Service Quality and Customer Satisfaction in Cellular Telephony in Nigeria

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Abstract: *The study examined how service quality or lack of it affects customer satisfaction in the area of Global System of Mobile (GSM) network providers. Cross sectional research survey design was adopted in the study. The population of the study consisted all GSM network users in Edo State. The sample size was 720 purposively sampled from 18 Local Government Areas in Edo State. The main research instrument was questionnaire. Data was analyzed with the aid of descriptive and inferential statistics and precisely, pearson correlation coefficient was applied in testing the hypothesis formulated for the study. The study revealed a strong positive relationship between service quality of GSM services and customer satisfaction. The paper concluded that quality of service has direct or inverse on customers satisfaction because a high occurrence of variables of service quality on customer satisfaction creates a negative effect on customer satisfaction and vice verse, it then recommended that customer satisfaction survey should be carried out on regular basis in order to know how the concerns of customers can be tackled to improve level of customer satisfaction.*

Key words: *Customer satisfaction, service quality, GSM, survey, network provider.*

I.   Introduction

It has been an accepted fact that man, generally has been seen as a social animal. Thus, man prefers to live in groups, communities and society. What makes it possible and necessary for man to live in a society is the ability and willingness to communicate with one another. Man, at different times have employed different methods of passing information with one another. For instance, during the prehistoric period, such method as burning bush to other members of society or even neighbor becomes a veritable mechanism of communication to alert other of danger. The town crier has been and is still being employed as a method of communicating. Even in the ancient Greek city states, the leaders employed very good runners to disseminate information from one city to another (Kokomaye, 2003 in Umoh, 2005). But with the growth of society, the needs for communication even become more urgent. Telecommunication has come to ease the problem often associated with communication. It has been able to address the problem of space and time as it breaks physical barriers often associated with distance. One of the areas where technology has made much impact is in the area of communication. In Nigeria, mobile telephony has greatly become the most popular means of voice communication.

In highly competitive global market place of today, the pressure on organisations to find new creating and delivery value to customers is growing stronger (Akanbi, 2013). Today, information and communication technology (ICT) is being applied in many organisations in a wide range of operation areas. Somuyiwa and Oyesikun (2010) observe that ICT has provided new ways to store, process, distribute and exchange information both within organisations and with customers and suppliers with supply chain.   The GSM network service was introduced in Nigeria with the aim of meeting the urge and high demand for communication with increased ability to meet service capacity and subscription demand in order to satisfy the common subscribers of GSM network communication services and the opportunity of integrating herself to a public cellular phone system within and outside its locality (Kuboye, 2010).

Service quality remains a fundamental concern to telecommunications service subscribers. Services are deals, processes and performance (Zeithaml & Bitner, 2003). In general terms, services include all economic activities whose output is not a physical product or whose construction is generally consumed at the time it is provided and which provides added value in forms (amusement, comfort, timeliness, convenience or health) that are basically intangible for its first purchase (Quino, Baruch & Paqutte, 1987 in Kushwah & Bhargav, 2014). Seth, Gihota & Monaya (2007) opined that the pursuit of service quality is essential for competitiveness and gaining momentum. Ogundipe (2006) noted that enhancing the network coverage seems to diminish the network

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capacity, taking into account that most valuable and limited resources of GSM are the available frequency specification which limits the system capacity.

In Nigeria, Global System for Mobile Communication (GSM) operation has many network facilities due to the competition among service providers to acquire more subscribers (Ekejiuba, Adeola, Oluwatosin, 2015). For instance, MTN Nigeria provides network coverage to 88.8% of Nigerian land mass while 80.2% of the population subscribe to the service GSM in Nigeria (Wikipedia 2017). More subscribers are being added to the different networks without regard to the available facilities. As a result, the euphoria of owing a phone and accessing the internet by subscribers has given rise to complains associated with network failure which is a major challenge to telecommunication companies in Nigeria. According to Ndukwe (2004), the goals set by government have only be partly been met – particularly with respect to the quality service. He further observed that a tremendous increase in subscriber growth rate for all the mobile telecommunication operators as witnessed in the industry could not be attributed to customer satisfaction but mainly due to the increased growth in investment and expansion of network access in the past years.

