GSM Marketing Service Providers Operations and Customers Satisfaction in Nigeria: An Empirical Investigation

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Abstract: This study has been carried out on the GSM arm of the Nigerian Telecomunication sector to primarily investigate the level of satisfaction that the subscribers of GSM service providers have enjoyed in the seven years of operations in Nigeria. In testing this empirically, MTN, GLOBACOM and ZAIN were selected as case studies. 600 questionnaires were administered on the subscribers of these GSM service providers in the Six States of the South-Western Nigeria using the purposive sampling technique. In analyzing the collated data, three hypotheses were tested with the use of Percentages, T-test, F-test, [at 95% confidence limit], Cross-tabulation [using the 'Eta' Directional measure] and statistical charts. The results from the SPSS 16 output rejected the Null hypotheses. This further indicated that, the various factors that determined the level of subscribers' satisfaction were statistically significant. The study therefore concluded that, subscribers in Nigeria are dissatisfied with the services of their service providers hence, the need for the regulatory body; NCC to ensure that subscribers interests are protected. The study then suggested that,, the GSM service providers should reposition themselves to give adequate value to subscribers money in commensuration with their own gains from the Nigeria Telecommunications market.

Keywords: Telecommunication; Global System for Mobile Telecommunication; GSM Service Providers; Growth Factors; Customer Satisfaction; NCC.

JEL Classification: M10; M19; M31

1. Introduction

The growth witnessed by telecoms industry today in Nigeria is as a result of the liberalization and the implementation of the private sector participation policy of the Obasanjo led civilian government between 1999 and 2003; and the licensing of the GSM operators in 2001. The nation moved from a monopolistic telecommunication market towards a fully liberalized telecommunication market, where players engaged in stiff competition. The Global System for Mobile Telecommunication (GSM) was birth in Nigeria because of the inability of Nigerian Telecommunication Limited (NITEL) to meet the telecommunication needs of the country.

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Telecommunications facilities were first established in Nigeria in 1886 by the colonial administration through the introduction of public telegraph services linking Lagos by submarine cable along the west coast of Africa, Ghana, Sierra Leone, Gambia and unto England. [RDC, AIAE, UNILAG consult 2006]. Performances in this sector were moribund and static for more than 100 years without any significant impact and improvement where comparison was made with the nations of the world. Even the establishment of NITEL in 1985 (which was meant to re-write the telecommunication story of Nigeria) could not salvage the decay in the nation's telecommunication sector. Instead, it grew worst. The monopoly solely enjoyed by NITEL between 1985-1999 could not be converted to any viable opportunity to cover the ground in terms of telecoms services provision. Instead, it left many Nigerians with no hope of having access to telecommunication facilities until the advent of GSM which was launched in the nation in August 2001.

2. Literature Review

The Global System of Mobile telecommunication (GSM) started its life cycle in Nigeria in July 2001 when the Nigeria digital Mobile license auction ended in Abuja with three of the five bidders for GSM/Digital Mobile Services successfully winning license each for themselves at the cost of $285 million. The five bidders were:

(a) Econet Wireless Nigeria Limited;
(b) Chrited Networks Mobile Limited;
(c) MSI-Celtel Nigeria Limited;
(d) Communication Investments Limited;
(e) MTN Nigeria Communication Limited.

Out of these five that bided, only three of them were successfully licensed to operate GSM services in Nigeria. They were:

- Communication Investments Limited;
- Econet Wireless Nigeria Limited;
- MTN Nigeria Communication Limited.

However, Communication Investments Limited which was sponsored by Dr Mike Adenuga Jr., Devcom Merchant Bank, Equitorial Bank and Detcon of Germany was later denied the license and could not lunch its network in 2001 like the other two successful bidders. But it was afforded another golden opportunity in August 12, 2002 when the company metamorphosed into Globacom. The company was granted the license to operate National Carrier Services, Digital/Mobile Services, Long Distance Communication and Fixed Wireless Access Service. NCC equally

provided a license for NITEL to operate GSM/Digital Mobile Services which it operated under the aegis of M-tel. These four players played a very significant role in the history of GSM/Digital Mobile Services in Nigeria [NBI.Com 2008].

3. GSM Growth Factors in Nigeria

Contribution by NCC Acts 2003

The adoption of the National Telecommunication policy in the mid 2000 actually created the way for the passing of a new legislation that metamorphosised into the Communication Act 2003 that became effective in July 2003. The new act was enacted to address regulatory issues comprehensively. The regulatory issues include licensing, general competition principles, investigation and appeals, dispute resolution, interconnection, access facilities, universal service, spectrum management, numbering and technical standards (Moshiro 2004).

However, the enactment of this act marked the beginning of sporadic growth in the telecommunication sector in Nigeria especially the GSM sector. The primary objective of the act was to create and provide a regulatory framework for the Nigerian Communications industry and all matters related thereto and for that purpose and without detracting from the generality of the foregoing:

- establish a regulatory framework for the Nigerian communication industry and for this purpose to create an effective impartial and independent regulatory authority;
- promote the provision of modern, universal, efficient, reliable, affordable and easily accessible communication services and the widest range thereof throughout Nigeria;
- encourage local and foreign investments in the Nigeria communication industry and the introduction of innovative services and practices in the industry in accordance with international best practices and trends;
- ensure fair competition in all sectors of the Nigeria communications industry and also encourage participation of Nigerians in the ownership, control and management of communications companies and organization;
- encourage the development of communications manufacturing and supply sector within the Nigeria economy and also encourage effective research and development efforts by all communications industry practitioners;
- protect the right and interest of service providers and consumers within Nigeria;
- ensure an efficient management including planning, coordination, allocation, assignment, registration, monitoring and use of scarce national resources in the communication sub sector, including but not limited to frequency spectrum, numbers and electronic addresses, and also promote

and safeguard national interests, safety and security in the use of the said scarce national resources [Sec.1 Sub sec 1 NCC Act 2003].

