

**EVALUATING THE IMPACT OF GSM OPERATING
COMPANIES ON NIGERIAN ECONOMY.**

BY

ANIOKE CHIGOZIE CALISTUS

REG NO: PG/MBA/09/53918

**DEPARTMENT OF MANAGEMENT
FACULTY OF BUSINESS ADMINISTRATION
UNIVERSITY OF NIGERIA,
ENUGU CAMPUS.**

DATE: SEPTEMBER, 2011.

TITLE PAGE

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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
MANAGEMENT FACULTY OF BUSINESS ADMINISTRATION IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF MASTER OF BUSINESS ADMINISTRATION (MBA) IN
MANAGEMENT.**

SUPERVISOR: DR. C. A. EZIGBO

DATE: SEPTEMBER, 2011.

APPROVAL PAGE

The project has been approved for the department of Management, Faculty of Business Administration.

By

DR. C. A. EZIGBO

.....

SUPERVISOR

DR. C. A. EZIGBO

.....

HEAD OF DEPARTMENT

.....

EXTERNAL EXAMINER

CERTIFICATION PAGE

Anioke Calistus Chigozie, a postgraduate student in the department of Management, with Registration Number PG / MBA /09 /53918 certify that the work embodied in this dissertation is original and has not been submitted in part or full for any other diploma or degree of this or any other university.

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Anioke Calistus C.

PG/MBA/09/53918

DEDICATION

This work is dedicated to my father, late Mr. Albert Okeke Anioke.

ACKNOWLEDGEMENTS

My acknowledgement goes to God who saw me through in all the challenges I encountered during the period of my study.

I owe a profound gratitude to my supervisor Dr. C. A. Ezigbo for her immeasurable contributions and guidance provided for the writing of this dissertation.

My gratitude also goes to the Head of department, Dr. C.A. Ezigbo for her understanding and paternalistic ideas in piloting the affairs of the department.

However, my thanks and appreciation go to my able lecturers; Prof. UJF Ewurum, Dr. E.K. Agbaeze, Dr. O. Ugbam, etc. They imbibed me with much knowledge during the period of my study.

Nevertheless, my thanks go to my friends and colleagues in MBA programme, especially Onyibor Chinenyenwa Maurice, Okochi Ikechukwu, and Pedro Chuka Nwosu who were sources of encouragement to me towards making this study a reality.

Of course, I will not forget to appreciate my mother, Mrs. Theresa Anioke for her fervent prayers and moral support. Again, my gratitude goes to my siblings, Mrs. Benedict Maduako, Sis Angela Anioke, Mr. Chukwuka Anioke, Mrs Onyinye Nwokeabia, and Miss Obianuju Anioke, etc, for both their moral and financial support so far.

In addition, my sincere gratitude goes to all the authors directly or indirectly cited in the course of this study.

Above all, I must extend my acknowledgment to all men of goodwill who continue to do good in spite of man's ingratitude.

Anioke Calistus Chigozie

PG/MBA/09/53918

ABSTRACT

The dissertation is on evaluating the impact of GSM operating companies on Nigerian economy. The objectives of the study were: to ascertain the impact of GSM operating companies on Nigerian economy; to determine the impact of GSM technology on the people of Nigeria; to identify the challenges faced by GSM operating companies in Nigeria. The study used both primary and secondary sources of data. A total of 300 copies of questionnaire were administered and 285 were received and analyzed. The statistical tools for data analyses include tables, percentages, and chi-square. The findings indicate that the advent of GSM companies facilitate economic development, increase GDP and attract foreign direct investment (FDI); the introduction of GSM technology enhances business operation, quality of life and offer employment opportunities to Nigerians; Inadequate power supply; transmission infrastructural problems; vandalization of network installations; lack of good access road network; etc, are some of the challenges facing GSM operating companies in Nigeria. The study concludes that; the deregulation of the Nigerian telecommunication sector, hence, the introduction of GSM technology has made very significant positive impact on the economic situations of Nigeria. The study from its findings recommends that: the government should expand tele-density and directly make telephone communications cheaper and accessible by giving more licenses to GSM operators in order to allow for healthy competition among the GSM operators; there is need for the Federal government to provide the necessary economic infrastructures (particularly power supply) to the GSM operators in order for them to deliver efficient services and to be able to reduce their call charges; and government should encourage local manufacture of GSM operating equipments and components, and above all, strengthen the security apparatus of the country so as to protect GSM installations from vandalization by the men of the underworld.