How to manage these challenges in order to provide improved quality service holds a great importance to customer satisfaction. An essential part in maintaining and sustaining customer quality are service quality and customer satisfaction (Egena, 2013). In an off-line environment, it is believe that quality of service and products is a major determines of customer satisfaction and loyalty (Parasiraman, Zeithlam and Berry, 1988 in Akanbi, 2013). Reibstein (2002) in Abdallata (2013) note that the quality of services delivered through a website has become a major fundamental success factor than low prices or being the first mover in the market space. The extent to which customers are satisfied with service quality of GSM is the tenet of this paper.

Statement of the Problem

For an organisation to meet customer satisfaction there is a need to provide quality service. The satisfaction of the customers has to be met. This is what GSM providers are expected to do. However, GSM providers attempt to achieve the option through their customer without offering them the commensurate satisfaction associated with their efforts in the bid to cut down and this can only be attained in the short run. Customers are not satisfied with the product they purchase as well as with the means the product is delivered. GSM service providers have not exceeded delight or met the expectations, specific needs and perception of customers. It therefore follows that customers are dissatisfied and may not consider a repurchase. Observations show an inverse relationship existing between providing quality service and the real satisfaction of GSM customers. In this view, this study is geared toward associating quality service to customer satisfaction in cellular telephony in Edo State, Nigeria and provides likely solution as may be uncovered in the research process.

Objective of the Study

The broad objective of the study is to explore the effect of service quality of GSM network producers on customer satisfaction. Specifically, the study focuses on the following objectives:
1. To ascertain if there is any relationship between service quality of GSM service providers and customer satisfaction in Edo State.

Research Question
1. What is the extent of the relationship between service quality of GSM service providers and customer satisfaction in Edo State, Nigeria?

Hypothesis
Ho: There is no significant relationship between service quality of GSM service provider and customer satisfaction in Edo State, Nigeria.

Conceptual Clarifications
The Concept of Service Quality

Theoretical foundations and service quality according to Gronnos (1990) in Kushwah & Bhargav (2014) had been studied now because as the markets have become more competitive; marketing management has refocused attention from international performance such as production to an external interest such as satisfaction, customer satisfaction and customers' perception of service quality.

There are many definitions and interpretations of quality. In Japanese philosophy, quality is referred to zero defect (or defect-free) product or service. The emphasis is on doing the things right for the first time. It is a conformance to requirements (Crosby, 1979). Hessalmaldin (2007) see quality as "a measure of the extent to which the service delivery meets the customer's expectations". Garvin (1983) see quality by counting the incidence of internal (before product leaves the factory) and external failure (after the product is installed).

Quality is cultivated during two-way interaction between service providers and customers (Leltinen & Leltinen, 1991). Quality has three dimensions- physical quality which includes tangible aspect of the service, corporate quality which involves the company's image and interactive quality which originate from interaction between customer and service provider. In this study, perceived quality is used as construct quality. A kind of attitude that result from comparison of expected service with perceived service is referred to perceive quality. It is a verdict of a consumer which is developed about the superior performance of a service (Kang, 2006). Quality is classified as followed (Garvin, 1987 cited in Hassalmaldin, 2017): Product-Based Quality: This is where certain characteristics and specification of product are taken into consideration which are measurable and at the same time representing the higher quality as well;   Consumer-Based Quality: In this case, the consumer is the determinant of the quality of goods and services, based upon his vision, the types of goods and services that satisfy his needs, are in high quality; Cost-Base Quality element of price is emphasized. Based on this observation, the quality of the product would be based on its accepted price and logical cost.
The measurement of quality in the case of intangible goods is an easy task because uniform quality standard can be achieved consistently.

On the other hand, a service is a performance that cannot be counted, measured and inventorised because it is intangible. Service has three fundamental features that constitute a challenge to service providers. These include intangibility, heterogeneity and inseparability (Kushwah & Bhargav, 2014). The intangible nature of service makes it difficult for the service providers to determine how the customers would perceive and evaluate quality. Heterogeneity of service makes it difficult for providers to provide and satisfy customers. The feature of inseparability suggests that production and consumption of service takes place simultaneously. The major determinants to quality of service are service delivery process and power of a customer in the process. Quality in service takes place in the interaction between the service provider and the customer and cannot be engineered in the factory. Consumers decide service quality subconsciously rather than by an objective judgement. Service quality is involved in subjective cognition (Churchill & Suprenent, 1982).
Service quality is a technical task involving comparison between expectation and real performance on account of these three basic factors of service quality. Service providers would have influenced this evaluation in a desired way if they know how the service would be evaluated by the consumers. In conceptualising service quality, Parasuraman, Zeithaml and Berry (1985) note three things – evaluating service quality is a different job; comparison of consumer expectation with performance built up service quality perception and evaluation of service quality is dependent on the result and process of service delivery. In the telecom sector, the quality of service also depends on the technical fault free facilitation of calls. There are two dimensions of service quality as perceived by customers: technical quality which suggest 'what' customer really received from service and functional quality which suggests "how" serve is delivered: Ten major determinations of service quality as conceived by the company and the consumers based on the basic service quality model (Parasuranman, Zeithaml & Berry, 1991) are reliability, responsiveness, competence, security, communication, courtesy, access, credibility, tangibility, understanding/knowing the customer expected service has its origin in mouth communication, personal experienced and personal needs. The desires, wants of a consumer i.e. what they feel that service should offer rather than would offer are expected service (Kushwal & Bhargav, 2014). The outcome of external communication to customer and service delivery process is perceived service. Service quality also depends on incongruity between expected and perceived services (Parasuraman, Zeithaml & Beny, 1995).