The functions of the commission as equally established by Sect.1 Sub Sect.4 NCC Act 2003 include:

1) The facilitation of investments in and entry into the Nigeria market for provision and supply of communications services, equipment and facilities;
2) The protection and promotion of the consumers against unfair practices including but not limited to matters relating to tariffs and charges for and the availability and quality of communications services, equipment and facilities;
3) Ensuring that licenses implement and operate at all times the most efficient and accurate billing system;
4) The promotion of fair competition in the communication in the communications industry and protection of communications services and facilities providers from misuse of market power or anti-competitive and unfair practices by other services of facilities providers or equipment suppliers;
5) Granting and renewing communications licenses whether or not the licenses themselves provide for renewal in accordance with the provisions of this Act and monitoring and enforcing compliance with license terms and conditions by licenses;
6) Proposing and effecting amendment to license conditions in accordance with the objectives and provisions of this Act;
7) Fixing and collecting fees for grant of communications licenses and other regulatory services provided by the Commission;
8) The development and monitoring of performance standards and indices relating to the quality of telephone and other communications services and facilities supplied to consumers in Nigeria having regard to the best international performance indicators;
9) Making and enforcement of such regulations as may be necessary under this Act to give full force and effect to the provisions of this Act;
10) Management and administration of frequency spectrum for the communications sector and assisting the National Frequency Management (NFM) Council in developing a national frequency plan;
11) Development, management and administration of national numbering plan and electronic addresses plan and the assignment of numbers and electronic addresses there from to licensees;
12) Proposing, adopting, publishing and enforcing technical specifications and standard for the importation and use of communications equipment in Nigeria and for connecting or interconnecting communications equipment and system;

13) The formulation and management of Nigeria's inputs into the setting of international technical standards for communication services and equipment;
14) Carrying out the approval tests on communications equipment and issuing certificates therefore on the basis of technical specifications and standards prescribed from time to time by the Commission;
15) Encouraging and promoting infrastructure sharing amongst licenses and providing regulatory guidelines thereon;
16) Examining and resolving complaints and objections filed by and disputes between licensed operators, subscribers or any other person involved in the communications industry, using such dispute-resolution methods as the Commission may determine from time to time including mediation and arbitration;
17) Preparation and implementation of programmes and plans that promote and ensure the development of the communications industry and the provision of communications services in Nigeria;
18) Designing the minister on the formulation of the general policies for the communications industry and generally on matters relating to the communications industry in the exercise of the Minister's functions and responsibilities under this Act;
19) Implementation of the government's general policies on communications industry and the execution of all such other functions and responsibilities as are given to the commission under this Act or are incidental or related thereto;
20) Generally advising and assisting communications industry stakeholders and practitioners with a view to the development of the industry and attaining the objectives of this Act and its subsidiary legislation;
21) Representation of Nigeria at proceedings of international organizations and for a on matters relating to regulation of communications and matters ancillary and connected thereto; and
22) General responsibility for economic and technical regulation of the communications industry.

4. Operator and GSM Service Providers Contributions

Following the liberalization of the telecommunication sector as earlier mentioned, the GSM era began and service providers were licensed to operate GSM/Digital Mobile Services in compliance with the adoption of the National Telecommunication Policy of year 2000 with the basic objectives of:

- enhancing national economic and social development and integrated Nigeria internally and into the global telecommunications environment and

- making telecommunication services efficient, affordable, reliable and available to all.

Leading in fulfilling these objectives today in Nigeria are the three biggest GSM service providers in Nigeria namely, MTN, Globacom and Zain which are the primary focus of this study. Before the advent of GSM in 2001, the total functional lines in Nigeria were just about 458,619 lines. But the moment GSM services began; there came a significant growth in the telecoms market in Nigeria. The GSM license authorizes the providers to operate and provide a *"National Second Generation Digital Mobile Radio Telephony Services in900 and 1,800MHz bands"*. The license permits the operators to install their own transmission network as well as lease transmission capacity from NITEL or any authorized long distance or multi-access operators and service providers to international destination. There is no doubt that, the GSM/Digital Mobile providers have provided a strong platform that is responsible for the present growth in the Nigeria telecoms market. Initially, the roll-out target of each of the operators in 2001 for Econet and MTN and 2002 for Globacom were 100,000 lines within 12 months of lunching operations, 750,000 lines within 36 months and 1.2 million lines within 60 months. But surprisingly, each of the operators exceeded this target within a few months of lunching their services. Within 3 months of lunching in 2001, the two networks, (MTN and Econet) already had 266,461 lines. Less than $2^1/_2$ years of operation the four operators then (including M-tel) had had over and above 7 million lines (in mid 2004) surpassing all the targets earlier set in less than one year.

The following analysis therefore explains the significant growth in the Nigerian telecoms market that continued at a geometrical proportion between 2001 and 2008. In 2001, the GSM added 266,461 lines in less that 3 months of operation. By 2002, there was about 488.86% increase in the number of subscribers for the functional lines to stand at 1,569,050. 2003 recorded another huge significant growth of 100.73% over that of 2002 for the nation to have 3,149,472 functional GSM lines. By 2004, it was already a spectacular performance that became noticeable in the world for there was 191.3% growth over the previous year for the subscribers figures to rise to 9,174,209. This performance equally doubled in year 2005 for the sector recorded another 99.42% improvement over the preceding year to poll a subscriber figure of 18,295,896. 2006 recorded 75.91% growth and 2007 recorded 24.3% growth to have subscriber figures of 32,184,861 and 40,011,296 respectively. As at December, 2008, the subscriber figure was already 56,935,985 for the GSM sector; an increase of 42.3% over the performance of 2007. The sectoral growth of the GSM services under the spate of seven years became so astronomical to finish at 21,267.47%; a kind that has not been so recorded in any country of the world before. This made the Nigerian telecom sector to receive a global claim of the fastest growing mobile markets in the world. This global

success was mainly driven by the GSM/Digital Mobile Services providers in which MTN, GLOBACOM and V-MOBILE (now ZAIN) were the major players.

The implication of these spontaneous and sectoral growth in the GSM/Digital Mobile services has a positive attendant effect on the nation teledensity which has equally grown from near-zero value of 0.04 in 1999 to 0.73 in 2001; to 1.89 in 2002; to 3.35 in 2003, to 8.50 in 2004 to 16.27 in 2005; to 24.18 in 2006 to 29.98 in 2007 and finally to 45.93 at the end of year 2008, a feet that is comparable with that of many developed world teledensity.