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CHAPTER ONE

1.0 BACKGROUND OF THE STUDY

The world is fast becoming a global village and a necessary tool for this process is communication, of which telecommunication is a key player. The quantum development in the telecommunications industry all over the world is very rapid as one innovation replaces another in a matter of weeks. A major breakthrough is the wireless telephone system, which comes in either fixed wireless lines or the global system for mobile communication (GSM) (Wojuade, 2005).

Without mincing words, communication is a major driver of any economy. Nigeria is not left out in the race for rapid developments, as the years of economic reversal via mismanagement have had adverse effects on its rate of growth and development. The Nigerian telecommunications sector was grossly under-developed before the sector was deregulated under the military regime in 1992 with the establishment of a regulatory body, the Nigerian Communication Commission (NCC). Since then, the NCC has issued various licenses to private telephone operators. These licenses allow private telephone operators (PTOS) to roll out both fixed wireless telephone lines and analogue mobile phones. The return of democracy in 1999 however paved the way for the granting of GSM licenses to three service providers, MTN, ECONET (which later changed to VMOBILE and now AIRTEL), and NITEL plc in 2001; with GLOBACOM joining in 2003, and finally, ETISALAT which is the latest entrant in the industry in January 2007. In fact, this auction for Digital Mobile Licenses (DML) conducted by the commission- NCC, was acclaimed locally and internationally as one of the best in the world due to the high level of transparency associated with the exercise.

The development of GSM in the world was prompted by the need to provide seamless telecommunications through Europe. Back in the early 1980s, analogue mobile telephony was growing rapidly and operators find it increasingly difficult to interconnect the various networks in Europe. This was so because each implementation of the analogue service was fundamentally different, which made inter- working a serious challenge. To address this challenge, a study group Called 'Group Special Mobile' (where GSM got its name) was formed and was tasked to provide a standardized system for mobile telephony. Out of this group (and seven years later), the GSM standard was realized. In January 1992, the first GSM network, OY Radioing AB in Finland went on air.

Today, GSM covers over 1.2 billion users on 630 networks in over 212 countries, and is the fastest growing technology of all time. The initial release of GSM was called GSM Phase I, and it is commonly referred to as the first generation. This release made provision for the basic voice, SMS and circuit switched Data (CSD) services. CSD allow a maximum data rate of 9.6kbs and was capable of fax transmission as well. Supplementary services at that point were very basic consisting of call forward and called barring capabilities.

The second generation (GSM Phase 2) was released in 1995 and provided enhanced supplementary services, amongst which were calling line identity (CLI), all waiting and multiparty services. Data services however remained limited to 9.6kbs. GSM Phase 2+ was an enhancement to GSM Phase 2 and was released two years later in 1997. Realizing the need for enhanced data service, Phase 2+ address this requirement by making provision for high speed circuit switched data (HSCSD) and General Packet Radio Services (GPRS). HSCSD and GPRS allowed maximum data rates of 48kbs and 177kbs respectively.

In Nigeria, the National Economic Empowerment Development Strategy (NEEDS) highlights the nation's socio-economic development aspiration. Specifically, it called for the reform of the public sector, enabling a robust private sector-led economy and the implementation of an effective social charter to reduce poverty, create wealth, generate employment and re-orientate national values. One obvious fundamental feature is that it clearly delineates responsibilities between government and the private sector. While government would provide the enabling business and regulatory environment, the private sector is to invest in and manage ventures that stimulate and support socio-economic development.