Measuring Service Quality
It is more difficult to measure service quality than the quality of goods. Two service theories have been widely accepted and apply among the various service quality opinions. The first one is the Gronroost Technical and functional quality framework. The second is the SERVQUAL modle by Parasuraman, Zeithaml and Berry in the 1990s.

Gronroos (2000) stated that in the 1990s, the two dimension model of service quality (technical quality, and functional quality) was used to describe and measure the service quality. In this model, the technical quality concentrates on the outcome of what is the provided and functional quality dimension takes into consideration how it is delivered (Muhenla & Guga, 2017).

Parasuraman, Zeithaml and Berry (1991) discussed ten (10) service quality dimensions that customers use to judge the quality the service provider were reviewed. The ten dimensions are not necessarily independent of each other. Overlap could be between the categories. Due to further study, Parasuraman (2001) reduces the ten dimensions and combined them into five dimensions of quality: tangible, reliability, responsiveness, assurance (including competence courtesy), reliability, security, and empathy (including access and understanding). Tangibility: Tangibility refers to the appearance of the physical characteristics associates with the service encounter (Monsin & Ryan, 2005). Physical surroundings represented by subjects (the appearance of employee and objects/interior design); Reliability: The service provider's ability to provide accurate and dependable services constantly reforming the service rights. i.e. how well can the company deliver on its

promises dependably and accurately. Hence, Bebiko (2000) defined reliability as "the ability to perform the promises service dependably and accurately"; Responsiveness: A willingness of a firm to helps its customers by providing fast and efficient service performance. The willingness that employees demonstrate to promptly and efficiently solve customer's problems and requests. Parasuraman, Zethaml and Berry (1991) defined responsiveness as the willingness of the service provider to assist the customer and deliver prompt services. It shows how reactive and organisation is towards its customers (Cronin & Taylor, 1992);

Assurance: Diverse features that provide confidence to customers (e.g. the specific service knowledge, polite of the firm and trustworthy behaviour from employees. In other words, it includes knowledgeable and courtesy of employees and their ability to inspire trust and confidence. It is a function of other dimensions such as reliability, tangibility and responsiveness (Mudenda, Guga, 2017) and Empathy, Caring, individualized attention, the firm provides its customers. Cury and Sinclair (2002) cited in Mudenda and Gusa (2017) defined empathy as caring of individualized attention that the firm provides its customer. The model can be referred to as a diagnostic tool for identifying broad areas of service quality and weaknesses of a company.

SERVQUAL is based on the five determinants mentioned above and on comparison between customers' satisfaction on how the service should be performed and their experience of how the service is rendered (disconfirmation or confirmation of expectation) (Archakova, 2013). Usually 22 attributes used to described the five determinants and respondents are asked to state (on a seven-point scale from "Strongly Disagree" to strongly Agree" what they expected from the service and how they perceive the service. Based on the discrepancies between expectation and experience over 21 attributes, and overall quality scale can be calculated. The more the score that experiences are being expectations the lower the perceived quality. However Gronoos (2006) opined that more important that calculating the overall score may be the score on the individual attribute scales, perhaps summarizes over determinants.

The SERVQUAL many tool has also been used by some researchers to examine numerous service industries such as education (Samanhyia, 2014), health (Aikins 2014), and banks (Oyetunji, 2014), hospitality industry (Saleh & Ryin, 1992).

Meaning of Customer Satisfaction

Customer satisfaction is a post-purchase evaluation of a service offering (Oh, 2000, Bolton & Drew, 1991 in Abdallat and El-man, 2013). Traditionally, the definition of customer satisfaction followed the disconfirmation paradigm of customer satisfaction/dissatisfaction. This suggests that customer satisfaction is the result of interaction between consumer's pre-purchase expectation and post purchase evaluation (Codolte et al in Abdallat and El-man, 2013). A more current definition was given by Anton (1994) in Umoh (2005) as a state of mind in which the customers needs, wants and expectation throughout the product of service life have been achieved resulting in future repurchase of loyalty. The key drivers of customer satisfaction are core quality, what is delivered, relational quality, how it is delivered and perceived value, cost benefit analysis (Institute of Policy Analysis and Research Rwanda, 2010).

Customer satisfaction can be created for defensive strategy and the behavioural objective for defense is customer loyalty (Formell, 1992). What influenced customer satisfaction is if the demand and supply are different. Customer satisfaction will be low if when the customer demand is heterogeneous and the supply is homogeneous. Switching barrier and customer satisfaction are the two key forms which need to be fulfilled in order to retain customer. According to Abdallat and El-man (2013) a customer is very likely to remain with a company when he has the intention to repurchase and recommend. A customer is said to be loyal if he or she must believe that the service of the organisation continues to serve the best choice alternative. In a major oriented organisation, customer satisfaction is viewed to be one of the most crucial outcomes of all marketing activities. It becomes the most fundamental predictor of future behavioural intention (Hamburg & Giering 2001; and Huber & Herman, 2001). McDougall and Levesgue (2000). Umon (2005) citing Andrees and Wolfgay (2002) noted that what remains a strong predictor for behavioural outcomes is satisfaction, which is an outcome of purchase and are resulting from the comparison of the reward by the buyer and cost of the purchase in return to the anticipated consequences. It shows the extent to which customer likes or dislikes the service after experiencing it. Satisfaction is said to have an impact on customer loyalty when customer are able to have the opportunity to determine the quality of the delivered service.

Theoretical Framework

This work is anchored on the Expectancy Disconfirmation Paradigm (EDP) propounded by Oliver 1977, 1980). The model states that consumers purchase goods and services with pre-purchase expectations about the anticipated performance. The level of expectation then becomes a level of quality or attainment against which opinion is formed on the product. That is, the moment the product or service has been used, outcomes are compared against expectations. If the outcome corresponds with the expectation confirmation takes place. Where there is different between expectation and outcomes, disconfirmation takes place. A

customer is either satisfied or dissatisfied due to positive or negative difference between expectations and perceptions. Hence, when performance of service is better than what the customer had previously expected, there is a positive disconfirmation between expectations and performance which gives rise to satisfaction. On the other hand, there is a confirmation between expectations and perceptions which give rise to satisfaction when service performance is as expected. To set in opposition in order to show the difference between satisfaction and dissatisfaction, when a service is not as good to the level of customer expectation, there is negative disconfirmation between expectation and perception which results in dissatisfaction. The EDP is not without drawbacks despite its global popularity. The approach concentrate on the use of expectations as a comparison standard in measuring customer satisfaction, the dynamic nature of expectations and the timing of its measurement, the use of different scores in determining satisfaction, the validity and reliability of the EDP in making known in advance customer satisfaction and the meaning of expectation to respondents. Notwithstanding the above criticisms, Oliver's updated definition on the disconfirmation theory as cited in Ekinci and Sirakaya, (2004) which states that "satisfaction is the guests' fulfillment response, it is a judgement that a product or service feature or the product or service itself provided (or is providing) a pleasurable level of consumption-related fulfillment including levels of under or over fulfillment (Ekinci & Sirakaya, 2004). Amongst the most popular satisfaction theories is the disconfirmation theory (Mattila & O'Neill, 2003). This theory is relevant and important to the study because the disconfirmation paradigm is the best prediction of customer satisfaction (Petrick, 2004). It focuses on how service is delivered and the outcome of the service process.

The model has enjoyed great degree of support from researchers and scholars in other fields of study. It has been generally used to determine satisfaction with different products and services with treatment of flu (Oliver 1980), with hotel and holiday destination services (Barskey, 1992, Tribe & Snaith, 1998), with video disk player (Churchill & Surprenant, 1982), with stock market services (Oliver & Desarbo, 1988).

Empirical Evidence

Onigbinde and Odunlami (2004) investigated the relationship between service delivery and customer satisfaction on telecom subscribers in Ogun State Nigeria using Pearson Product Moment Correlation. The study revealed that quality products and service have significant relationship with customer satisfaction. The finding contradicts that of Ojo (2010), Rahman (2015) and Goel (2004) that quality brings about customer satisfaction in different organisational settings. The study also revealed that price has a significant reliability with customer satisfaction. The result agrees with the findings of Hanif, Hefeez and Riaz (2010) and Paulrajan and Harish (2011) that there is a significant relationship between price fairness and customer satisfaction. Their report contradicts the empirical findings of Hanif, Hafeez and Riaz (2010) that customer service results in satisfaction of customers in the services sector.

Ojo (2010) conducted a study on the relationship between service quality and customer satisfaction in telecommunication industry with attention on mobile telecommunication network (MTN) Nigeria. The study indicates that service quality has effect on customer satisfaction and that there is positive significant relationship between service quality and customer satisfaction. Hanif, Hafeez and Riaz (2010) investigated the factors affecting customer satisfaction. It was revealed that price fairness and customers' services contribute to customer satisfaction but in term of comparison, price fairness has a larger impact on customer satisfaction than customer services. In a study conducted in Bangladesh, Rahman (2012) observed that mobile phone service providers compete not only for networking quality by huge amount of investment in network quality, network extension and upgrading, but also to acquire the new customers and retention of old customer by direct and indirect reduction in price. Paulrajan and Harish (2011) examine the factors in selecting telecommunication service provider. It was found that communication and price increase have most preferential and influential factors. Goel (2004) discovered that service quality is significantly related to customer satisfaction, past-purchase intention and perceived value. In a study on customer satisfaction in mobile service provider networks in International Market Research Business, Hyderabad, Kenthik (2009) found that Airtel is the most excellent and good service provider as 19 out of 20 respondents believe that the service of the company is excellent. Airtel was found to be ahead of others in term of customer satisfaction. Next is Vodaphone followed by BSNL which was found to be worst service provider. The study also reviewed that price factor is the most influential factor for the purchase of telecom service because of its value that satisfy customers. The study concluded that most of the users who are satisfied with their customer care service are also satisfied with the process of getting their complaints resolved. Users of all telecom companies were found satisfactorily with the waiting time their complaints resolved. Ekiejuba, Adebayo and Adeoye (2015) investigated GSM network failure, quality of service diversion and its impact on e-learning. The result showed that overall network performance of the four GSM network providers in Nigeria is average and below the standard required for a graded quality of service. In investigating the effects of service quality and customer satisfaction on re-patronage intentions of Hotel existing customers, Tee (2012) discovered a significant positive relationship between customer satisfaction and customer

loyalty. Shanka (2012), Kim, Rark and Jeong (2012) and Madjid (2013) are among other scholars who found satisfaction to be a major factor in determining loyalty. Cheng, Chiu and Hong (2011) in Abdalata and El-man (2013) in their study to found out whether loyal customers are necessarily satisfied customers, they discovered that customer satisfaction did not have a significant direct association with customer loyalty concerning medical services in Taiwan. In Nigeria, Ganiyu, Uche and Adeoti (2012) in their study found that customer satisfaction alone cannot be a leading factor for the achievement of objective of creating a loyal customer base. They contended that trust is the most crucial antecedent of customer loyalty. Loyal customers seem to be satisfied customer.

II. Methodology

The research design for the study was a cross-sectional survey research design because data used for the study were obtained from different individuals at a particular point in time. The population of the study covered the entire subscribers of GSM services in Edo State, Nigeria. Forty (40) respondents were sampled from each of the eighteen (18) Local Government Areas in Edo State, Nigeria (ESG, 2018), and a total of 720 respondents sampled from Etsako-West, Etsako East, Etsako Central, Owan-East, Owan West, Akoko-Edo, Esan West, Esan Central, Esan North-East, Esan South-West, Igueben, Egor, Orihwonwon, Oredo, Ikpoba-Okha, Ovia North-East, Ovia South-West, and Uhunwonde, using purposive sampling technique. The sampled individuals are those who presently use a cell phone and must have been using for more than six (6) years in order to provide valid information. The main research instrument was questionnaire. The twenty (20) item questionnaire used a 5-point likert scale ranging from Strongly agree (5) to Strongly Disagree (1). A pilot study involving twenty (20) respondents obtained via systematic sampling of mobile phone users from Oredo Local Government Council was carried out in order to detect ambiguities in questions which were not easily comprehended by the respondents. Based on the responses gotten from the pilot study, it was observed that the instrument was response-friendly. The questionnaire was also submitted to professional academics in the departments of marketing and Business Administration in University of Benin, Benin City, Edo State, Nigeria for vetting. Their views, observations suggestions and recommendations were reflected in the modifications made. As regards reliability, the research instrument was subjected to a test-retest reliability test which yielded a reliability coefficient of 0.99 using Pearson product moment correlation coefficient. The data were analyzed with the aid of descriptive and inferential statistics tools, precisely, Pearson correlation was applied in testing the relationship between dependent and independent variables of the study.

Data Analysis and Interpretation

The study used the following analytical tools to analyze the data for the sudsy: table, simple percentage, mean, standard deviation and correlation.

Distribution and Retrieval of Copies of Questionniare

Seven hundred and twenty (720) copies of questionnaire were distributed using simple random sampling. Seven hundred (700) copies representing 99.6% (response rate) were returned out of which twenty (20) copies were rejected. This means that 680 copies of questionnaire were found useful for the study. The statistical analysis for the study were based on the 680 copies of the questionnaire retrieved.
Taro Yamene (1964) formula cited in Ulo and Nwekpa (2010) was used to determine sample size

TABLE 1: RESPONSES ON CUSTOMER SATISFACTION

S/N	Customers Satisfaction Variables	SA 5	A 4	N 3	D 2	SD 1
1.	Recharge cards are not available at the right time, place and in the right quantities	220	211	42	131	116
2.	Customers are not happy with the manner in which complaints are handled by GSM service provider	235	208	51	123	103
3.	Mechanism to hear from the customers in term of talking back to the firm about its services is not friendly	215	202	39	138	126
4.	I find it difficult in checking my balance and accessing the internet	243	216	34	126	101
5.	My data bundle always run fast when surfing the internet	225	219	36	122	118
6.	I always experience call drop while communication is ongoing	215	202	41	134	128
7.	Call diversion or "network busy" syndrome is on a regular basis when am about making a call	228	216	33	126	117
8.	Customers pay for service which they do not enjoy	225	204	40	132	119
9	I sometimes experience abnormal deduction of credit before and after calls without cogent explanations and re-imbursement	219	206	45	128	122
10	My service provider attach high call rate when making call to a rival network	223	210	50	124	113

Source: Field Survey, 2018

TABLE 2: MEAN, PERCENTAGE AND STANDARD DEVIATION ANALYSIS ON CUSTOMER SATISFACTION VARIABLES

S/N	CUSTOMER SATISFACTION	$\bar{X}$	%	SD
1	Recharge cards are not available at the right time, place and in the right quantities	2.60	10.05	12.99
2	Customers are not happy with the manner in which complaints are handled by GSM service provider	2.52	9.73	13.08
3	Mechanism to hear from the customers in term of talking back to the firm about its services is not friendly	2.66	10.30	12.89
4	I find it difficult in checking my balance and accessing the internet	2.48	9.59	13.41
5	My data bundle always run fast when surfing the internet	2.57	9.93	13.18
6	I always experience call drop while communication is ongoing	2.66	10.30	12.87
7	Call diversion or "network busy" syndrome is on a regular basis when am about making a call	2.57	9.92	13.21
8	Customers pay for service which they do not enjoy	2.61	10.08	13.00
9	I sometimes experience abnormal deduction of credit before and after calls without cogent explanations and re-imbursement	2.62	10.14	12.91
10	My service provider attach high call rate when making call to a rival network	2.58	9.96	12.95
	Total	**25.86**	**100.00**	

Source: Field Survey, 2018

Analysis on customer satisfaction in relation to GSM service quality using the percentage of mean responses revealed that 10.05 per cent of the total responses agreed that the recharge card of the service provider which they are patronizing are not always available at the right time and place, and in the right quantities. Also 9.73 per cent of respondents were of the view that as a customer, they are not happy with the manner in which complaints are being handled by their GSM service provider

In addition, respondents agreed that the various mechanisms put in place by the service provider in order for them to hear from the customers in term of talking back to the firm about its services is not friendly which amount to 10.30 per cent of the total responses. In the aspect of checking for balance either before or after making calls, 9.59 per cent of respondents conclude that they find it difficult in checking their balance and accessing the internet

Most of the respondents, using the mean response analysis agree that they find it difficult in surfing the internet either with their handset or with any other GSM gadgets as such their data bundle always run fast when surfing the internet making 9.93 per cent of total responses. Also, 10.30 per cent of total respondents patronizing various GSM service providers were of the view that most times they experience call drop while communication is ongoing

Moreso, 9.92 per cent of the total respondents using the mean response analysis agree that they are experiencing call diversion or "network busy" and such syndrome do occur when calls are about to be made. Also, 10.08 per cent of customers using various service provider were of the view that they are paying for service which they do not enjoy In relation to GSM account balance, 10.14 per cent of total mean responses were of the view that sometimes they experience abnormal deduction of credit from their service provider before and after calls without cogent explanations and re-imbursement thereby causing discouragement in recharging, also 9.96 per cent of respondents operating with different GSM network service providers were of the view that their GSM service providers attract high call rate whenever they are making call to a rival network which cause a restriction in making call to other networks

TABLE 3: GSM SERVICE QUALITY

S/N	GSM Service Quality Variables	SA 5	A 4	N 3	D 2	SD 1
1.	Network Coverage	234	206	32	131	117
2.	Network Accessibility	229	211	36	135	109
3.	Audio Quality	222	206	45	130	115
4.	Consumers/ service provider relationship	219	202	39	139	121
5.	Billing/Tariff rate	220	212	43	133	112
6.	Bonus/Discounts to customers	221	214	40	129	116
7.	Credit card recharging/ packaging	231	225	30	124	110
8.	Promo, Advert and freebies	217	209	41	133	120
9	Internet connectivity	225	203	49	127	116
10	Protection of Privacy	227	201	32	137	123

Source: Field Survey, 2018

TABLE 4: DISTRIBUTION SHOWING THE MEAN, PERCENTAGE AND STANDARD DEVIATION ANALYSIS ON GSM SERVICE QUALITY VARIABLES

S/N	GSM SERVICE QUALITY	$\bar{X}$	%	SD
1	Network Coverage	2.57	9.92	13.20
2	Network Accessibility	2.56	9.88	13.16
3	Audio Quality	2.60	10.02	12.92
4	Consumers/ service provider relationship	2.64	10.19	12.94
5	Billing/Tariff rate	2.59	10.00	13.00
6	Bonus/Discounts to customers	2.59	10.00	13.05
7	Credit card recharging/ packaging	2.52	9.74	13.37
8	Promo, Advert and freebies	2.63	10.13	12.95
9	Internet connectivity	2.59	10.00	12.92
10	Protection of Privacy	2.62	10.12	13.08
	Total	**25.91**	**100.00**	

Source: Field Survey, 2018

In relating service quality to the satisfaction of customers, respondents were asked to rate the service quality of their various GSM network service provider as it affect the level of satisfaction derived from patronizing such network. Using the mean response analysis, it was shown that 9.92 per cent of total responses rated the network coverage of their GSM service provider as very good as well as the network accessibility making 9.88 per cent of total responses

Rating the audio quality of GSM service provider, 10.02 per cent of total responses rated the audio quality as very good such that they hardly experience audio problem when communicating using the network. In rating the relationship between consumer and service provider 10.19 per cent were of the view that they ae having a very good relationship with the service provider they operate with thereby making GSM problem to be solve urgently.

10.00 per cent of the total mean responses believe that the billing/ tariff rate from the service provider is very good such that they scarcely experience excessive billing and high tariff rate during calls. In the aspect of bonus/discounts to customers from the service provider, 10.00 per cent of GSM users explained that the bonus and discount services render to them are very good thereby creating an enabling environment for them to continue patronizing the service provider

Most organizations believed that packaging is a tool for a product self-advertisement. In same vein, 9.74 per cent of total responses believed that the packaging of the credit recharge card is very good such that it can easily be handle and it's difficult to lose a number from the numerous recharge pin on the card compare to the former that needed to be scratch before accessing the recharge pin. Most respondents believe that GSM service providers indulge in different promotional activities also conduct series of advertisements and offer freebies to their users in order to keep their customers in their networks and also to obtain more customers as well, thereby concluding that such act is very good making 10.13 per cent of total mean responses

10.00 per cent of the respondents were of the view that the internet connectivity of the service provider which they are linked to is very good such that they surf the internet with ease without any frequent internet shutdown. In the aspect of consumer's protection 10.12 per cent of the respondents were of the view that their service provider has a very good way of protecting the privacy of their subscriber.

TABLE 5: REGRESSION COEFFICIENTS ON VARIOUS PARAMETERS MEASURED IN RELATION TO CUSTOMER SATISFACTION

Parameter	Customer Satisfaction				
	R	R2	Adjusted R2	Coefficients	P-value
Call Drop while communication is going on	0.94	0.88	0.85	2.87 – 0.06x	0.017
Call Diversion or Network busy syndrome	0.99	0.99	0.98	2.27 – 0.22x	0.000
Lack of network coverage making people to pay for service not enjoyed Network	0.99	0.99	0.99	1.64 – 0.20x	0.000
Poor Voice Clarity	0.94	0.97	0.98	1.27 – 0.21x	0.000
Poor access to internet	0.99	0.99	0.99	1.78 – 0.21x	0.00

Source: Field Survey, 2018

Hypothesis Test

Descriptive Statistics			
	Mean	Std. Deviation	N
GSM Service Delivery	22.2000	5.53373	5

Descriptive Statistics			
	Mean	Std. Deviation	N
GSM Service Delivery	22.2000	5.53373	5
Customer Satisfaction	22.2000	7.23878	5

Correlations			
		GSM Service Delivery	Customer Satisfaction
GSM Service Delivery	Pearson Correlation	1	.887[**]
	Sig. (2-tailed)		.001
	N	5	5
Customer Satisfaction	Pearson Correlation	.887[**]	1
	Sig. (2-tailed)	.001	
	N	5	5
**. Correlation is significant at the 0.01 level (2-tailed).			

Using the various parameters in table 5 such as frequent call drop, call diversion, Poor Network, Poor voice clarity as well as poor internet network in finding the significant effect of GSM service quality on customer satisfaction, it was seen that at 94 per cent and 99 per cent respectively, there is a strong positive relationship between these variables and customer's satisfaction owing to the fact that any occurrence of the above mentioned variables will create a positive or negative effect on customer's satisfaction. The analysis shows that there is an inverse effect of the parameters mentioned above on customer's satisfaction. This implies that a high occurrence of any of the parameters will create a negative effect on customer's satisfaction while a low occurrence will create a positive effect on customer's satisfaction

The correlation analysis revealed that at 89 per cent, there is a strong positive relationship between GSM service quality and customer satisfaction which implies that in order for the GSM service provider to continually secure and protect their customers they have to put their different services in a good and attractive position in order to satisfy them.

Discussion of Findings

The general research findings showed that GSM services have positive relationship with customer satisfaction. This is borne out of the fact that a decline in service quality always affects the level of satisfaction that customers will achieve. A unit increase in the activities of GSM service providers brings a corresponding increase in customers' satisfaction as can be seen in table 6. This is in tandem with the work of Ojo (2010) and Goel (2014). They saw positive relationship between service quality and customer satisfaction. If individuals feel that their satisfaction is not guaranteed in the service quality of GSM service providers, they are most likely to be discouraged from patronizing the services. Thus, it was observed that customers' level of satisfaction was lower among the respondents (*see table 2*). This finding affirmed the assertion of Ndukwe (2004) that increased subscriber growth rate for all the mobile telecommunication operators in Nigeria could not be attributed to customer satisfaction mainly because of increase growth in investment and expansion of network access in the past years.

III. Conclusion

The communication industry constitutes a strategic sector that drives economy of a nation. The telecommunication sector performs the function of networking and hence it is the engine of growth in the economy, service quality in the industry tends to impact on the customer satisfaction. The introduction of GSM services in Nigeria brought to the forefront critical issues and these tend to determine customer satisfaction. Eight variables of quality of service (quality of service, call drop, poor network, poor voice clarity, communication gaping, call divert) were used to determine their customer satisfaction regarding GSM Service. From the result, all the variables positively affect customer satisfaction. However, there is a direct or inverse effect of these variables on customer's satisfaction which implies that a high occurrence of these variables creates a negative of customer's satisfaction and the reverse is true when there is a low occurrence.

IV. Recommendations

1. Customer satisfaction survey should be regularly carried out in order to know how the concerns of customers can be tackled to enhance level of customer satisfaction.
2. To specify the level of service delivery that customers can expect, customer charters should be created.

3. Journey mapping, surveys, customer feedbacks and other related mechanisms should be put in place by every GSM network provider to gain an undertaking of the expectation of customers of service providers.
4. GSM service providers must develop co-ordinated strategies, tactics and operational measures to improve service quality.
5. There is need for GSM network providers to understand the particular needs of different groups of their customers' base and potential customers' needs.
6. Service providers should provide clear information about products and services   available in service centres and on web sites.

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