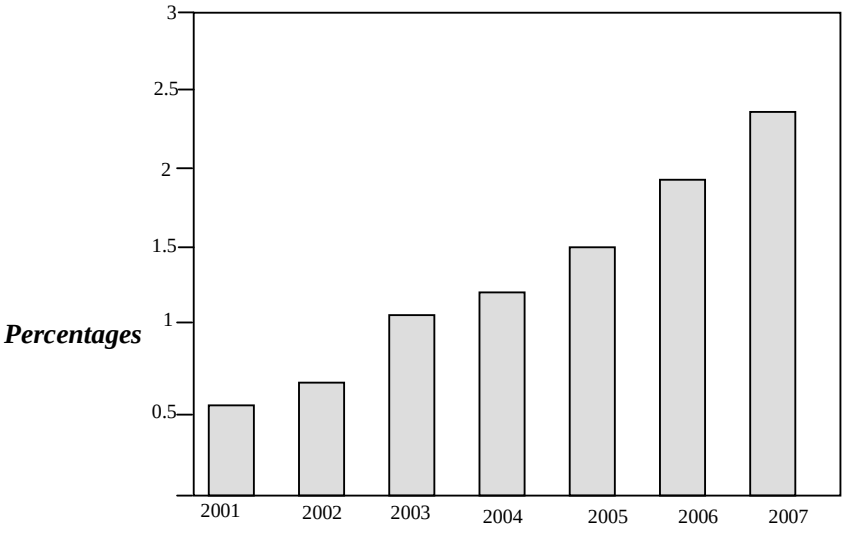
Capital and Network Investment in Nigeria

This aspect of the telecommunication sector has equally witnessed tremendous growth overtime. The sector has been said to have grown from $50 million in 1999 to $12 billion in 2008. The principal corporate investors that financed the GSM lunch in 2001 were First Bank, Stanbic, Zenith, Diamond Bank, Guarantee Trust and Standard Chartered forming syndicates to provide working capital for many telecoms companies in Nigeria. [NCC report 2004]. Some of these investments deals and contract involves:

- €67 million Turkey contract awarded in February 2003 by Globacom to the French vendor Alcatel for installation of 1 million mobile lines, 100,000 fixed lines, 3 international gateways, and a national fibre-optic backbone;
- US$395 million facility to MTN by a syndicate of 14 Nigerian banks, led by Stanbic Bank and Standard Chartered (London) in November 2003 as part of MTN's USD $1.3 million capital expenditure budget;
- US$250 facility to MTN by another bank consortium led by GTB in October 2004 for network infrastructure;
- US$120 million equipment finance deal between LM Ericsson and V-mobile in 2003 for the installation of a north/south transmission backbone;
- US$200 million contract awarded by Globacom to Siemens, for network installation in northern Nigeria in February 2003;
- US$110 million radio network contract awarded by V-mobile in February 2004 to LM Ericsson;
- US$620 million spent by MTN as capital expenses between March and September 2004 to build 344 base stations and 6 switches.

This various investments in the communication sector have grown to about 12 billion dollars as at December 2008. These various investments have had their positive impacts on the nation's economy in terms of GDP contribution. The growth in the telecoms sector in Nigeria as authored by the introduction of GSM/Digital Mobile services has contributed the following percentages to the GDP growth of the nation as presented in the chart below. For example, by year

2007, the telecom sector has started contributing about 2.5% of the nation's Gross Domestic Product (GDP)



Source: NCC 2009: Contribution of Telecoms to GDP (2001-2007)

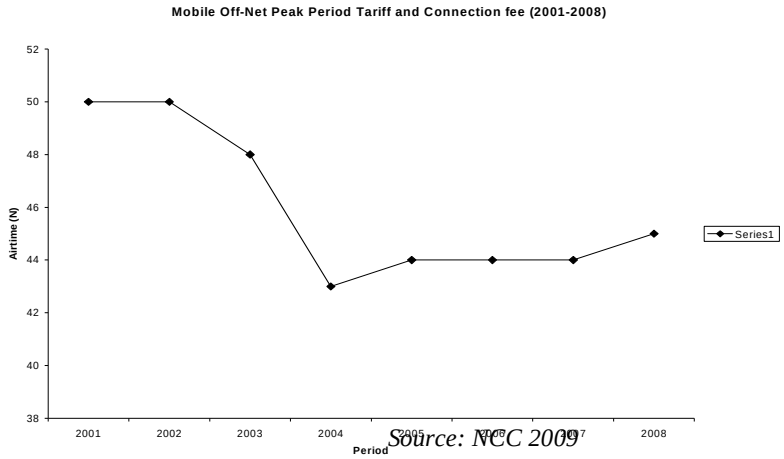
5. Product, Pricing and Competition in the GSM Sector

Before the Globacom lunch of its GSM services in August 2003, MTN and Econet Wireless (Now Zain) dominated the GSM market in terms of pricing and competition. The connection fee (cost of SIM pack) was ₦15,000 in 2001 when MTN and ECONET began. This cost at times doubles before the SIM pack gets to the subscribers through the distributors. Some Nigerians procured their SIM pack (which is the cost of connection) between the rate of ₦45,000 and ₦30,000 in 2001. This went on till the end of 2002 while the mobile tariff was ₦50 per minute for calls despite complains of poor services. Besides, the pressure on the networks to introduce per-second-billing (PSB) was disregarded by both MTN and Econet. But the entrance of Glomobile in August 2003 changed the competitive landscape for the company entered the market from the on-set with "per second billing". Globacom equally came into the market with attractive packages that forced down the connection fees. By 2004, Globacom SIM pack was as low as ₦1 for basic prepaid customers. This pricing technique was first responsible for the number of subscribers' base to hit about 10 million subscribers by year 2004.

Before the per second billing, subscribers then were billed on minute-per-minute basis. Globacom commenced per-second-billing (PSB) on August 27, 2003, V-

mobile (now Zain) followed suit on 26, November 2003 while MTN adopted this pricing technique on 1st December 2003 after much pressure from the customers. The competition that Globacom brought about through PSB actually forced down the tariff of the GSM providers, by 2004 the total billing for one complete minute amounted to about ₦45 which is about 75k per second and has been like this since 2004 at peak period except some exceptional promotional products of the service providers that offer lesser amount depending on compliance with the provision of the products features.

The chart below shows the tariff/ fee from 2001 to 2008:



Source: NCC 2009

However, evidence has shown that the GSM/Digital Mobile Services operators have made astronomical and very huge profit over their business operations in Nigeria. These three big players are private entities and have hidden behind this not to disclose information about their financial performance. But from diverse industrial sources, and from the Stock exchange of Johannesburg where MTN is mandated to disclose its financial information, it was gathered that the first time in the history of MTN to beat Vodacoom in South Africa in profit making in 10 year history was in 2003 which was as a result of its performance in Nigeria. In 2003 alone, MTN has 40% growth on its EBITDA declaring a net ₦22 billion (160 million US Dollars) from about 1 million lines. V-mobile (now Zain) full year net profit for 2003 was $480 million while MTN ended her second year of operation with $1.09 billion (about ₦150 billion).

Similarly, MTN became the most profitable telecom company in Africa in 2003 raking R2.1 billion for the six months ended in September 30, 2003 which was R700 million higher than that of Vodacoom. This trend has actually continued up till now.

6. Services Provided by GSM Operations

MTN: MTN Nigeria operates a GSM license granted her in September 2001 and it is valid till August 2016. It has equally been awarded the 3G license in March 2007. As at December 2008, MTN controls 40:5% of the telecoms market share.

MTN strongly believes in product innovation which plays an important role in keeping its brand very strong in Nigeria. MTN products are tailored towards different customers segments and a holistic value proposition. Its pricing plans have been targeted towards on-net calling preference, using off-peak capacity, per-second plans, disconnection calls to friends and family, XtraConnet which offers subscribers opportunity to stay closer to friends and family; XtraCool designed for the youth; XtraPro designed for dynamic professionals entrepreneurs, XtraSpecial designed specifically for the monthly subscribers, XtraProfit a prepaid plan designed for business centers owners; XtraValue which offers convenience and opportunity for specialized treatment. Other services MTN renders include MTN caller tunex reloaded, MTN Back-up, Video calling, Blackberry, fly connect, fastlink, SIM plus, DSTV mobile, Data Roaming, International Roaming and coverage.

GLOBACOM: This is another indigenous telecom company in Nigeria that was named as the second national operator. It has been licensed to operate fixed line phone, mobile international gateway services. Globacom was very prominent in the dynamic and intense competition that has become the order of the day in Nigeria telecommunication sector through its introduction of per-second-billing, text to e-mail and family in 2003. Other products of Globacom are prepaid premium. Multimedia messaging services, talk now, magic plus, Glo Direct, Glo mobile Intenet, ProfitMax Plus, GloFleet Manager, Optimizer, Maximizer etc. Globacom main suppliers are Siemens and Alcatel.

The subscribers of Globacom at moment stand at 22 million with coverage extending to over 50,000 cities, town, communities and major roads. It ranked the 5^{th} largest operator in Middle East and Africa (MEA).

ZAIN: Zain group was founded in 1983 as Mobile Telecommunication Company (MTC) in the Middle East. It was rebranded as Zain in 2007 to create a global brand. Zain operates in 24 countries of the world with over 15,000 employees providing mobile voice and data services to over 69.5 million active subscribers across the world as at June 2009. Its area of operations include, seven countries in the Middle East and 16 countries in Africa, Nigeria inclusive.

Zain in Nigeria was formerly known as Celtel Nigeria, the company was established in year 2000 by a group of institutional and private investors and 3 state governments and it then bears the name ECONET. Zain made history by being the first telecom operator to lunch commercial GSM services in Nigeria on August 5,

2001. In 2006 Celtel International acquired the majority of state in the company and rebranded as Celtel. On August 1st 2008, Celtel Nigeria was rebranded as Zain Nigeria following the global acquisition of Celtel International by MTC Group.

Zain Nigeria currently covers over 15,000 towns, 14,000 communities and the six geo-political zones in the country. It was the first to introduce the toll-free 24 hours customer care line 111, Zain products includes Voice mail, Roaming, Conference calling, Call waiting, Caller line ID presentation, International Direct Dialing, fax services, call forwarding, SMS, call me back, Me 2 u, credit me, Zain mobile office, friends and family, Zain Joli comprising of Joli people, Joli padi, Joli yonda and Joli yans.

Customer Satisfaction

Telecommunication products fall under the intangible services that are not concrete products but their utility can be determined based on what the consumers feel toward the rendering of the service by the service provider(s) per a period of time.

Hause, Boone and Kurtz (2004) define service as an intangible task that satisfies the need of consumer and business uses. In spite that services do not have physical features that buyers can see, hear, smell, taste or touch prior purchase, buyers can have the assurance of buying a promise. Thus, it is said that the services are inseparable from the service providers which means that consumer perceptions of a service provider become their perception of the service itself.

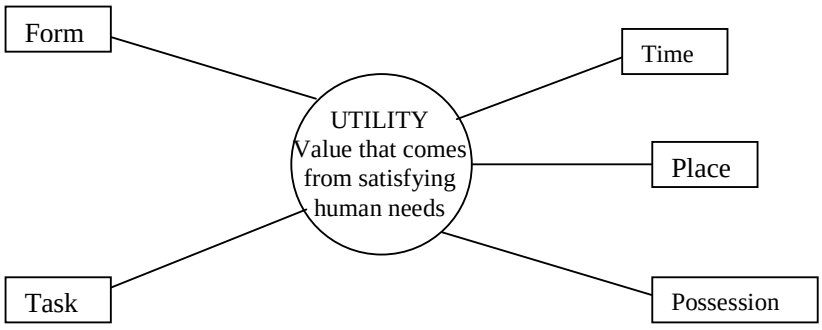
In the light of the above, it then becomes highly imperative of the service provider to ensure that all the activities are tailored toward customer satisfaction. Boone and Kurtz (2004) opine that, customer satisfaction is the extent to which customers are satisfied with their purchased goods and services. The telecoms operators must understand at every point in time what is called customer service standard. *This is the statement of goals and acceptable performance for quality of service that a firm expects have some standard they will not want the operators to fall below otherwise they will term such operator as underperforming and may jettison its service for another one that meets this standard.*

An intelligent company and service providers will understand the importance of forming strong customers relationship management to the extent that, the customer loyalty is 100% won. Kotler (2003) therefore opines that, companies that want to form a strong customers bond need to attend to the following basics of customers:

- get across-departmental participation in planning and managing the customer satisfaction and retention process;
- integrate the voice of the customer in all business decisions;
- create superior products, services and experience for the target market;
- organize and make accessible a database of information on individual

customer needs, preferences, contacts, purchase frequency and satisfaction;
- make it easy for customers to read appropriate company personnel and express their needs, perceptions and complaints;
- run award programs recognizing outstanding employees and customers (for).

In supporting this position of Kotler (2003), Berry and Parasuraman (1995) opine that, building a strong customer bond demands the company to identify the three retention building approach of adding financial benefits to customer, adding social benefits to customer and adding structural ties between the customer and the company. But in the opinion of McCarthy and Perreault (2005) they believe that, customer satisfaction is the extent to which a firm fulfils a customer's needs, desires and expectations, hence the need for companies to know that production and marketing must be aimed at producing economic utility for customers in form, task, time, place and possession utilities i.e.