In the same vein, being aware of the catalytic role typically played by mobile telecommunications in socio-economic development in Africa, GSM companies in Nigeria have developed a Joint Economic Development (JED) framework to support the government in the actualization of its objectives as set out in NEEDS. JED outlines the positive multiplier effects of mobile telecommunications on virtually every sphere of endeavour in the society, previews further prospects targets, highlights challenges and proffer solutions to such challenges and assigns specific roles to government and operators for further optimization of the benefits of GSM services in Nigeria.

Basically, NEEDS target for the telecommunications sector include: i. Attainment of tele-density of 1:25 by the year 2007; ii. The development of a national communications backbone and multi-media super-corridor. Strategies identified for attaining these targets include the use of

fiscal financial incentives to encourage investment, adoption of a local content policy in the manufacture of equipment, accessories and components as well as financial support for rural roll out and Internet access. Today, tele-density stands at about 65%. There is significant improvement in rural telephone access penetration from just one (NTEL's) transmission backbone in 2001, to at least four other backbones have been constructed across the country today.

In Nigeria, there has been more expeditious roll out in rural areas covering over 50% government areas and at least 5,000 communities and villages. These developments informed the Nigeria's present rating as the fastest growing telecommunications market in Africa.

The summary is that the telecommunications sector has, in respect of tele-density exceeded its targets under NEEDS. This is essentially due to the advent of GSM companies in 2001 which has resulted in a dramatic increase in the total number of lines from just 866,782 in 1999, to over 60million in year 2008, out of which GSM operators accounted for 57,622,901 lines, while fixed line operators accounted for 2,537,504 code division multiple access, CDMA, operators connected 780,938 lines (Ndukwe, 2008).

Finally, from the foregoing, it is pertinent to note that this recent drive in telecomm reform policy initiatives has made noticeable impacts on the Nigerian economy. It is however instructive to investigate the extent and the magnitude of the impacts on the Nigerian economy. Indeed, this forms the background of the study.

1.1 STATEMENT OF THE PROBLEM

It is a well known fact that before the advent of GSM in Nigeria, the telecommunications industry in Nigeria was nothing to write home about. Obviously, in the words of (Adegboyega, 2008), the journey to success in Nigeria telecommunications sector has been long and tortuous. Telecommunications facilities in Nigeria were first established in 1886 by the colonial administration. At independence in 1960, with a population of roughly 45 million people, the country only had about 18,724 phone lines. This translated into a tele-density of about 0.5 telephone line per 1,000 people (Magneto, 1998). He however asserted that in those early days, services were primitive as the coordinated pegboard switching system was used.

According to Ndukwe (2000), the commercialization of the then P & T, gave birth to NITEL in 1985. He however noted that though the network growth rate improved following the birth of NITEL, the rate was however too small to compensate for the rate of population growth, and hence did not reflect the improved wealth of the nation. Ndukwe stressed that the Nigerian

Telecommunications Limited (NITEL), the only national monopoly operator in the sector, was synonymous with epileptic services and bad management which made the quality of telephone services then to be unreliable, congested, and expensive, customer unfriendly and generally unsatisfactory.

More so, this period was dominated by chaotic, hopeless and frustrating circumstances. As the Network was bad, there was weak transmission infrastructural base, inadequate power supply, huge unmet demand, concentration of lines in selected urban centers, vandalization of equipments belonging to NITEL which caused long term break- down in communications, slow growth of subscriber base as well as limited investment”.

Prior to this, Nigeria had maintained an unenviable record as the world’s third lowest in terms tele-density, after Mongolia and Afghanistan, with a Tele-density of 0.73% before 1999 (OKereocha, 2008).

Thus, the study focuses on evaluating the impact of GSM operating companies on Nigerian economy.

1.2: OBJECTIVES OF THE STUDY.

The specific objectives of the study include the following:

1. To ascertain the impact of GSM operating companies on Nigerian economy.
2. To determine the impact of GSM technology on the people of Nigeria.
3. To identify the challenges faced by GSM operating companies in Nigeria.

1.3 RESEARCH QUESTIONS

The research questions for the study are as follows:

- What is the impact of GSM operating companies on Nigerian economy?
- What is the impact of GSM technology on the people of Nigeria?
- What are the challenges facing GSM operating companies in Nigeria?

1.4 RESEARCH HYPOTHESES

Based on the objectives of the study, the following hypotheses were formulated.

1. HO: GSM companies do not facilitate economic development, increase GDP and attract foreign direct investment in Nigeria.

H1: GSM companies facilitate economic development, increase GDP and attract foreign direct investment.

2. HO: The introduction of GSM technology does not enhance business operation, quality of life and offer employment opportunities to Nigerians.

H1: the introduction of GSM technology enhances business operation, quality of life and offer employment opportunities to Nigerians.

3. HO: Inadequate power supply; transmission infrastructural problems; vandalization of network installations; lack of good access road network; etc, are not the challenges facing GSM operating companies in Nigeria.

H1: Inadequate power supply; transmission infrastructural problems; vandalization of network installations; lack of good access road network; etc, are some of the challenges facing GSM operating companies in Nigeria.

1.5: SCOPE OF THE STUDY.

The study is evaluating the impact of GSM operating companies on Nigerian economy. It focuses mainly on GSM operating companies and job creation in Nigeria; GSM companies and GDP in Nigeria; GSM companies and Foreign Direct Investment (FDI) in Nigeria; impact of GSM technology on the people of Nigeria; and the challenges faced by GSM operating companies in Nigeria.

However, the research was conducted using three selected GSM operating companies in Enugu. They include; Mtn Nigeria Communications Ltd, Globacom Nigeria Ltd, and Airtel Nigeria Ltd.

1.6: LIMITATIONS OF THE STUDY

The following are the limitations encountered by the researcher in the course of this work. They are:

1. Time Constraint: the researcher was quite constrained by the limited time available for the completion of the study.

2. Attitude of the Respondents: actually, some of the respondents especially those in the rural communities were reluctant at co-operating with the researcher because they felt there was nothing to benefit from the study.

3. Finance: an empirical research of this nature demands much money for its successful completion. Much money was required to cover transportation cost and materials used for the study.

1.7: SIGNIFICANCE OF THE STUDY

This study will certainly be of immense benefit to every sector of the economy. For instance, the study highlights the contributions of GSM technology to GDP and to the people of Nigeria. More so, future researchers will also benefit from the study.

Finally, it will also serve as an eye opener for the government to know the areas that the GSM companies need government intervention in order to sustain their operations in Nigeria.

1.8: OPERATIONAL DEFINITION OF TERMS.

GSM: Global System for Mobile Communications. It is the world's most widely used cell phone technology.

Subscribers: the users of GSM network.

NICI Policy: National Information and Communications Infrastructure policy. It is the federal government policy document that stipulates the government commitment at developing ICT infrastructure in Nigeria.

GSM Operators: are the GSM network providers.

BTS: Base Transmission Station. This is the reception antenna mast that disseminates GSM networks to the subscribers.

SIM Card: Subscriber Identity Module. It is a detachable smart card that contains the user's subscription information and phone book.

NCC: Nigerian Communications Commission, regulator of the industry

Tele-Density: The ratio of number of serviceable telephone lines to number of population of a given location or country.

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CHAPTER TWO:

REVIEW OF RELATED LITERATURE.

2.1: HISTORY OF GSM TECHNOLOGY.

In this chapter, for the purpose of providing a sound theoretical basis for this study, a number of GSM literatures relevant to this study, written by other authors and researchers were reviewed. Therefore, the concepts, importance, economic and social impacts and policy implications of introducing GSM technology in Nigeria shall be the focus of our discussion.

According to Adam F. (2011), the idea of the first cellular network was brainstormed in 1947. It was intended to be used for military purposes as a way of supplying troops with more advanced forms of communications. From 1947 till about 1979 several different forms of broadcasting technology emerged. The United States began to develop the AMPS (Advanced Mobile Phone Service) network, while European countries were developing their own forms of communication.

However, when Europeans quickly realized the disadvantages of each European country operating on their mobile network. It prevents cell phone use from country to country within Europe. With the emerging European Union and high travel volume between countries in Europe this was seen as a problem. Rectifying the situation the Conference of European Posts and Telegraphs (CEPT) assembled a research group with intentions of researching the mobile phone system in Europe. This group was called Group Spécial Mobile (GSM).

For the next ten years the GSM group outlined standards, researched technology and designed a way to implement a pan-European mobile phone network. In 1989 work done by the GSM group was transferred to the European Telecommunication Standards Institute (ETSI). The name GSM was transposed to name the type of service invented. The acronym GSM had been changed from Group Spécial Mobile to Global Systems for Mobile Telecommunications.

By April of 1991 commercial service of the GSM network had begun. Just a year and half later in 1993 there were already 36 GSM networks in over 22 countries. Several other countries were on the rise to adopt this new mobile phone network and participate in what was becoming

a worldwide standard. At the same time, GSM also became widely used in the Middle East, South Africa and Australia.

While the European Union had developed a sophisticated digital cell phone system, the United States was still operating primarily on the old, analog AMPS network and TDMA. In the end of October 2001, Cingular was the first to announce their switch to the 3G GSM network. This involved switching more than 22 million customers from TDMA to GSM. In 2005 Cingular stopped new phone activation on the TDMA network and began only selling GSM service. Today major operators on the GSM network include Cingular/AT&T, and T-Mobile. Other common carriers such as Verizon Wireless and Sprint operate on CDMA networks.

Finally, there are five major GSM frequencies that have become standard worldwide. They include GSM-900, GSM-1800, GSM-850, GSM-1900 and GSM-400. GSM-900 and GSM-1800 are standards used mostly worldwide. It is the frequency European phones operate on as well as most of Asia and Australia (Wikipedia, 2011).

2.2: ORIGIN OF GSM OPERATING COMPANIES IN NIGERIA

However, Nigeria has not been left out of this race for rapid development of telecommunication, although the journey to success in the milieu had been long and tortuous. The development of telecommunications facilities in Nigeria began in 1886 when a cable connection was established between Lagos and London by the colonial administration (Adegboyega, 2008). From the very beginning, it was clear that the introduction of telephone services in the country was not induced by economic or commercial motives. It was not meant to enhance economic growth, but it was originally developed as a tool for colonial subjugation (Mazango, 1998). For this reason, by 1893, government offices in Lagos were provided with telephone service, which were later extended to Ilorin and Jebba in the hinterland. A slow but steady process of development in the years that followed led to the gradual formation of the nucleus of a national telecommunication networks (Ajayi et al., 2008:1). However, as the European mercantile activities gained foothold in the country, the first commercial trunk telephone service was established to link Itu and Calabar in 1923. Between 1946 and 1952, a three channel line carrier system was commissioned between Lagos and Ibadan and was later extended to Oshogbo, Kaduna Kano, Benin and Enugu; Thus, connecting the colonial Office in London with the commercial centers in Nigeria (Adegboyega, 2008; Ajayi et al., 2008). In those

early days, services were primitive and the coordinated pegboard switching system was used. This later progressed to manual switchboards of different sizes, shapes, and capacities until stronger exchanges were installed into the national network at Lagos Island, Ikeja, Ebute Meta, Apapa and Port Harcourt between 1955 and 1960. The telegraphy service also witnessed a parallel development, from telegraph delivery by way of manual coordinated pegboard switching to the use of Morse code for telex switching. As at 1960, a manual telex exchange of sixty subscriber lines were in service in Lagos. All the above efforts were essentially aimed at improving internal telephone services in Nigeria.

At independence in 1960, with a population of roughly 45 million people, the country only had about 18,724 phone lines for use. This translated to a Tele-density of about 0.5 telephone lines per 1000 people. The telephone network consisted of 121 exchanges of which 116 were of the manual (magneto) type and only 5 were automatic. Between independence in 1960 and 1985, telecoms services become commercialized. The old department of Post and Telecommunications (P & T) under the Ministry of Communications became separated and Nigeria External Telecommunications Limited (N.E.T) was created to take care of external telecoms services while the old P&T handled internal network (Salawu, 2008). By January 1985, the erstwhile (P & T) Post and Telecommunications divisions merged with NET to form Nigeria Telecommunication Limited (NITEL) a government owned Limited Liability Company. The

objectives of establishing NITEL was to harmonize the planning and coordination of the internal and external communications services, rationalize investments in telecoms development and provide accessible, efficient and affordably services. NITEL, the only national monopoly operator in the sector, was synonymous with epileptic services and

bad management which made telephone then to be unreliable, congested, and expensive and customer unfriendly. According to Ajayi et al. (2008), the years 1992 to 1999 was tagged as the partial liberalization era, when government embarked on market – oriented, partially liberalizing the Nigerian telecommunication sector via NCC Decree 75 of 1992. The

reforms include separation of the policy – making body from industry regulator and networks operators/service providers, and licensing of network operator service providers which began in 1996. Despite the huge potentials offered by the Nigerian telecom market, progress was slow due to political uncertainties and perceived policy inconsistencies as NITEL still continued to retain monopoly power over voice telephony in both national and long distance international

calls (Ajayi et al., 2008). Adegboyega (2008), and Ndukwe (2008), both argued that this period was dominated by chaotic, hopeless and frustrating circumstances. The Network was bad, there was weak infrastructural base, huge unmet demand, concentration of lines in selected urban centers, slow growth of subscriber base as well as limited investment”.

However, with the liberalization of the telecommunication industry in 2001, the story changed dramatically. Simply put, the Nigeria’s telecom sector witnessed a major revolution in 2001 with the granting of the global system for mobile telecommunication (GSM) license to providers. The target of National Economic Empowerment and Development Strategy (NEEDS) and the Nigerian Communications Commission (NCC) for the telecommunication sector include: Attainment of Tele-density (number of telephone lines in relation to population) of 1.25 by the year 2008.

Actually, the journey of GSM to Nigeria actually began in December 2000 with many local and foreign telecommunications companies competing for the coveted Nigerian Communications Commission’s (NCC) GSM licenses. By January 2001, the Commission conducted an auction for Digital Mobile Licenses. This auction was acclaimed locally and internationally as one of the best in the world due to the high level of transparency associated with the exercise. The auction brought about the emergence of three mobile Operators; ECONET Wireless now (AIRTEL), MTN and MTEL, a subsidiary of the incumbent operator. The Nigerian Telecommunications Limited (NITEL), which was also awarded an operating license as a National Carrier. In 2002 a fourth Digital Mobile License (DML) was issued to Globacom (Glomobile) through another transparent auction process. To further increase competition a fifth Mobile License (with GSM spectrum) was awarded to Emerging Market Telecommunications Services Limited (ETISALAT), in the year 2007. Consequently, since then, the Nigerian telecomm market has been a heaven for the GSM companies, competing for market shares.

The transparent manner in which the Commissions handled the DML gave the impetus to other licensing auctions that followed. These include, the Second National Operator (SNO) granted to Globacom, Fixed Wireless Access (FWA) licenses granted to 24 companies on Regional basis, the Unified Access Service Licenses (UASL), 3G Licenses granted to 4 companies. Through the award of these licenses the NCC facilitated a phenomenal expansion of telephone lines in Nigeria, from about 450,000 connected lines in May 1999 to over 38 million lines by July 2007, boosting tele density growth from 0.4% to 24%. The capacity for growth in

the number of phone lines in the country over the next decade remains quite high, as some parts of the country are yet to be covered.

Finally, Ndukwe cited in Wojuade (2006) periscopes a number of things on the development of GSM in Nigeria. He explains that GSM actually came as a result of the choice of the operating companies who bided for the mobile licenses. The operating companies quickly adopted GSM because of the obvious economic advantage. He concluded that since then GSM has spread even to the United States and such other places that traditionally did not have GSM at the beginning. And that it grew very fast and overtook fixed services within a short time and it is not just in Nigeria but all over the world.

2.2.1: GSM Technology and Needs

On the 15th of March 2003, the president of the Federal Republic of Nigeria, Chief Olusegun Obasanjo, launched the National Economic Empowerment and Development Strategy (NEEDS), an economic strategy plan with an implementation plan and specific industry targets designed to rejuvenate the Nigerian economy into a leading African global economy.

As a mark of commitment to the government 's medium-term economic recovery programme , GSMCF, engaged Phillips Consulting Limited to assist in undertaking a study on a joint economic development programme with the government to actualize the policy objectives as enunciated in NEEDS documents. The purpose of the study is to secure a sustained development of a vibrant telecommunication sector in Nigeria in line with the global trends and best practices through a Nigerian global system for mobile communication (GSM) companies. However the study reviews the impact of telecommunications on the Nigerian markets and examines communication goals set in the NEEDS' document. Basically, using key NEEDS strategies, the study identified seven critical areas where the sector is being challenged and proposes solution, highlighting the respective roles of the government and the GSM companies.

According to ICT Policy (2005), the primary goals of NEEDS are: Achievements of public sector reforms, enabling a robust private sector-led economy and the implementation of an effective social charter. These are with a view to reducing poverty, create wealth, generate employment and re-orientate national values.

One fundamental feature of the reforms is that it clearly delineates responsibilities between government and the private sector. While government would provide the enabling business and

regulatory environment, the private sector is to invest in and manage ventures that stimulate and support socio-economic development.

Being aware of the catalytic role typically played by mobile telecommunications in socioeconomic development in Africa, the primary aim of the government in the communication sector is to develop and sustain a modern information and communication technology capacity that improves the quality and standard of living of Nigerian citizens and reduce poverty. Further goals include: Improving tele density; access to internet connectivity and the level of computer literacy/usage; promoting ICT as a tool of mass education; growth and development and facilitating the development of a national communication backbone and multimedia super-corridor (ICT Policy document, 2005).

2.3: REGULATORY FRAMEWORK OF GSM COMPANIES IN NIGERIA.

The Nigerian Communications Commission is the independent National Regulatory Authority for the telecommunications industry in Nigeria. The Commission is responsible for creating an enabling environment for competition among operators in the industry as well as ensuring the provision of qualitative and efficient telecommunications services throughout the country.

According to NICI policy (2003), the Nigerian Communications Commission was established by the government decree number 75 of 1992 to regulate the telecommunication industry, to ensure the provision of adequate, effective and efficient telecommunication service. It has also issued licenses to a number of companies for various telecommunication undertaking. Today, NCC has licensed four GSM service providers.

However, the following are the current Laws and regulations, guidelines, and other related documents guiding telecommunications management and operations in Nigeria, they are:

- The Nigerian Communications Act 2003
- The Wireless Telegraphy Act 1990

The Nigerian Communications Act 2003 was signed into law by Mr. President on the 8th of July 2003 after being passed by both Houses of the National Assembly. The Act strengthens the capacity of the NCC to properly carry out its Regulatory Activities.

1. Guidelines

- ❖ Guidelines on Advertisements and Promotions
- ❖ Technical Specifications for the Installation of Telecommunications Masts and Towers.
- ❖ Guidelines for Deployment of Broadband Services on the 5.2-5.9GHz Band
- ❖ Technical Standards for Interconnectivity of Networks
- ❖ Consultations Guidelines
- ❖ Type Approval Guidelines
- ❖ Guidelines for the Provision of Internet Service
- ❖ Deployment of Broadband Services on the 5.2 - 5.7 GHz Band
- ