $Q^2$ value of 0.02 represents a small effect size, 0.15 represents a medium effect size, and 0.35 represents a high effect size (Cohen, 1988).

# CHAPTER FOUR

# DATA PRESENTATION AND ANALYSIS

## 4.1 Introduction

This chapter presents the result of the analysed data. The descriptive statistics of the respondents were presented in this section. The direct and indirect effects of price and service quality on customer loyalty were reported in this chapter.

## 4.2 Response Rate

Table 4.1
*Summary of Response Rate*

| **Item** | **No of Copies** | **Returned** | **Rate %** |
|---|---|---|---|
| Questionnaires distributed to Airtel Nigeria subscribers | 112 | 91 | 17.5 |
| questionnaire distributed to 9mobile subscribers | **77** | 64 | 12.3 |
| Questionnaire distributed to Globacom subscribers | 126 | 100 | 19.1 |
| Questionnaire distributed to MTN Nigeria subscribers | 206 | 177 | 34 |
| **Total** | **521** | **432** | **82.9** |

Table 4.1 shows the summary of the number of questionnaires distributed and the number of questionnaires returned. A total number of 521 questionnaires were distributed to respondents. Subscribers of MTN Nigeria were given the highest number of questionnaires with a figure of 206, having a return of 177. Subscribers of Globacom Nigeria were the next highest with 126 questionnaires distributed to them, having a return of 100. Next is Airtel Nigeria, having 112 questionnaires distributed to their subscribers, with a return of 91. Lastly, 77 questionnaires were distributed to subscribers of 9mobile having a return of 64. In total, 432 questionnaires were returned, constituting 82.9% response rate, which is suitable for further analysis. As a result of having 432 questionnaires returned, the researcher did not fall beyond the minimum sample size of this study which is 400.

### 4.3 Preliminary Analysis

It is important to carry out some preliminary analysis before structural equation modelling (Hair *et al.,* 2014). The data collected were screened for missing values, outlier detection, data normality, multicollinearity, nonresponse bias and common method bias. Details are presented below.

#### 4.3.1 Missing Values

Missing data is one of the most pervasive problems in data analysis (Tabachnick&Fidell, 2013). It is always important to check for missing values in the data set. It is advised by Hair *et al.* (2014)that 10% should be used by researchers as a tolerable threshold for missing values. Using descriptive statistics, out of 5,184 data elements only 19 were found to be missing in the data set, which constitutes 0.37% of the data set which is below the 10% benchmark, therefore were ignored. However, the missing values were replaced using mean substitution(see Appendix N). Mean substitution is the most commonly used method for replacing missing values (Hair *et al.*, 2014).

Price has three missing data, while service quality has seven missing data. Trust has three missing data, similarly, customer loyalty has six missing data. All the missing values occurred at random.

#### 4.3.2 Assessment of Outliers

An outlier is a case with such an extreme value on one variable (a univariate outlier) or such astrange combination of scores on two or more variables (multivariate outlier) that it distorts statistics (Tabachnick&Fidell, 2013). Detecting outliers for multivariate analysis such as this study, is best detected by using Mahalanobis distance ($D^2$). The Mahalanobis distance ($D^2$) is

a method that measures each observation's distance in multidimensional space from the mean centre of all observations, providing a single value for each observation no matter how many variables are considered (Hair *et al.*, 2014). It is suggested by Hair *et al.* (2014), that conservative levels of significance (.001) be used as the threshold value for designation as an outlier. Thus, this study utilised Mahalanobis distance ($D^2$) to detect outliers. 16 cases were detected as outliers and were deleted from the data set.

### 4.3.3 Normality Test

The data were further tested for normality. It is imperative at this point that the data collected should display some form of normality. The normality of individual items was tested using skewness and kurtosis statistics. Kurtosis measures how peak or how flat a distribution is when compared with a normal distribution (Hair *et al., 2014*). While skewness is the measure of the symmetry of a distribution (Tabachnick&Fidell, 2013). Based on the result presented in Table 4.2, the variables of the study fall within the range of ±1.96, which serves as the most commonly used threshold (Hair *et al.*, 2014). As a result, the data displayed some normality.

Table 4.2
*Normality Test using Skewness and Kurtosis Statistics (n=416)*

| Construct | Items | Skewness | Std. Error | Kurtosis | Std. Error |
|---|---|---|---|---|---|
| Price | PR1 | -0.18 | 0.12 | -0.91 | 0.24 |
| | PR2 | -0.58 | 0.12 | -0.19 | 0.24 |
| | PR3 | -0.14 | 0.12 | -0.77 | 0.24 |
| Service Quality | SQ1 | -0.87 | 0.12 | 0.22 | 0.24 |
| | SQ2 | -0.57 | 0.12 | -0.18 | 0.24 |
| | SQ3 | -0.58 | 0.12 | -0.17 | 0.24 |
| Trust | TR1 | -0.80 | 0.12 | 0.10 | 0.24 |
| | TR2 | -0.63 | 0.12 | -0.22 | 0.24 |
| | TR3 | -0.69 | 0.12 | 0.03 | 0.24 |
| Customer Loyalty | CL1 | -0.85 | 0.12 | 0.84 | 0.24 |
| | CL2 | -0.54 | 0.12 | 0.36 | 0.24 |
| | CL3 | -0.27 | 0.12 | 0.67 | 0.24 |

### 4.3.4 Multicollinearity Test

The existence of multicollinearitybetween independent variables might lead to a disputable result, which makes it imperative to be tested. Multicollinearityoccurs when two or more independent variables are highly correlated with each other (Hair *et al.* 2014). This leads to problems with understanding the contribution of the independent variables on the variance of the dependent variable. The study utilized Variance Inflation Factor (VIF) to test for multicollinearity (Kothari & Garg, 2014). A VIF figure above ≥ 5shows serious multicollinearity (Kothari & Garg, 2014). There was no problem of multicollinearity as all VIF figure in Table 4.3 are below 5.

Table 4.3
*Multicollinearity Statistics: VIFValues (n=416)*

| Construct | CustomerLoyalty |
|---|---|
| Price | 1.079 |
| Service Quality | 1.288 |
| Trust | 1.377 |

### 4.3.5 Nonresponse Bias

One of the four errors that can affect the quality of a survey research is nonresponse error (Dillman as cited in Lindner, Murphy & Briers, 2001). Nonresponse error exists where respondents fail to provide usable responses and are different than those who do on the characteristics of interest in the study (Lindner, Murphy & Briers, 2001). Unreturned questionnaires given to respondent constitutes nonresponse bias, and sometimes termed as bad sample (Roni, 2014). It is important that statistical test is carried out to assess nonresponse bias (Roni, 2014). Because,Armstrong and Overton (1997)argued that there should not be a significant difference between respondents that responded and those that did not respond. Where there is a significant difference between respondents and non-respondents in a survey, the findings of such a survey cannot be generalized to the entire population (Armstrong &Overton, 1977).

There are different statistical methods of testing for nonresponse bias. One of the methods to test for nonresponse bias is to compare respondents to non-respondents (Lindner, Murphy & Briers, 2001). Some researchers work diligently hard to get responses from non-respondents and make comparisons between respondents and non-respondents. However, the frequently used method is to compare early respondents to late respondents. As opined by Roni (2014),

technically, it's very hard, if not impossible, to get a response from those who choose not to respond. However, Pace (1939) explained that respondents who respond late can be likened to non-respondents. The study utilised independent samples T-test to test for nonresponse bias (Roni, 2014).

This study divided the responses into two groups using time frame the researcher got the questionnaires back from respondents (i.e., early and late groups). The early group are respondents that returned their questionnaires between February 20th 2017 to February 24th2017. The late group are respondents that returned their questionnaires after February 24th 2017. Majority of the questionnaires returned belong to the early group, they are 378 in number. While the remaining 38 questionnaires fall to the late group. Table 4.4 show the result of the nonresponse bias test using independent samples T-test (Roni, 2014).

Table 4.4
*Test of Nonresponse Bias Using Independent Samples T-Test (n=416)*

| **Construct** | **Group** | **N** | **Mean** | **Levene's Test for Equality of Variances** | |
|---|---|---|---|---|---|
| | | | | **F** | **Sig.** |
| Price | Early Response | 378 | 7.84 | 0.18 | 0.66 |
| | Late Response | 38 | 7.76 | | |
| Service Quality | Early Response | 378 | 8.06 | 0.04 | 0.84 |
| | Late Response | 38 | 8.17 | | |
| Trust | Early Response | 378 | 7.74 | 0.01 | 0.91 |
| | Late Response | 38 | 7.82 | | |
| Customer Loyalty | Early Response | 378 | 8.55 | 0.01 | 0.92 |

| | | |
|---|---|---|
| Late Response | 38 | 8.54 |

The study utilised independent samples t-test to check whether there is a significant difference between early respondents and late respondents using 5% level of significance (Roni, 2014). As it is presented on Table 4.4, there are no significant differences between the early and late respondents of this study for price, service quality, trust and customer loyalty. Therefore, it is assumed that the study is free from nonresponse bias. Hence, the respondents of this study represents other elements in the study population. Therefore, the findings of this study can be generalised to all of the study's population.

### 4.3.6 Common Method Bias

Common method bias (CMB) if ignored can threaten the validity of a study's findings (Podsakoff, MacKenzie&Podsakoff, 2012). Bias means that an observed relationship deviates in some way from a true relationship, whileCMB refers to the type of deviation caused by the similarity in methods used to obtain data (Podsakoff, 2017). According to Podsakoff (2017), CMB may have in general two detrimental effects for researchers. First, it might affect the reliability and validity of a latent construct (Podsakoff*et al.*, 2012). Second, CMB may affect empirical relationships between two constructs (Podsakoff, 2017). CMB refers to the degree to which correlations are altered due to a methods effect (Meade, Watson &Kroustalis, 2007).

The majorconcernwithmeasuringdifferent constructs with the same method is the danger that at least someoftheobservedcovariationbetween them may be due to the fact that they share the same method of measurement (Podsakoff*et al.*, 2012). CMB exists when some of the differential covariance among items or constructs is due to the measurement approach rather than the substantive latent factor. (Brown as cited in Podsakoff, 2017).

Method biases are a problem because they are one of the main sources of measurement error (Podsakoff, MacKenzie& Lee, 2003), and can threaten the validity of the conclusions about the relationships between variables (Spector, 1987). Measurement error threatens the validity of the conclusions about relationships between measures and is widely recognized to have both random and systematic components (Bagozzi& Yi, 1991). Both random and systematic errors are problematic, but particularly, systematic measurement error is a serious problem because it provides alternative explanations for relationships between measures of different constructs (Podsakoff*et al.*, 2003).Bagozzi and Yi (1991) argued that systematic error can arise from a variety of sources (Meade *et al.*, 2007), and are majorly from four different sources as noted by Podsakoff*et al.*, 2003). They are rater characteristics, item characteristics, item context and measurement context (Meade *et al.*, 2007).

Where the same respondent provides ratings of exogenous and endogenous variables in a study is referred to as rater characteristics (Podsakoff, 2017). Studies that have a common rater may result into having bias between variables of the study (Meade, *et al.*, 2007). Items characteristics may result from ambiguous or vague items, or items that are similar in terms of phrasing and/or framing (Podsakoff, 2017; Meade *et al.*, 2007). Item context includes biases that occur because of the priming of items and the grouping of items (Meade *et al.*, 2007). That is, item context are biases that occur because of the placement of an item in relation to other items, and also the manner in which a rater's mood is affected by the context of an item (Podsakoff, 2017). Measurement context include obtaining predictor and criterion variable at the same point in time, in the same location using the same medium of exchange (Podsakoff, 2017; Meade *et al.*, 2007).

This study gathered data from a single source and therefore might be affected by common method bias (Roni, 2014). Thus, examined common method bias. There are two general approaches used by researchers (i.e., Podsakoff, 2017; Roni, 2014) to examine CMB. They are the procedural and statistical remedies (Williams, Hartman, &Cavazotte, 2010). Podsakoff*et al.,* (2012) came up with different methods in which procedural remedies can be used to control for method bias. Some of the procedural remedies used in this study are; first, the items on the questionnaire are words that are simple, specific and concise. That is, the items on the questionnaire are not difficult to interpret, and do not require respondents to construct their own meanings for them. The questionnaire design also avoided complicated syntax and doubled-barrelled questions. Second, the researcher provided the respondents with clear instructions on how to complete the questionnaire. Finally, the respondents were guaranteed by the researcher of their confidentiality, which was clearly written on the questionnaire design.

As much as the procedural methods are important, the statistical approaches also play another objective role to control for the common method bias in any given survey (Roni, 2014). This study utilised the Harman's single factor test, which is the most widely used in the literature (Podsakoff*et al.,* 2003), and is the simplest measure (Roni, 2014). Factor analysis is usually used to test for Harman's single factor. The major concern of the researcher is the total variance explained of the first component. Where the first component accounts for less than 50 percent of all the variables in the model, it is assumed that the questionnaire instrument is free from significant common method bias (Roni, 2014). For the present study, the first factor only explained 30 percent of the total variance. That is, the first component account for less than 50 percent of all the variables in the model. Using the result of the Harman's single

factor test, it is assumed that the constructs of this study is free from common method bias (CMB). The result is presented in Table 4.5

Table 4.5
*Common Method Bias Test; Harman's Single Factor*

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.618 | 30.153 | 30.153 | 3.618 | 30.153 | 30.153 |
| 2 | 1.956 | 16.302 | 46.455 | 1.956 | 16.302 | 46.455 |
| 3 | 1.228 | 10.231 | 56.687 | 1.228 | 10.231 | 56.687 |
| 4 | 1.14 | 9.498 | 66.185 | 1.14 | 9.498 | 66.185 |
| 5 | 1.038 | 8.647 | 74.831 | 1.038 | 8.647 | 74.831 |
| 6 | 0.7 | 5.835 | 80.666 | | | |
| 7 | 0.574 | 4.787 | 85.453 | | | |
| 8 | 0.517 | 4.31 | 89.763 | | | |
| 9 | 0.424 | 3.53 | 93.293 | | | |
| 10 | 0.344 | 2.87 | 96.163 | | | |
| 11 | 0.257 | 2.14 | 98.303 | | | |
| 12 | 0.204 | 1.697 | 100 | | | |

Extraction Method: Principal Component Analysis.

### 4.4 Demographic Statistics

This section presents demographic statistics based on the demographic characteristics of respondents. The demographic characteristics include gender distribution, age distribution, academic qualification, income distribution, years in which respondents have been using their SIM cards, and the package plan they belong to. The result is presented in Table 4.6.

Table 4.6
*Demographic Characteristics of Respondents (n=416)*

| **Characteristics** | **Frequency** | **Percentage** | **Cumulative Percentage** |
|---|---|---|---|
| **Gender** | | | |
| Male | 257 | 61.8 | 61.8 |
| Female | 159 | 38.2 | 100. |
| **Age Distribution** | **Frequency** | **Percentage** | **Cumulative Percentage** |
| 18-25 | 146 | 35.1 | 35.1 |
| 26-30 | 158 | 38 | 73.1 |
| 31-35 | 65 | 15.6 | 88.7 |
| Above 35 | 47 | 11.3 | 100 |
| **Academic Qualification** | **Frequency** | **Percentage** | **Cumulative Percentage** |
| O'Level | 26 | 6.3 | 6.3 |
| ND | 59 | 14.2 | 20.4 |
| HND/B.Sc./M.A | 214 | 51.4 | 71.9 |
| Postgraduate | 80 | 19.2 | 91.1 |
| Others | 37 | 8.9 | 100 |
| **Income Distribution** | **Frequency** | **Percentage** | **Cumulative Percentage** |
| Below 50,000 | 172 | 41.3 | 41.3 |
| 50,000-100,000 | 80 | 19.2 | 60.6 |
| 100,000-150,000 | 148 | 35.6 | 96.2 |
| Above 150,000 | 16 | 3.8 | 100 |
| **Years with their service providers** | **Frequency** | **Percentage** | **Cumulative Percentage** |
| 1-4years | 54 | 13.0 | 13.0 |
| 5-7years | 194 | 46.6 | 59.6 |
| 8years and above | 168 | 40.4 | 100 |

Table 4.6 (Continued)

| **Characteristics** | **Frequency** | **Percentage** | **Cumulative Percentage** |
|---|---|---|---|
| **Package plan of respondents** | | | |
| Prepaid | 407 | 97.8 | 97.8 |
| Post-paid | 9 | 2.2 | 100 |

Table 4.6 presents the gender distribution of the sampled respondents. 61.8% of the sampled respondents were males, which show that males were more sampled than females. This signal that males are more frequent in various customer centres of service providers in Zaria.

From Table 4.6, it can be deduced that most of the sampled respondents of this study, are either between the ages of 18-25 and ages 26-30, with 35.1% and 38.1% respectively. 15.6% of the respondents are between the ages of 31-35. While 11.3% of the total respondents are above 35years. It is observed that most of the respondents are between ages 18 to 30. This is as a result of the number of higher institutions in Zaria. Zaria has a good number of higher institutions. Most of the respondents of this study falls between the age brackets of first degree and second degree students.

Next is the academic qualification distribution of sampled respondents. 6.3% are O'level holders, 14.2% are national diploma holders, 51.4% are respondents that are either first degree holders or are first degree students, 19.2% of the respondents either have a postgraduate certificate or are postgraduate students, while 8.9% hold degrees that are not specified in the study. Most of the respondents of this study are either first degree students or are first degree holders. This is as a result of the presence of universities in Zaria. It is believed that most of the respondents of this study are mostly students of the universities in Zaria.

From Table 4.6 it is seen that a large chunk of the respondents of this study earn below 50,000 naira and they constitute 41.3% of the total sampled respondents. Following behind are respondents that earn between the range of 100,000-150,000 naira. While just 3% of the respondents earn above 150,000. When collecting data from respondents from the various customer centres, it was observed by the researcher that most of the people in the customer

centres are mostly students. This is responsible for having most of the respondents earning below 50,000 naira.

It is seen on Table 4.6 that 46.6% of respondents have been using their SIM cards for 5-7years. On the other hand, 40.4% of the sampled respondents have been using their SIM cards for either 8years and above. It is seen that most of the respondents of this study have been using their SIM cards for 5years and above.

Table 4.6 also show the package plan of respondents. A significant proportion of sampled respondents are prepaid customers, taking a total of 97.8%, while only 2.2% of respondents are post-paid customers.

### 4.5 Descriptive Statistics of Variables of the Study

This section provides descriptive statistics of the variables of the study, using mean and standard deviation. The result is presented in Table 4.7.

Table 4.7
*Descriptive Statistics of Variables*

| Variables | Sample | Mean | Std. Deviation |
|---|---|---|---|
| Price | 416 | 3.20 | 1.09 |
| Service Quality | 416 | 3.63 | 0.88 |
| Trust | 416 | 3.52 | 0.91 |
| Customer Loyalty | 416 | 3.65 | 0.97 |

Table 4.7 presents the descriptive statistics for price, service quality, trust and customer loyalty. All constructs were measured using a five-point Likert scale. Table 4.7 showed a

mean response of 3.20 on price, having a standard deviation of 1.09. This is above average, which means subscribers are developing favourable perception toward the pricing schemes of their various service providers. A mean response of 3.68 on service quality with standard deviation of 0.88 show subscribers are also developing positive perception toward the quality of services rendered by their service providers. 3.52 mean response on trust shows subscribers are developing trust in their service providers. Finally, mean response of 3.65 on customer loyalty means subscribers moderately agreed to exhibit some form of loyalty to their service providers. Customer loyalty has the highest mean response, while price has the least mean response.

## 4.6 Assessing Model Fit

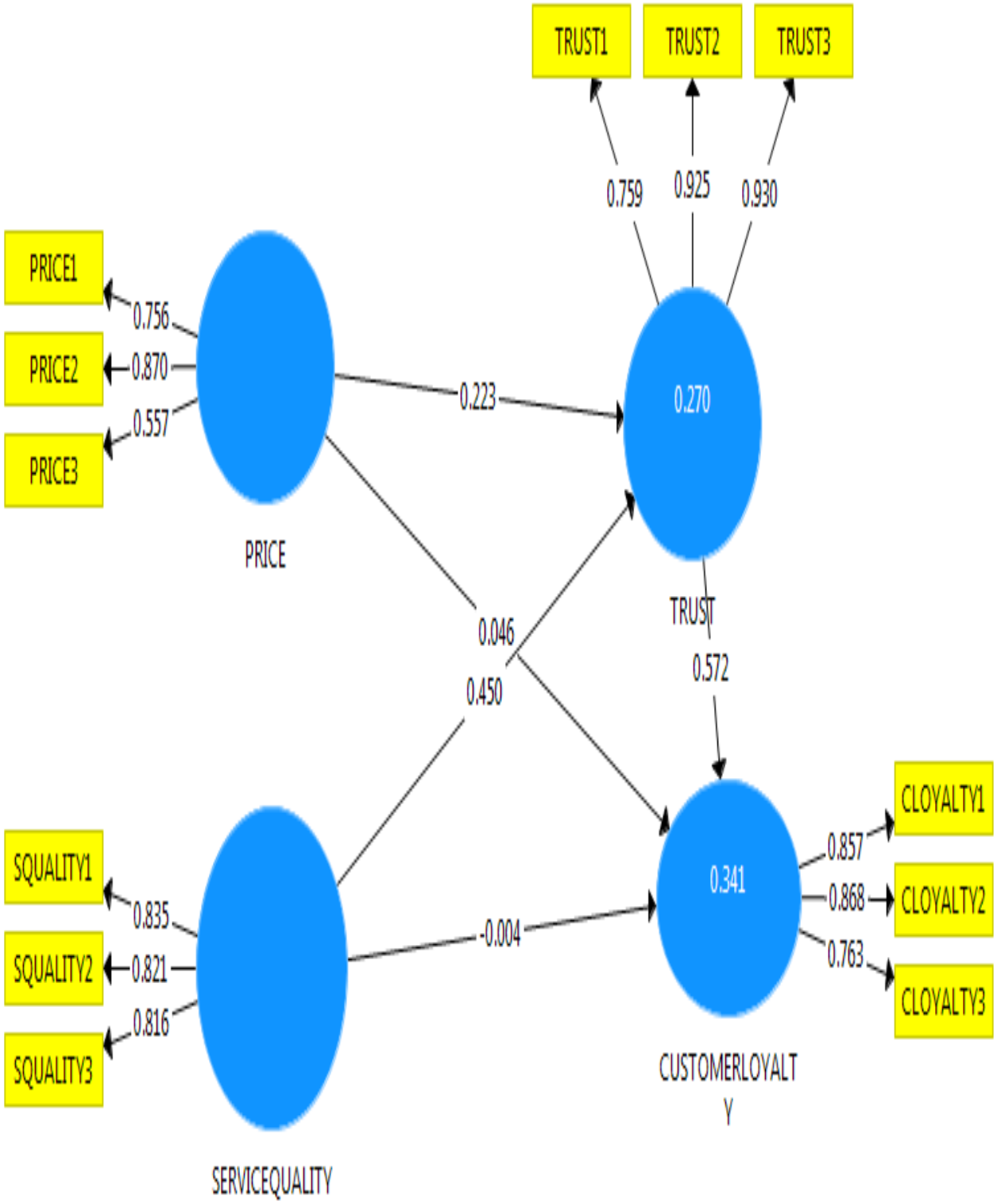


Figure 4.1
*Measurement model*

Table 4.8
*Construct Reliability and Convergent Validity (n=416)*

| **Construct** | **Items** | **Loadings** | **AVE** | **CR** |
|---|---|---|---|---|
| Price | PRICE1 | 0.756 | 0.705 | 0.826 |
| | PRICE2 | 0.870 | | |
| Service Quality | SQUALITY1 | 0.835 | 0.679 | 0.864 |
| | SQUALITY2 | 0.821 | | |
| | SQUALITY3 | 0.816 | | |
| Trust | TRUST1 | 0.759 | 0.766 | 0.907 |
| | TRUST2 | 0.925 | | |
| | TRUST3 | 0.930 | | |
| Customer Loyalty | CLOYALTY1 | 0.857 | 0.690 | 0.869 |
| | CLOYALTY2 | 0.868 | | |
| | CLOYALTY3 | 0.763 | | |

Note: Price3 was deleted due to insufficient loadings. AVE represents Average Variance Extracted; CR represents Composite Reliability.

On Table 4.8, all constructs have a Cronbach's Alpha coefficient above 0.7 except for price that has a coefficient below 0.7. According to Garson (2016), Cronbach's alpha may be biased against short scales of two items, just as it is in the case of price here. Garson (2016) advised it could be ignored, since it is just one of the constructs. Also according to Hair *et al.,* (2014), a construct having a Cronbach's Alpha coefficient of less than 0.7 can be ignored, provided other construct in the model has a Cronbach's Alpha coefficient greater than 0.7 (Hair *et al.* 2014). All construct met the minimum benchmark for both composite reliability and AVE. Which is 0.7 and 0.5 respectively.

Loadings should not be below 0.7 (Hair *et al.*, 2014). On Table 4.8, all items measuring customer loyalty loaded well, as they loaded above 0.7. As a result, all items measuring customer loyalty were retained. On the other hand, PRICE3 loaded 0.557, therefore was deleted. PRICE1 and PRICE2 loaded above 0.7. All items measuring service quality loaded above 0.7. All items measuring service quality were retained as all the items loaded above 0.7. Similarly, all items measuring trust loaded above 0.7, therefore were all retained. The data were next tested for discriminant validity.

Table 4.9
*Discriminant Validity using Fornell-larckercriterion (n=416)*

| **Construct** | **CustomerLoyalty** | **Price** | **ServiceQuality** | **Trust** |
|---|---|---|---|---|
| Customer Loyalty | **0.83** | | | |
| Price | 0.20 | **0.84** | | |
| Service Quality | 0.27 | 0.08 | **0.82** | |
| Trust | 0.58 | 0.27 | 0.47 | **0.88** |

Note: The bolded diagonal numbers represent the square root of the AVE of each latent construct

Table 4.9 presents the result of discriminant validity. The number that are bolded represent the square root of AVE of each latent variable. The square roots of all the AVE are higher than their correlation with other latent variable. The AVE of customer loyalty is 0.83. All other correlations below 0.83 are lesser than 0.83. Similarly, for price, the AVE is 0.84. All other correlations column and row wise are below 0.84. Likewise, for service quality with AVE coefficient of 0.82. All other correlations column and row wise are below 0.82. Finally, for trust, having AVE coefficient of 0.88. All other correlations column wise and row wise are below 0.88. Judging by the Fornell-larcker discriminant validity criterion, the data shows discriminant validity (Garson, 2016). Up to this point, the data have undergone testing for factor loadings, convergent validity and discriminant validity, and have met all criteria.

### 4.7 Bootstrapping Analysis for Direct Relationship

It is important to carry out a bootstrapping analysis to determine the direct effect of price on customer loyalty, and of service quality on customer loyalty, without controlling for trust. Bootstrapping was done by using 5000 subsamples using 416 cases. Based on the result, figure 4.2 is presented, which shows the structural model of the direct effects of price and service quality on customer loyalty, without controlling for trust.

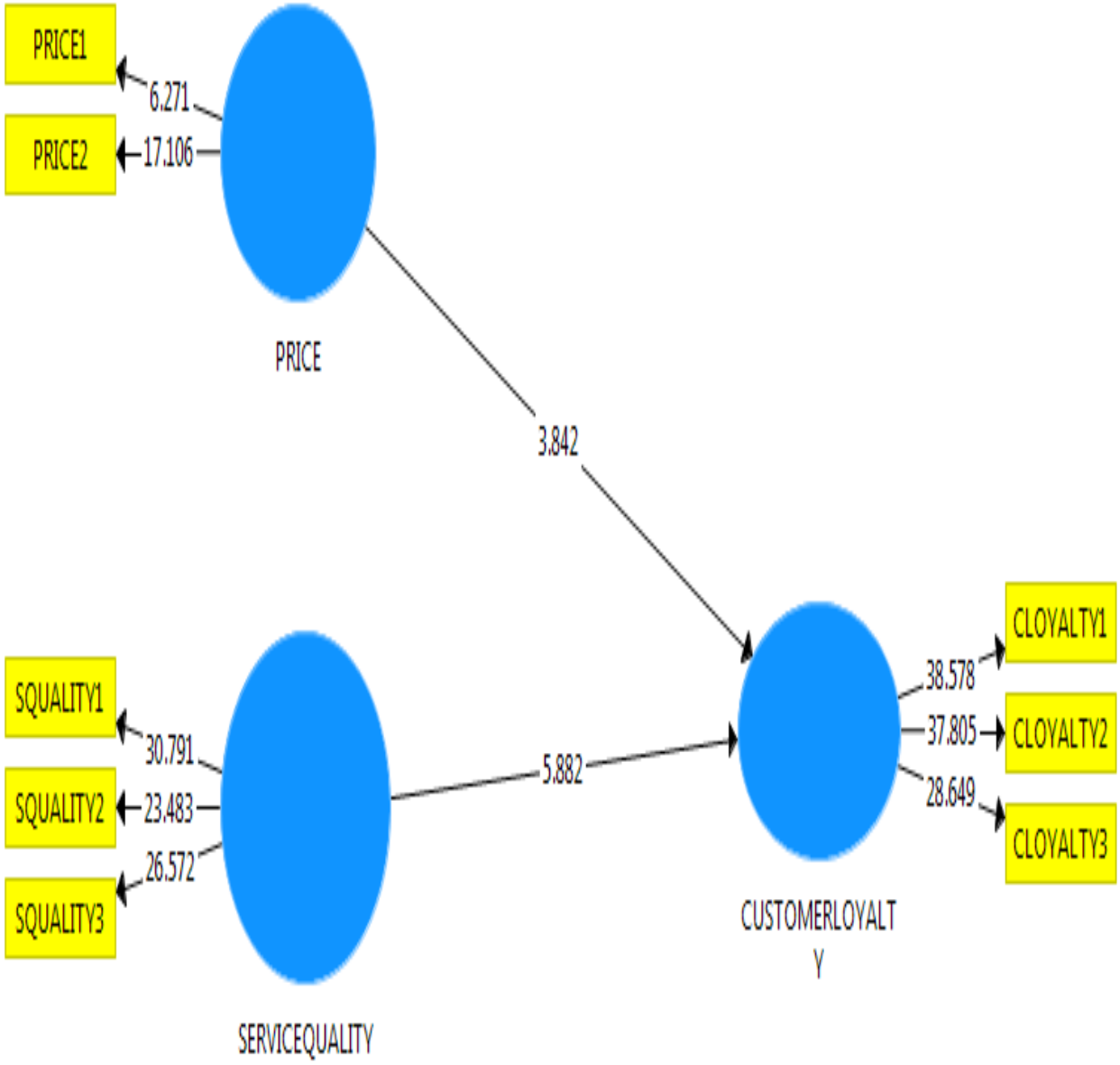


Figure 4.2

*Structural Model of Direct Effects*

### 4.7.1 Test of Hypotheses for Direct Relationships

Before testing for the mediating effect of trust on the relationship between price and customer loyalty and between service quality and customer loyalty, it is important to determine the direct effect price and service quality has on customer loyalty. This will help test $H_1$ and $H_2$. Thus, Table 4.10 is presented.

Table 4.10
*Direct Path Coefficient*

| Hypotheses | Beta Value | Standard Deviation | T Stat | Adjusted $R^2$ | Decision |
|---|---|---|---|---|---|
| H1 | 0.179 | 0.047 | 3.775*** | 0.10 | Supported |
| H2 | 0.254 | 0.042 | 6.013*** | | Supported |

*** p< 0.01; **p< 0.05; *p <0.1

From Table 4.10, it can be deduced that subscribers' perception toward the prices of their service providers has a positive effect on customer loyalty, significant at P value <.01. This means a unit change in subscribers' price perception will lead to 17.9% change in customer loyalty. As a result, the $H_1$ that states that price has positive significant effect on customer loyalty is supported. Similarly, service quality has positive significant effect on customer loyalty at P value <.01. This means as service quality increases by one unit, customer loyalty increases by 25.4%. Thus, $H_2$ that states that service quality has positive significant effect on customer loyalty is also supported. Adjusted R square is 10%, meaning 10% variance in customer loyalty is accounted for by price and service quality. This thus establish, that there exists a direct relationship between price and customer loyalty and between service quality and customer loyalty. It can therefore be said that without the inclusion of trust into the model of this study, price and service quality significantly predicts customer loyalty.

It is important to assess the effect size for the direct relationships between price perception and customer loyalty and between service quality and customer loyalty. The result is presented in Table 4.11

### 4.7.2 Effect Size of Exogenous Variables

Table 4.11
*Effect Size for Direct Relationships*

| **Construct** | $f^2$ | **Effect Size** |
|---|---|---|
| Price | 0.035 | Small |
| Service Quality | 0.071 | Small |

Table 4.11 shows the effect size of price and service quality on customer loyalty. As it is seen on Table 4.11, both price and service quality which are the exogenous variables have small effect on customer loyalty which is the endogenous variable. This is to say, price and service quality without the inclusion of trust, have small effects on customer loyalty.

### 4.7.3 Predictive Relevance of Exogenous Variables

The study utilised the Stone-Geisser's $Q^2$value to assess the predictive relevance of the exogenous variables. The result is presented in Table 4.12.

Table 4.12
*Predictive Relevance of Exogenous Variables*

| **Construct** | **SSO** | **SSE** | **$Q^2$ = 1-SSE/SSO** |
|---|---|---|---|
| Customer Loyalty | 1,248.000 | 1,167.796 | 0.064 |

Note: SSO represents Sum of squared of observed omitted values; SSE represents Sum of Squared Error

Table 4.12 presents the result of cross-validated redundancy of the direct relationships between price, service quality and customer loyalty. $Q^2$ is greater than zero which shows the

predictive relevance of the direct path model. Going by Cohen (1988) standard, the model has small degree of predictive relevance with regard to the endogenous variable, customer loyalty.

The researcher next tested the mediating effect of trust on both relationships. Figure 4.3 show the full structural model.

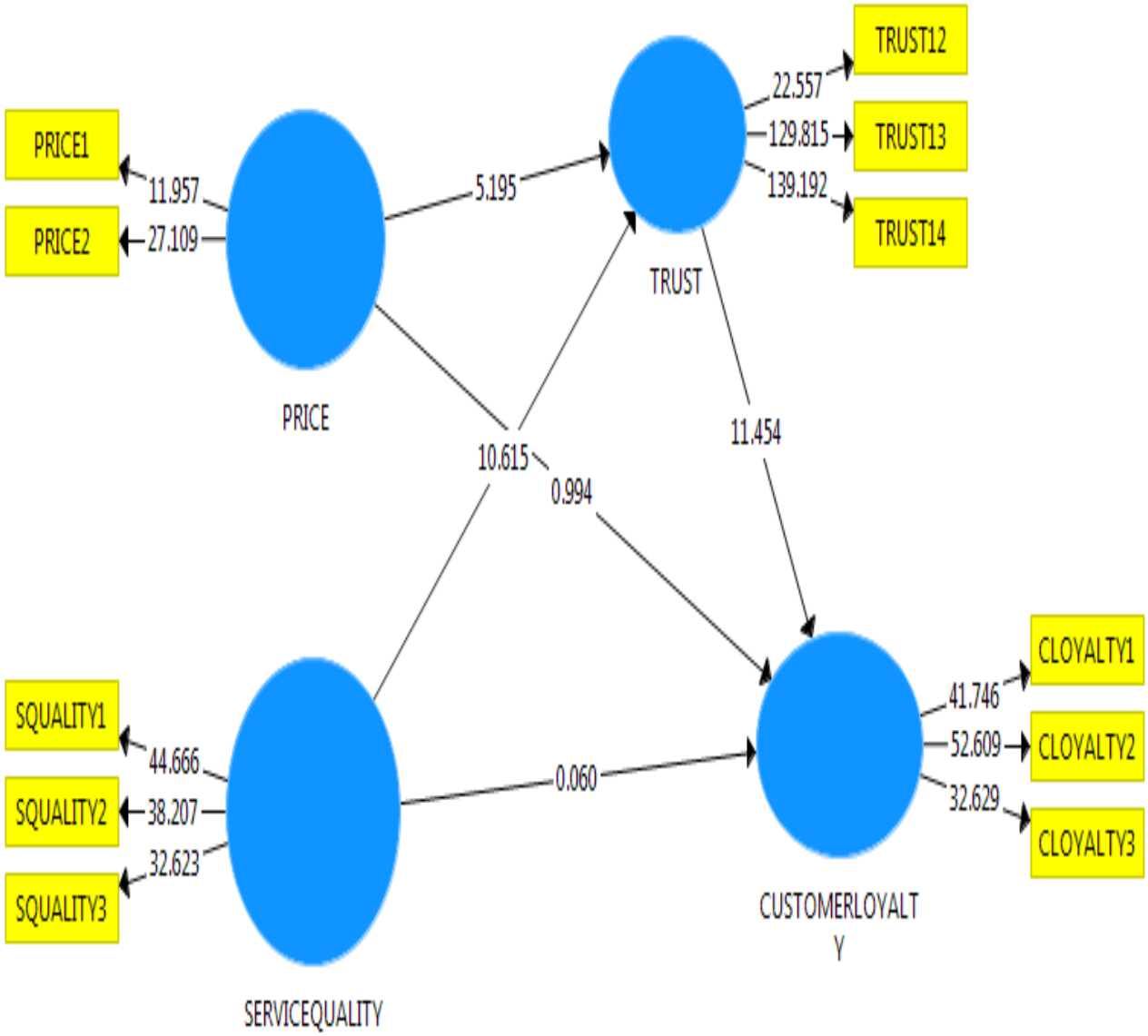


Figure 4.3
*Full Structural Model*

### 4.7.4 Test of Hypotheses for Indirect Relationships

Table 4.13
*Mediated Path Coefficient*

| Relationship | Beta Value | T Statistics | Adjusted $R^2$ |
|---|---|---|---|
| Price -> Trust | 0.230 | 5.195*** | .270 |
| Service Quality -> Trust | 0.452 | 10.615*** | .270 |
| Trust -> Customer Loyalty | 0.571 | 11.454*** | .335 |
| R Square | 0.270 | | |

***p < 0.01; **p< 0.05; *p <0.1

On Table 4.13, it can be seen that subscribers' price perception has a positive significant effect on trust at p<.01. This means a unit increase in subscribers' price perception will lead to 23% increase in trust. On the other hand, service quality also has a positive significant effect on trust at p<.01, meaning a unit increase in service quality will lead to 45.2% increase in trust. Trust is also seen to have a positive significant effect on customer loyalty at p<.01. This can be interpreted that a unit increase in customer trust will lead to 57.1% increase in customer loyalty. Thus $H_3$ that states that trust mediates the relationship between price perception and customer loyalty is supported. Likewise, $H_4$ that states that trust mediates the relationship between service quality and customer loyalty is also supported.

$R^2$ value above 0.33 is seen as been moderate (Chin, 1998). Table 4.14 show customer loyalty to have an adjusted $R^2$ value of 0.335, while trust has 0.270. This means that price and service quality account for 27% change in trust, while trust on the other hand account for 33.5% change on customer loyalty. 73% change in trust is accounted for by other variables other than price and service quality. While 66.5% change in customer loyalty is accounted for by other variables other than trust.

### 4.7.5 Partitioning Direct, Indirect and Total Effects

Table 4.14 show the direct effect of price perception and service quality on customer loyalty, when controlling for the effect of trust on customer loyalty. Table 4.15 show the indirect effect of price and service quality on customer loyalty, while Table 4.16 show the total effects of the variables on customer loyalty.

Table 4.14
*Direct Effects of Exogenous and Endogenous Variables*

| **Construct** | **Customer Loyalty** | **Trust** |
|---|---|---|
| Price | 0.046 | 0.230*** |
| Service Quality | -0.003 | 0.452*** |
| Trust | 0.571*** | |

***p < 0.01; **p< 0.05; *p <0.1

Result presented in Table 4.14 show that when controlling for the effect of trust on customer loyalty, price has a negligible effect on customer, and not significant at p<0.05. Service quality also on the other hand when controlling for trust, has a negative negligible insignificant effect on customer loyalty at p<0.05. Price has a positive significant effect on effect on trust at p<.01, while service quality also has a positive significant effect on trust at p<.01.

Table 4.15
*Indirect Effects of Exogenous variables*

| **Construct** | **Customer Loyalty** |
|---|---|
| Price | 0.131*** |
| Service Quality | 0.258*** |

***p < 0.01; **p< 0.05; *p <0.1

From Table 4.15, price has an indirect effect of 13.1% on customer loyalty significant at p<.01. Also, service quality has an indirect effect of 25.8% on customer loyalty significant at p<.01. Therefore, in as much price and service quality have direct effects on customer loyalty, they also have indirect effects on customer loyalty. That is to say, price and service quality have effects on customer loyalty through trust acting as a mediating variable.

Table 4.16
*Total Effects of Exogenous and Endogenous Variables*

| **Construct** | **Customer Loyalty** | **Trust** |
|---|---|---|
| Price | 0.177*** | 0.230*** |
| Service Quality | 0.255*** | 0.452*** |
| Trust | 0.571*** | |

***p < 0.01; **p< 0.05; *p <0.1

Table 4.16 show the total effects of price and service quality on customer loyalty, total effects of price and service quality on trust, and the total effect trust has on customer loyalty. A unit increase in subscribers' price perception will lead to 17.7% total increase on customer loyalty significant at p<.01. Similarly, a unit increase in service quality will lead to 25.5% increase in customer loyalty also significant at p<.01. Customer trust will increase by 23% if subscribers' price perception increases by one unit, significant at p<.01. A unit increase in service quality will amount to 45.2% increase in customer trust, significant at less than 1%. Likewise, a unit increase in customer trust, will lead to 57.1% increase in customer loyalty, significant at less than 1%. Based on the results, Table 4.17 is presented.

Table 4.17
*Summary of the Test of Hypotheses*

| Hypotheses | Relationship | Beta | T Statistics | Decision |
|---|---|---|---|---|
| H1 | PR -> CL | .179 | 3.813*** | Supported |
| H2 | SQ -> CL | .254 | 5.955*** | Supported |
| H3 | PR -> TR -> CL | .131 | 4.599*** | Supported |
| H4 | SQ -> TR -> CL | .258 | 7.223*** | Supported |

***p < 0.01; **p < 0.05; *p < 0.10

Table 4.17 presents information on the test of hypotheses. All hypotheses formulated in the study are all supported. From Table 4.18, it is seen that price has a direct relationship with customer loyalty ($\beta$ = .179, $p$<.01). Similarly, service quality has a direct relationship with customer loyalty ($\beta$= .254, $p$<.01). Trust is also seen to mediate the relationship between price and customer loyalty ($\beta$= .131, $p$<.01), just as service quality and customer loyalty is also mediated by trust ($\beta$ = .258, $p$<.01). Trust is therefore seen to mediate the relationship between price and customer loyalty and between service quality and customer loyalty.

### 4.7.6 Effect Size

The effect size of each path in the full structural equation model was analysed in Table 4.18 by means of F square. Table 4.18 show the effect size of price and service quality on trust and customer loyalty, and the effect of trust on customer loyalty.

Table 4.18
*Effect Size of Exogenous and Endogenous Variables*

| **Relationship** | **F Square** | **Effect Size** |
|---|---|---|
| Price -> Customer Loyalty | 0.003 | Small |
| Price -> Trust | 0.072 | Small |
| Service Quality -> Customer Loyalty | 0.000 | No effect |
| Service Quality -> Trust | 0.279 | Medium |
| Trust -> Customer Loyalty | 0.358 | Large |

Table 4.18 show the effect size of each of the exogenous variables in the study. The effect of price on customer loyalty when controlling for trust is 0.3%, meaning price has a small effect on customer loyalty. Likewise, service quality has no effect on customer loyalty when controlling for trust. On the other hand, price has 7.2% effect on trust, also having a small effect on trust. Service quality has 27.9% effect on trust, amounting to service quality having medium effect on trust. Finally, trust has 35.8% effect on customer loyalty. This means trust has large effect size on customer loyalty.

Going by the results presented in Table 4.18, price and service quality has an indirect effect on customer loyalty. Service quality has higher effect on trust, while trust in turn has high effect on customer loyalty. Therefore, service quality and trust are the most important predictor of customer loyalty in the model.

### 4.7.7 Predictive Relevance of Exogenous and Endogenous Variables ($Q^2$)

$Q^2$ was used to predict the relevance of the inner model using construct cross-validated redundancy. Tables 4.19 present the results of construct cross-validated redundancy.

Table 4.19
*Construct Cross-validated Redundancy*

| **Construct** | **SSO** | **SSE** | **$Q^2$ (=1-SSE/SSO)** |
|---|---|---|---|
| Customer Loyalty | 1,248.000 | 986.211 | 0.210 |
| Price | 832.000 | 832.000 | |
| Trust | 1,248.000 | 1,001.361 | 0.198 |
| Service Quality | 1,248.000 | 1,248.000 | |

SSO: Sum of squared of observed omitted values; SSE: Sum of Squared Error

From Table 4.19, it is seen that the $Q^2$ values of both customer loyalty and trust is above 0. Trust has $Q^2$ value of 0.198, which means price and service quality has medium degree of predictive relevance with regard to trust. Higher, is the $Q^2$ value of customer loyalty with 0.210. This means the model has medium degree of predictive relevance with regard to customer loyalty.

### 4.7.8 Magnitude of Mediating Effect

It is of importance to assess the magnitude of the mediating effect of trust on the model of the study. Variance Accounted For (VAF) is often used to assess the magnitude of mediating effect (Hair *et al.,* 2014). For the purpose of this study, VAF was used to assess the magnitude of the mediating effect trust on the relationship between price and customer loyalty and between service quality and customer loyalty. According to Hair *et al.* (2014) a VAF value of less than 20 percent represent no mediation, while a VAF value between 20 percent to 80 percent represent partial mediation. Finally, a VAF value above 80 percent

represent full mediation. VAF is calculated by dividing indirect effects by total effects. Table 4.20 presents the result of the VAF value.

Table 4.20
*Magnitude of Mediating Effect*

| **Relationship** | **Indirect** | **Total** | **VAF** | **Mediation** |
|---|---|---|---|---|
| PR->TR->CL | 0.131 | 0.177 | 74% | Partial |
| SQ->TR->CL | 0.258 | 0.255 | 101% | Full |

From Table 4.20, it is seen that trust partially mediates the relationship between price and customer loyalty with a VAF value of 74%. Similarly, the relationship between service quality and customer loyalty is seen to be fully mediated by trust with a VAF value of 101%.

### 4.8 Discussion of Findings

Price was discovered to have a positive significant effect on customer loyalty without controlling for trust. Going by the result, customers have positive perception toward the pricing strategies of their service providers. Service providers in Nigeria today roll out different pricing schemes to ensure they beat down prices to the minimum. This pricing schemes are having positive impact on subscribers. As a result, subscribers are developing positive price perception toward the pricing schemes of their service providers. This might be responsible for the positive effect price has on customer loyalty. Thus, as subscribers continues to develop positive perceptions toward the prices of their service providers, customer loyalty will continue to increase. This finding is in consistence with the findings of Akeke, Akinruwa and Akeke (2016) and Hossain and Suchy (2013), as the authors concluded that price is significantly related to customer loyalty.

Price has an effect on customer trust. The more subscribers develop positive perceptions toward the prices set by their service providers, the more trust they have in their service providers. Subscribers are rational being and would most times seek to maximize utility when they spend. This might be responsible for price perception of subscribers having positive effect on their trust. This finding supports the finding of Haghighi*et al.* (2012), as the authors find a significant relationship between price and trust.

Based on the findings of this study, subscribers are also seen to be developing positive perceptions toward the quality of services they get from their service providers. Service quality was also seen to have positive significant effect on customer loyalty. This means subscribers in the country are presently to some extent satisfied with quality of services rendered by service providers in the country. It is a known fact that service providers in the country adopt technologies on steady basis all in the quest to render quality services to their subscribers. A good example is the introduction of the 4G Lite data services introduced in some states of the country in October, 2016. These technologies to a major extent has increased the quality of services in the country, as subscribers feel quality of services is on the rise. Subscribers today are more concerned with the quality of services rather than the prices of services rendered. This makes it imperative for service providers to continually improve on the services rendered by them. This finding is consistent with the findings of Ivanauskiene and Volungenaite(2014), Al-shammariand Kanina (2014) and John (2011), as these authors found out that service quality is significantly related to customer loyalty.

Service quality has a positive effect on trust. This means that as quality of services increases, customer loyalty increases. Service quality is seen to have higher influence on customer trust

than price perceptions. Subscribers place more importance on quality of services than prices of the services rendered, when related to trust. From the findings of this study, it is evident that to some extent subscribers feel service providers render quality services. This study supports the study of Shpëtim (2012) and Roostika (2011), as the authors concluded that service quality has a significant effect on trust.

Finding reveal that trust has an effect on customer loyalty, and trust mediates the relationship between price and customer loyalty and between service quality and customer loyalty. Consistent with these findings is Chinomona and Sandada (2013); Haghighi*et al.* (2012); Roostika (2011). Findings show trust play a very important role in making subscribers loyal to their service providers, and at such should be taken seriously. For subscribers to trust their service providers, it must be triggered by the combination of price and service quality, most especially quality of services. The more subscribers trust their service providers, the more they become loyal. This is so because, once trust exists in a relationship, the more solidified the relationship becomes.

It was discovered that during the period of economic recession, subscribers still placed more importance on service quality when compared to price. Service quality is the higher predictor of customer loyalty in a direct relationship. Also, service quality has higher predictive relevance on trust. Trust is also seen to have high predictive relevance on customer loyalty.

### 4.9 Implications of the Study

The study examined the effect of price and service quality on customer loyalty; mediating effect of trust, and have come up with some findings. Thus, making it imperative to discuss both managerial and theoretical implications of the study.

### 4.9.1 Managerial Implication

One of the managerial implications of the study is that the study provides management with recommendations on how to remain competitive in the industry. During periods of economic recession as currently experienced in Nigeria, managers may believe subscriber may be more interested in lower prices rather than quality of services. This according to the findings of the study is not the case. It is also imperative to assess the perception of subscribers as regarding prices and quality of services. This is important as subscribers taste and demand changes with time. Thus, this study assists service providers to make adjustments where necessary. It is expected that service providers that utilises the recommendations of this study, will be able to make their subscribers loyal and also attract new subscribers.

### 4.9.2 Theoretical Implication

The major theoretical contribution of this study is the inclusion of a mediator in the model. Most previous related studies have studied the direct relation between price and customer loyalty and between service quality and customer loyalty. Literature that have considered introducing a mediator in the model have mostly used customer satisfaction as the mediating variable. Few studies have studied the mediating effect of trust in the relationship between service quality and customer loyalty. More so, fewer studies have studied the mediating effect of trust on the relationship between price and customer loyalty. In addition, very few studies have taken into consideration the current economic recession in Nigeria. This study has been able to establish that even during periods of economic recession, subscribers still hold high quality of services than price. Finally, most previous related study mostly use

convenience sampling in distributing their questionnaires. This study utilised probability sampling.

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Summary

Keeping subscribers trust and loyalty have always been the primary target of service providers in the country. This lead service providers roll out various pricing schemes and adopt varieties of technologies to improve quality of services. Data available on the NCC website shows subscribers are into the habit of switching between service providers frequently. Thus making it difficult for service providers to hold on to all of their customers. This make studies as this important to be carried out periodically.

Four hypotheses were formulated for testing. In testing the hypotheses, the study utilised inferential statistics using SmartPLS3. The population of the study comprises all subscribers in Zaria. The study is cross-sectional in nature. 416 questionnaires were used for analysis. Data analysis was done using structural equation modelling.

Result of the analysis show that price has positive significant effect on customer loyalty, just as service quality has positive significant effect on customer loyalty without controlling for trust. When controlling for the effect of trust on customer loyalty, price and service quality is seen to have insignificant effect on customer loyalty. This means trust actually mediates the relationship. On the other hand, trust has a positive significant effect on customer loyalty. The relationship between service quality and trust has the higher effect on customer loyalty.

## 5.2 Conclusion

The study therefore concludes that the trio of price, service quality and trust has effect on customer loyalty, with trust having higher effect on customer loyalty. Trust is better triggered by service quality as service quality has high effect on trust. Price, service quality and trust thus predicts customer loyalty. The study also concludes that trust does mediate the relationship between price and customer loyalty and between service quality and customer loyalty.

For service providers to enjoy high customer loyalty, it is imperative they give crucial attention to service quality. It is imperative they devote resources both human and capital to delivering quality services. This will help in making subscribers have trust in the relationship, and in the end make subscribers loyal.

Price also have effect on trust. It is also important that prices rolled out should be seen by subscribers has been fair enough. When subscribers have positive price perceptions toward the prices of their service providers, it leads to trust, which in the end leads to customer loyalty.

## 5.3 Recommendations

For service providers to enjoy customer trust and hence higher levels of customer loyalty, the following recommendations are made:

i. Managers should devote more time and resources to ensure significant improvement in service quality. Significant improvement in service quality will help in ensuring subscribers stay loyal to their service providers, as subscribers attach higher importance to service quality than prices of their services.

ii. Prompt rectification of seasonal service failures will go a long way in enhancing service quality. Whenever, there are occurrences of service failure, Managers should always ensure their employees are always spot-on in rectifying the problem. This is because, as service failure encounters by subscribers lingers for a long time, subscribers may start having doubt over their service providers' commitment to always deliver to them quality services. Therefore, Managers should always handle cases of service failures with all speed and seriousness. In addition, prompt messages should be sent to their subscribers, relating the cause of the service failure, assuring them all hands are on deck to remedy the situation. Where, subscribers cannot be reach as a result of a service failure, messages should be pass across radio and television stations, on the reason for the service failure and assuring them something is being done to rectify the problem.

iii. More investments are needed to ensure the delivery of quality services without interruption. On the other hand, new technologies could be installed to reduce the frequency of service failures.

iv. Management should from time to time, carry out online polls, to determine the satisfactory level of their subscribers regarding their pricing scheme and the quality of services they deliver. Such polls will enable management to know areas wherein subscribers are happy as regarding their prices and quality of services. Having this knowledge will allow managers to make improvements where necessary and also make adjustments where necessary.

v. Prices should not be set in isolation. Management should always take into consideration the pricing strategies of other organisations in the industry before setting prices. Prices set too

high from other players in the industry may lead subscribers to switch. It is therefore important that management set prices around the industry price.

### 5.4 Suggestions for Further Study

This study could be replicated by covering a larger geographical area, so that generalisations can be made. Other moderators and mediators can be included in the model for further theoretical contributions. The study could be replicated in other sectors of the economy other than the communication sector. A comparative study can be carried out on other service industry to determine which of price and service quality has the most effect on customer loyalty.

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## Appendix A: Questionnaire

Ojarikre, Eseoghene,
MSc Student (P15ADBA8021),
Department of Business Administration,
Ahmadu Bello University, Zaria.

Dear Respondent,

### Questionnaire Design

The above-named researcher is currently carrying out a research titled '**Mediating Effect of Trust on the Relationships between Price, Service Quality and Customer Loyalty**'. I humbly request that you partake in his research by filling the questionnaire below by ticking the most suitable option. Please be informed that all information obtained through this questionnaire is to solve practical problems and to expand the frontier of knowledge and thus, all responses would be kept confidential.

**Section A: Biodata**

1. Gender

a. Male ( ) b. Female ( )

2. Qualification

a. O' Level ( ) b. ND ( ) c. HND/B.Sc./BA ( ) d. Post-graduate ( ) e. Others ( )

3. GSM network. (**Select your most preferred network in case you have more than one**)

a. Airtel ( ) b. Etisalat ( ) c. Globacom ( ) d. MTN ( )

4. Number of years on the network:

a. 1 – 4 years ( ) b. 5 – 7 years ( ) c. 8 years and above ( )

5. Package Plan

a. Prepaid ( ) b. Post-paid ( )

6. Age

a. under 18 ( ) b. 18-25 ( ) c. 26-30 ( ) d. 31-35 ( ) e. above 35 ( )

7. Income

a. below 50,000 ( ) b. 50,000 – 100,000 ( ) c. 100,000 – 150,000 ( ) d. above 150,000 ( )

**Section B: Research Question**

This section provides you with statements on Price, Service Quality, Customer Satisfaction and Customer Loyalty

Kindly tick as appropriate. Key to Options:

1 - Strongly Disagree

2 - Disagree

3 - Undecided

4 - Agree

5 - Strongly Agree

| S/N | PRICE | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | The prices of my network services is appropriate | | | | | |
| 2 | The prices of my network services meet my expectation | | | | | |
| 3 | The prices of my network services provides good value for money | | | | | |

| S/N | SERVICE QUALITY | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | The general quality of my network services is extremely good | | | | | |
| 2 | The level of service quality I receive from my network is excellent | | | | | |
| 3 | Overall, the quality of my network services is very high | | | | | |

| S/N | TRUST | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | My service provider can be trusted most times | | | | | |
| 2 | My service provider can be counted on to do what is right | | | | | |
| 3 | My service provider has high integrity | | | | | |

| S/N | CUSTOMER LOYALTY | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | I will continuously patronise my network in the near future | | | | | |
| 2 | I do recommend that others patronise my network | | | | | |
| 3 | My preference for my network would not willingly change | | | | | |

Thanks for your timely filling and for your contribution to the body of knowledge,

The Researcher.

**Appendix B**
**Construct Cross Loadings**

| | CUSTOMERLOYALTY | PRICE | SERVICEQUALITY | TRUST |
|---|---|---|---|---|
| **CLOYALTY1** | **0.857** | 0.223 | 0.218 | 0.409 |
| **CLOYALTY2** | **0.868** | 0.150 | 0.244 | 0.447 |
| **CLOYALTY3** | **0.763** | 0.107 | 0.207 | 0.365 |
| **PRICE1** | 0.117 | **0.767** | 0.068 | 0.180 |
| **PRICE2** | 0.201 | **0.907** | 0.068 | 0.257 |
| **SQUALITY1** | 0.218 | 0.057 | **0.835** | 0.295 |
| **SQUALITY2** | 0.221 | 0.031 | **0.822** | 0.295 |
| **SQUALITY3** | 0.225 | 0.112 | **0.816** | 0.272 |
| **TRUST1** | 0.338 | 0.227 | 0.316 | **0.761** |
| **TRUST2** | 0.453 | 0.223 | 0.318 | **0.925** |
| **TRUST3** | 0.403 | 0.252 | 0.310 | **0.929** |

**Appendix C**
**Multicollinearity Statistics; Inner VIF Values**

| | CUSTOMERLOYALTY | PRICE | SERVICEQUALITY | TRUST |
|---|---|---|---|---|
| **CUSTOMERLOYALTY** | | | | |
| **PRICE** | 1.079 | | | 1.007 |
| **SERVICEQUALITY** | 1.288 | | | 1.007 |
| **TRUST** | 1.377 | | | |

**Appendix D**
**Multicollinearity Statistics; Outer VIF Values**

| | VIF |
|---|---|
| **CLOYALTY1** | 1.685 |
| **CLOYALTY2** | 1.681 |
| **CLOYALTY3** | 1.500 |
| **PRICE1** | 1.220 |

| | |
|---|---|
| **PRICE2** | 1.220 |
| **SQUALITY1** | 1.596 |
| **SQUALITY2** | 1.522 |
| **SQUALITY3** | 1.533 |
| **TRUST1** | 1.482 |
| **TRUST2** | 3.502 |
| **TRUST3** | 3.511 |

**Appendix E**
**Latent Variable Correlations**

| | CUSTOMERLOYALTY | PRICE | SERVICEQUALITY | TRUST |
|---|---|---|---|---|
| **CUSTOMERLOYALTY** | 1.000 | | | |
| **PRICE** | 0.197 | 1.000 | | |
| **SERVICEQUALITY** | 0.269 | 0.080 | 1.000 | |
| **TRUST** | 0.581 | 0.266 | 0.470 | 1.000 |

**Appendix F**
**R Square**

| | R Square | R Square Adjusted |
|---|---|---|
| **CUSTOMERLOYALTY** | 0.340 | 0.335 |
| **TRUST** | 0.274 | 0.270 |

**Appendix G**
**F Square**

| | CUSTOMERLOYALTY | PRICE | SERVICEQUALITY | TRUST |
|---|---|---|---|---|
| **CUSTOMERLOYALTY** | | | | |
| **PRICE** | 0.003 | | | 0.072 |
| **SERVICEQUALITY** | 0.000 | | | 0.279 |
| **TRUST** | 0.358 | | | |

**Appendix H**
**Mean, Standard Deviation, T-Values and P-Values**

| | Original Sample | Sample Mean (M) | SD | T Statistics | P Values |
|---|---|---|---|---|---|
| **PR -> CL** | 0.046 | 0.046 | 0.046 | 0.991 | 0.322 |
| **PR -> TR** | 0.230 | 0.233 | 0.044 | 5.176 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| **SQ -> CL** | -0.003 | -0.003 | 0.051 | 0.060 | 0.952 |
| **SQ -> TR** | 0.452 | 0.454 | 0.042 | 10.681 | 0.000 |
| **TR -> CL** | 0.571 | 0.572 | 0.049 | 11.697 | 0.000 |

Note: PR represents price; CL represents customer loyalty; SQ represents service quality; TR represents Trust; SD represents standard deviation.

**Appendix I**
**Confidence Interval**

| | Original Sample (O) | Sample Mean (M) | 2.5% | 97.5% |
|---|---|---|---|---|
| **PR -> CL** | 0.046 | 0.046 | -0.045 | 0.137 |
| **PR-> TR** | 0.230 | 0.233 | 0.145 | 0.319 |
| **SQ -> CL** | -0.003 | -0.003 | -0.103 | 0.097 |
| **SQ -> TR** | 0.452 | 0.454 | 0.370 | 0.536 |
| **TR -> CL** | 0.571 | 0.572 | 0.473 | 0.665 |

Note: PR represents price; CL represents customer loyalty; SQ represents service quality; TR represents Trust.

**Appendix J**
**Confidence Interval Bias Corrected**

| | Original Sample (O) | Sample Mean (M) | Bias | 2.5% | 97.5% |
|---|---|---|---|---|---|
| **PR -> CL** | 0.046 | 0.046 | 0.000 | -0.046 | 0.137 |
| **PR -> TR** | 0.230 | 0.233 | 0.003 | 0.137 | 0.312 |
| **SQ -> CL** | -0.003 | -0.003 | 0.000 | -0.103 | 0.097 |
| **SQ -> TR** | 0.452 | 0.454 | 0.003 | 0.366 | 0.529 |
| **TR -> CL** | 0.571 | 0.572 | 0.001 | 0.470 | 0.662 |

Note: PR represents price; CL represents customer loyalty; SQ represents service quality; TR represents Trust.

**Appendix K**
**Cross Validated Communality**

| | SSO | SSE | $Q^2$ (=1-SSE/SSO) |
|---|---|---|---|
| **CUSTOMERLOYALTY** | 1,248.000 | 783.257 | 0.372 |
| **PRICE** | 832.000 | 684.581 | 0.177 |
| **SERVICEQUALITY** | 1,248.000 | 812.468 | 0.349 |
| **TRUST** | 1,248.000 | 631.097 | 0.494 |

**Appendix L**
**Indicator Cross Validated Redundancy**

| | SSO | SSE | $Q^2$ (=1-SSE/SSO) |
|---|---|---|---|
| **CLOYALTY1** | 416.000 | 315.550 | 0.241 |
| **CLOYALTY2** | 416.000 | 306.578 | 0.263 |
| **CLOYALTY3** | 416.000 | 364.082 | 0.125 |
| **PRICE1** | 416.000 | 416.000 | |
| **PRICE2** | 416.000 | 416.000 | |
| **SQUALITY1** | 416.000 | 416.000 | |
| **SQUALITY2** | 416.000 | 416.000 | |
| **SQUALITY3** | 416.000 | 416.000 | |
| **TRUST1** | 416.000 | 338.763 | 0.186 |
| **TRUST2** | 416.000 | 332.565 | 0.201 |
| **TRUST3** | 416.000 | 330.033 | 0.207 |

## Appendix M
## Indicator Cross Validated Communality

| | SSO | SSE | $Q^2$ (=1-SSE/SSO) |
|---|---|---|---|
| **CLOYALTY1** | 416.000 | 252.024 | 0.394 |
| **CLOYALTY2** | 416.000 | 252.859 | 0.392 |
| **CLOYALTY3** | 416.000 | 278.374 | 0.331 |
| **PRICE1** | 416.000 | 343.869 | 0.173 |
| **PRICE2** | 416.000 | 340.712 | 0.181 |
| **SQUALITY1** | 416.000 | 263.536 | 0.367 |
| **SQUALITY2** | 416.000 | 275.803 | 0.337 |
| **SQUALITY3** | 416.000 | 273.130 | 0.343 |
| **TRUST1** | 416.000 | 281.157 | 0.324 |
| **TRUST2** | 416.000 | 172.666 | 0.585 |
| **TRUST3** | 416.000 | 177.275 | 0.574 |

## Appendix N
## Replacement of Missing Values

| | Result Variable | N of Replaced Missing Values | Case Number of Non-Missing Values | | N of Valid Cases | Creating Function |
|---|---|---|---|---|---|---|
| | | | First | Last | | |
| 1 | PR1_1 | 2 | 1 | 432 | 432 | SMEAN(PR1) |
| 2 | PR2_1 | 0 | 1 | 432 | 432 | SMEAN(PR2) |
| 3 | PR3_1 | 1 | 1 | 432 | 432 | SMEAN(PR3) |
| 4 | SQ1_1 | 3 | 1 | 432 | 432 | SMEAN(SQ1) |
| 5 | SQ2_1 | 2 | 1 | 432 | 432 | SMEAN(SQ2) |
| 6 | SQ3_1 | 2 | 1 | 432 | 432 | SMEAN(SQ3) |
| 7 | TR1_1 | 0 | 1 | 432 | 432 | SMEAN(TR1) |
| 8 | TR2_1 | 1 | 1 | 432 | 432 | SMEAN(TR2) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | TR3_1 | 2 | 1 | 432 | 432 | SMEAN(TR3) |
| 10 | CL1_1 | 2 | 1 | 432 | 432 | SMEAN(CL1) |
| 11 | CL2_1 | 2 | 1 | 432 | 432 | SMEAN(CL2) |
| 12 | CL3_1 | 2 | 1 | 432 | 432 | SMEAN(CL3) |