Source: McCarthy and Perreault (2005); Utility and Value Satisfying Model

This significantly applies to the telecoms companies if they must get their subscribers confidence.

a. ***Form utility*** will be provided by the telecom operators when the subscribers have access to their concrete products i.e. recharge cards at the face value. In some places, MTN ₦400 card sells for ₦410, Glo ₦150 card sell for ₦160 and Zain ₦100 card sells for ₦110. Customers do not enjoy form utility of these products the moment the paid value exceeds the face value.

b. ***Task utility*** will be afforded the customers when the operators handle their services transmission in such a way and manner that intrusion and call-

drops significantly reduced.

c. ***Time utility*** will be enjoyed by subscribers whenever the product and services are made available when the customers want them. You can imagine a non-fluctuating GSM service; the subscribers will be extremely satisfied.

d. ***Place utility*** is achieved whenever the customer buys the SIM card and the recharge card and has the right to use then without any infringement and difficulties. Many times, subscribers found it difficult loading their recharge cards even when they have paid for them

7. Methodology

Methodology simply implies the theory of how research should be undertaken (Sainder et al., 2007).

Statement of Problem: At independence in 1960, Nigeria only had 18,724 functional lines for a population of about 45 million people, a teledensity of about 0.04 telephone to 100 people. [Nigeria Business Info. Com 2008]. The then telephone network only consisted 121 exchanges of which 116 were of the manual (Magnet) type while only 5 were automatic. Between 1960 and 1984 (26 years after) only 181,276 lines were added to make the nations functional lines up to 200,000 as against the planned target of about 460,000 while all these exchanges were analog. [NBI Com 2008] This dismal failure led to the creation of NITEL in 1985 by the government to harmonize the planning and coordination of the internal and external telecommunication services, by providing accessible efficient and affordable services to the Nigerian populace. It enjoyed the strongest monopoly to provide all ranges of telecommunications services to the subscribers in Nigeria. But by 2003 (18 yrs after), NITEL could only boast of 500,000 functional lines available to 100 million Nigerian, a teledensity of 0.4 which was grossly below the Africa average of 1.67 [Tell, July, 2008]. The licensing of the three GSM operators in July 2001: Econet wireless communication Limited (now Zain), MTN Limited and MTEL Limited brought a restored hope to the yearning and aspirations of Nigerians. The fourth GSM mobile operator, Globacom was licensed in September 2002. In the National Telecommunication policy of Nigeria Communication Commission (NCC) it was targeted that the sector (GSM) should attain 1.2 million subscribers within three years. But surprisingly, within less than one year the two telecom operators (MTN and Econet) added 1,569,050 subscribers surpassing the target of 3 years in just one year. By 2003, it doubled with an increase of 200% to net 3,149,472 subscribers. As at December 2008, the subscriber figure of the three biggest GSM operators (MTN, Globacom and Zain) stand at 56,677,465 [NCC Data, 2008] representing 3,612.22% increase from 2002. Compared to less than

500,000 lines that the nation telecom sector managed to get for 115 years of existence from 1886-2001.

However, in figure, there is a significant improvement in the seven years advent of GSM in Nigeria for our teledensity has tremendously improved to 45.93 as at December 2008 which is one of the best in the world. This therefore called for an investigation and this study research question is drawn as follow:

- Is this significant increase in number of subscribers and the nation's teledensity equally proportionately felt by the customers of these subscribers?
- Are the services transmitted by these GSM subscribers of good quality and give value back to the customers?
- What is the level of loyalty that each of the GSM subscribers have towards their operators?

All these will be addressed through the empirical investigation conducted in this study.

Objective of the Study

The broad objective of this study is to empirically investigate the trend of activities of the 3 big GSM service providers (MTN, Globacom and Zain) vis-à-vis the reaction of their customers to the level of satisfaction derivable from the GSM service providers for the past five-years of active operations. Other specific objectives are:

- To examine the level of comfort being enjoyed by the customers/subscribers vis-à-vis the growth recorded by their service providers;
- To investigate the pricing policies of the providers and the position of the customer/subscribers on the various call rates;
- To investigate the level of customers' care services being provided by the operators and the social responsibilities enjoyed by the subscribers.

Justification of the Study

The significant of this study is resident in its resolve to empirically investigate the feelings of customers about the services of the 3 big GSM service providers which control 89% of market share in their sector. The completion of this study will show whether customer satisfaction has grown proportionately with the growth in the telecoms sector over the spate of seven years. This study will empirically investigate the level of dedication of these 3-big giant GSM providers to the satisfaction of their services by the customers. Equally, Nigeria Communication

Commission (NCC) will find this study very interesting and informative towards providing better supervisory role to protect the interest of the subscribers in the telecommunication sector.

Scope of Study

This study has been carried out in the south western part of the nation Nigeria comprising of six states, namely, Ondo, Ekiti, Lagos, Ogun, Osun and Oyo stated; specifically in state capital of each of these states except Osun where Ile-Ife was sampled. The 3-big giants of the telecommunication sector, namely; MTN, Globacom and Zain customers have been sampled across these six states of south western Nigeria to empirically investigate the feelings of the customers towards the satisfaction derivable from the various services of the GSM operators.

Sampled Population Size and Techniques

The population of this study comprises of the totality of all the customers of the operators in the Nigeria Telecommunication industry, which can be categorized into private telecom operation (PTOs) that mostly operate fixed wireless and GSM sector that comprises of six players namely MTN, Globacom, Zain, Visafone, Etisalat and M-Tel. But the study consider the customers of the 3 giant (MTN, Globacom and Zain) among these six players in GSM sector that have been responsible for the major changes in the telecom sector for the past seven years. For ease of accessibility to data gathering, the South-Western region of the country was selected purposively and 100 customers of the 3 GSM operators was sampled in the proportion of 34:33:33 for MTN, Globacom and Zain respectively. Since the south-western geopolitical zone comprises of 6 states, 600 questionnaires were drawn on 600 customer of these operators (MTN, Glo and Zain) in 204, 198 and 198 respectively.

Statement of Hypothesis

(1) On the overall, subscribers of the GSM operators are dissatisfied with the various services provided to them on the three net works;

(2) Similar factors affect the satisfaction desires of the three GSM subscribers;

(3) The sporadic growth in the GSM Operators gains in Nigeria has not been translated into adequate subscribers' satisfaction.

Data Collection and Techniques

100 questionnaires were administered on the subscribers of the three GSM operators (MTN, Globacom, Zain) in the ratio of 34:33:33 respectively in each of the capitals of the 6 States of the South-west geographical zone. In all, 600

questionnaires were administered in the six South-western states. Purposive sampling technique was used to select the region of administration being a known terrain. The questionnaires were administered in Akure, Ado-Ekiti, Ife, Ibadan, Abeokuta and Lagos. Except for Osun state in which Ife was used, others state capitals were use as points of administration. Accidental and purposive sampling techniques were used to administer the questionnaires on customers. Purposive sampling was used to ensure that all the categories of customers were sampled to avoid lopsidedness. Accidental sampling technique was specifically used in Lagos given the hustling and bustling in Lagos that did not permit many to spare the few minutes required to fill all the questionnaires. Many questionnaires in Lagos were not recoverable for only 60% success was recorded. But it was better in all other states for purposively, the questionnaires were administered on civil servants, bankers, students, traders etc to ensure adequate representation. 93% was recovered in Abeokuta, 98% in Ado-Ekiti, 100% in Akure, 98% in Ibadan and 100% in Ife-Osun state. In all 549 questionnaires were recovered representing 91.5% overall success in questionnaire recovery. Evaluating collation via operator by operator in all the states; 184 was recovered from MTN customers, 186 from Globacom customers and 179 from Zain customers; representing 90.1%, 90.93% and 90.40% respectively. In analyzing the collected data, Percentage, 'T-' test, ANOVA, [F-test] and Cross tabulation/'Eta' Divisional Measures were used to measure subscribers level of satisfaction of the three GSM operators' services. [MTN, GLOBACOM and ZAIN]. The sporadic growth within the seven years of GSM existence in Nigeria was described with the use of statistical graphs showing the number of subscribers, connections fees between 2001 and 2008, contribution of telecom to GDP [2001-2007], and trend of private investment between 1999 and 2008. SPSS 16 package was used to analysis these various statistical techniques.

Results Presentation

The various computations were carried out with use of **SPSS 16.** The SPSS 16 output from this analysis revealed that 58.8% of the respondent from the three networks and the six capital States of the sampled population are Male while 41.2% are female. 59.7% of the sample are singled while 38.8% are married. It was equally found out that both the income earners and non-income earners use GSM services. But all the sampled population has all together 72.7% of people earning various categories of income ranging from N7,500 to above N90,000 using the service while 27.3% claimed not to have income but are still using the GSM services. About 92.7% of the sampled population have used the GSM services for more than one year, which makes the study valid to measure customers' satisfaction for the respondents are experienced users of GSM services. The responses of the subscribers to the questionnaires that determine the level of satisfaction revealed a high level of dissatisfaction with various services of the

GSM operators. For example, 52.5% agreed to the fact that, calls are often very difficult to make or receive on their operators' network while 45.2% disagreed with this. Unintentional termination of calls due to network failures; 51.6% agreed to this while 43% disagreed. 65.4% of the respondents claimed that they are dissatisfied with their networks while it is only 30.6% that disagreed with this. Similarly, 50.3% of the sample believed that the price being charged by the operators is unfair while 44.1% believed that the prices are fair. But in spite of this discountenance, each of the operators' subscribers believed that the GSM revolution has allowed access to telephone compared to before 2001. 65.8% believed that telephone services are better now compared to before while 80.8% believed that the operators' performance now is far better than the period of NITEL monopoly.

Statistical Test

One Sample t-test at 95% confidence interval has been used to test the differences among the means of the responses collated from the respondents across the six states of the South-Western Nigeria on the specific 22 questions that the study asked to determine their level of satisfaction. The test of significance is used to verify the truth or falsity of the Null Hypothesis one.

Hence $t = \frac{/ \ddot{X} - \mu /}{S\ddot{x}}$ where $S\ddot{x} = S/\sqrt{n}$ at the degree of freedom V = n-1. The SPSS 16 output result is displayed below:

	T- Test [One-Sample Test] Test Value = 0					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
difficult calls	74.566	548	.000	3.430	3.34	3.52
distortion and infringement of calls	67.463	548	.000	3.209	3.12	3.30
unintentional termination due to network failures	65.342	548	.000	3.448	3.34	3.55
preference over competitors	70.244	548	.000	3.836	3.73	3.94
satisfied with the net works	77.623	548	.000	3.772	3.68	3.87
all round satisfaction	68.489	548	.000	3.441	3.34	3.54

fair pricing	63.436	548	.000	3.226	3.13	3.33
just and reasonable charges in comparison with charges	67.940	548	.000	3.355	3.26	3.45
no sharp practices in pricing	58.181	548	.000	3.270	3.16	3.38
prepaid card allows for choices to be made	75.697	548	.000	3.940	3.84	4.04
quick response to customer complain	66.823	548	.000	3.508	3.41	3.61
friendly customer attendant with courtesy	74.308	548	.000	3.825	3.72	3.93
your network has superior customer service	63.066	548	.000	3.537	3.43	3.65
tremendous improvement	79.416	548	.000	3.787	3.69	3.88
notification of network problem by texts	68.445	548	.000	3.689	3.58	3.79
adequate rewards for patronage	59.335	548	.000	3.284	3.18	3.39
awareness of social responsibilities	70.290	548	.000	3.791	3.68	3.90
indirect and direct benefits from social responsibilities	60.893	548	.000	3.233	3.13	3.34
agreement with promotional exercises	58.884	548	.000	3.348	3.24	3.46
promotions are genue	42.881	548	.000	2.821	2.69	2.95
access to telephone before 2001	60.209	548	.000	3.446	3.33	3.56

telephone services better now than before	66.162	548	.000	3.785	3.67	3.90
non access to phone before 2001	59.442	548	.000	3.328	3.22	3.44
services better now than NITEL monopoly	81.871	548	.000	4.231	4.13	4.33

SPSS 16 Output of Customers' Satisfaction Research Survey 2009

Decision Rule

From the above output, the measurement variable ratio used for the Linkert Scaling is between 1 and 5 in this order;

Cannot say 1

Extremely disagree 2

Slightly disagree 3

Slightly agree 4

Extremely agree 5

Therefore, the $\ddot{\mathbf{X}}$ of the above ratio is 3 [i.e 15/5]. For the Null hypothesis to be accepted, the $\mu \leq 3$ otherwise, the alternative hypothesis is adopted.

Hence: Ho = $\mu \leq 3$ }

H1= $\mu > 3$ } one tail test

$$\underline{\sum \ddot{\mathbf{X}} = \mathbf{84.54}} = \mathbf{3.52}$$

$$\mathbf{N \quad 24}$$

Therefore, since the μ= **3.52 and >3,** Ho is rejected. It then means that, on the overall, the subscribers are dissatisfied with the various services of the GSM operators.

One way ANOVA procedure was used to test the hypothesis 2 whether the several means of the responses of the GSM subscribers are equal. That is, this is used to know whether the subscribers of one GSM operator is more dissatisfied than the other or to know whether they are being dissatisfied by similar factors. This test was carried out at 5% level of significance.

Decision Rule

If the **Fc < Ft**, Ho is accepted, otherwise H1 is accepted. The table below shows the SPSS 16 output for ANOVA between groups [i.e MTN/ZAIN, MTN/GLOBACOM, GLOBACOM/ZAIN] and within groups [i.e MTN/GLOBACOM/ZAIN] for each of the respondents' responses.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
difficult calls	Between Groups	7.741	2	3.870	3.361	.035
	Within Groups	628.809	546	1.152		
	Total	636.550	548			
distortion and infringement of calls	Between Groups	3.087	2	1.543	1.243	.289
	Within Groups	677.824	546	1.241		
	Total	680.911	548			
unintentional termination due to network failures	Between Groups	7.801	2	3.901	2.566	.078
	Within Groups	829.969	546	1.520		
	Total	837.770	548			
preference over competitors	Between Groups	5.297	2	2.648	1.621	.199
	Within Groups	891.949	546	1.634		
	Total	897.246	548			
satisfied with the net works	Between Groups	2.495	2	1.248	.962	.383
	Within Groups	708.044	546	1.297		
	Total	710.539	548			
all round satisfaction	Between Groups	.000	2	.000	.000	1.000
	Within Groups	759.326	546	1.391		
	Total	759.326	548			
fair pricing	Between Groups	5.165	2	2.582	1.824	.162

	Within Groups	772.828	546	1.415		
	Total	777.993	548			
just and reasonable charges in comparison with charges	Between Groups	2.672	2	1.336	.998	.369
	Within Groups	731.066	546	1.339		
	Total	733.738	548			
no sharp practices in pricing	Between Groups	9.861	2	4.931	2.863	.058
	Within Groups	940.241	546	1.722		
	Total	950.102	548			
prepaid card allows for choices to be made	Between Groups	9.102	2	4.551	3.083	.047
	Within Groups	805.914	546	1.476		
	Total	815.016	548			
quick response to customer complain	Between Groups	2.133	2	1.067	.704	.495
	Within Groups	827.080	546	1.515		
	Total	829.213	548			
friendly customer attendant with courtesy	Between Groups	1.368	2	.684	.469	.626
	Within Groups	795.845	546	1.458		
	Total	797.213	548			
your network has superior customer service	Between Groups	4.898	2	2.449	1.420	.243
	Within Groups	941.586	546	1.725		
	Total	946.485	548			
tremendous improvement	Between Groups	3.046	2	1.523	1.221	.296
	Within Groups	681.019	546	1.247		
	Total	684.066	548			
notification of network problem by texts	Between Groups	37.121	2	18.561	12.113	.000
	Within Groups	836.617	546	1.532		
	Total	873.738	548			

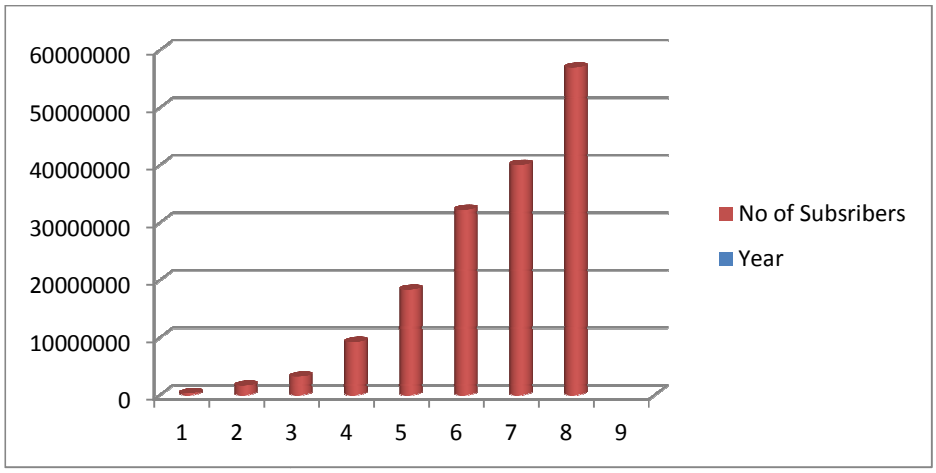
adequate rewards for patronage	Between Groups	45.082	2	22.541	14.040	.000
	Within Groups	876.590	546	1.605		
	Total	921.672	548			
awareness of social responsibilities	Between Groups	2.101	2	1.051	.657	.519
	Within Groups	872.810	546	1.599		
	Total	874.911	548			
indirect and direct benefits from social responsibilities	Between Groups	9.527	2	4.763	3.101	.046
	Within Groups	838.630	546	1.536		
	Total	848.157	548			
agreement with promotional exercises	Between Groups	5.080	2	2.540	1.434	.239
	Within Groups	967.470	546	1.772		
	Total	972.550	548			
promotions are genue	Between Groups	38.503	2	19.252	8.316	.000
	Within Groups	1264.003	546	2.315		
	Total	1302.506	548			
access to telephone before 2001	Between Groups	3.976	2	1.988	1.106	.332
	Within Groups	981.689	546	1.798		
	Total	985.665	548			
telephone services better now than before	Between Groups	.338	2	.169	.094	.911
	Within Groups	984.300	546	1.803		
	Total	984.638	548			
non access to phone before 2001	Between Groups	.520	2	.260	.151	.860
	Within Groups	942.464	546	1.726		
	Total	942.984	548			

services better now than NITEL monopoly	Between Groups	6.223	2	3.111	2.130	.120
	Within Groups	797.398	546	1.460		
	Total	803.621	548			

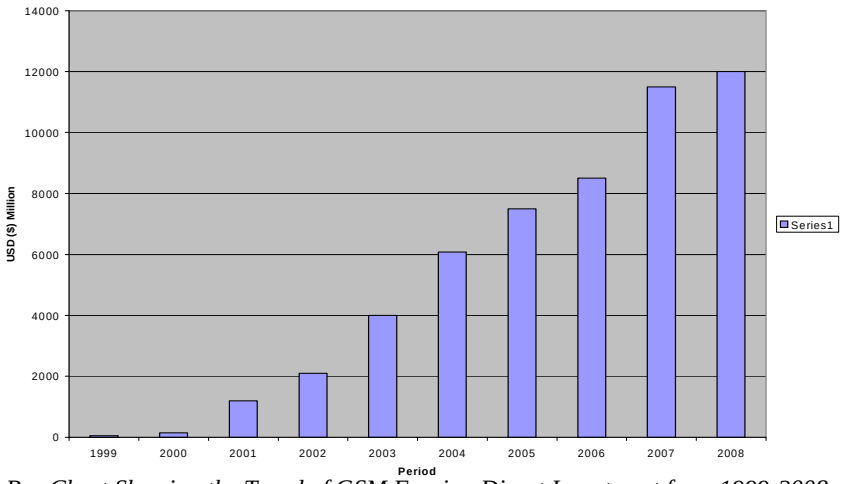
SPSS 16 Output of Customers' Satisfaction Research Survey 2009

From the above analysis; between groups, F values show no significant difference among the beliefes of the subscribers except for all round satisfaction (V13). Similarly F value shows no significant difference within groups. In the overall, it was discovered that similar factors are responsible for the complains of subscribers to satisfaction in all the 3 networks hence the Null hypothesis rejected.

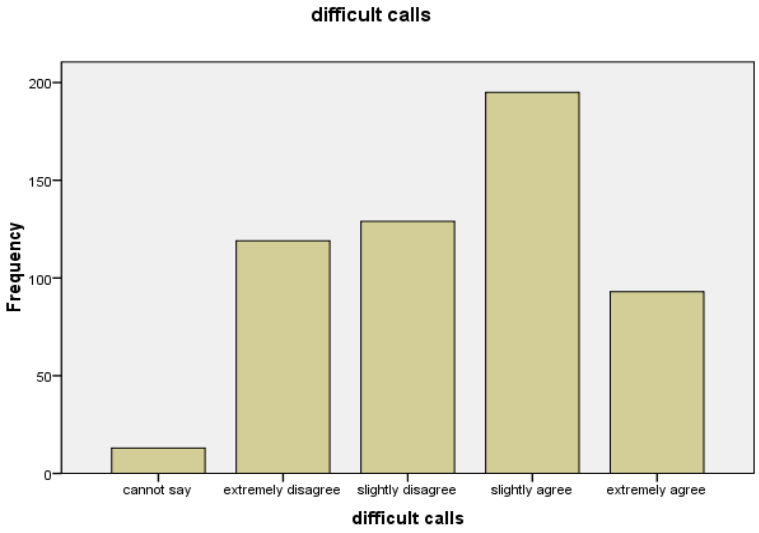
To test the 3rd hypothesis, graphical statistical analysis was used to compare the growth in the GSM sector vis-à-vis the key responses of the subscribers about their level of satisfaction. These graphs are displayed below:



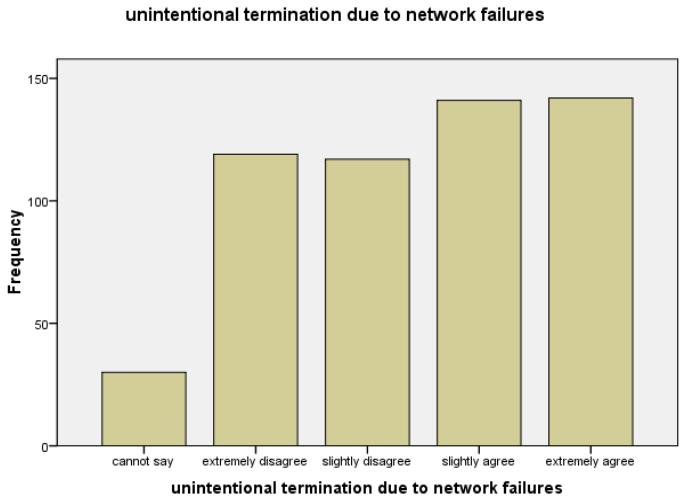
A Bar Chart Showing the Growth of GSM Subscribers' from 2001-2008



A Bar Chart Showing the Trend of GSM Foreign Direct Investment from 1999-2008



A Bar Chart Showing the Respondents' Views on Difficult Calls and Receptions Research Survey 2009



A Bar Chart Showing the Respondents' Views on Network failures Research Survey 2009

The first two charts above displayed the significant growth that the GSM sector has witnessed for the past 7 years of operation in Nigeria. While there were sporadic upward movements in the two determinant factors chosen, reverse was the case when compared with the two charts that explain the satisfaction expressed by the Suscribers for the past 7 years. This relationship simply implies that, the sporadic growth in the GSM operators gains in Nigeria has not been translated into adequate subscribers benefits and satisfaction.

The Cross tabulation and 'Eta' Directional measures provide an explanation to which of the GSM operators' that, the dissatisfying factors affect most. For example, the table below that shows the directional measures comparison of the subscribers' Evaluation of indirect and Direct benefits as enjoyed by the subscribers in terms of social responsibilities from their GSM providers revealed that the 'ETA' value for MTN is higher with 0.44 compared to GLOBACOM value of 0.246. The implication of this is that MTN customers suffer more of this dissatisfying factor more than other Network subscribers.

Directional Measure

gsm service providers				Value
Mtn	Nominal by Interval	Eta	indirect and direct benefits from social responsibilities Dependent	.044
			sampled location Dependent	.100
globacom	Nominal by Interval	Eta	indirect and direct benefits from social responsibilities Dependent	.246
			sampled location Dependent	.147
Zain	Nominal by Interval	Eta	indirect and direct benefits from social responsibilities Dependent	.393
			sampled location Dependent	.151

Conclusion

This study has practically accessed the operations of the three giants in the Nigeria GSM arm of the Telecommunications sector [MTN, GLOBACOM and ZAIN] over the past seven years vis-à-vis their customers' satisfaction of the various products. The study discovery is very important and relevant to the future development of programmes that will enhance sound customers satisfaction by the GSM providers. Similarly, the study has opened up a wide opportunity for the sector's regulatory body [NCC] to look at all these subscribers complain so as to be alive to its responsibility of providing a platform for customers' satisfaction as much as the benefits and gains that have been accruing to GSM Providers since 2001.

Recommendations

This study is 100% empirical and conducted with the achievement of up to 92.7% of the respondents having to have used either or all of these Networks for an average of three years; meaning that, 92.7% of the respondents have responded on their satisfaction to the various services provided by GSM operators based on experience. It is therefore very alarming that customers' satisfaction has not scored

a high mark in the books of the GSM operators. Therefore, efforts must be frantically geared towards addressing this issue to ensure that subscribers have values for their money.

NCC should see this research as a revealer of the silence suffering of the Nigerian GSM subscribers and should therefore swing into action that will ensure maximum subscribers protection and right to efficient telephone services.

Most of the strategies of the operators should be more focused on customers' satisfaction for the Nigerian GSM market is gradually moving to its maturity stage when it is only brand loyalty that will keep existing subscribers for each GSM provider. At this period, only the operator that has won the confidence of the subscribers will be able to compete effectively.

The operators should equally attempt to cut down their tariff to win more subscribers, while expanding their Net work to achieve high profitability through economies of scale which will solve the subscribers complains of high tariff permanently.

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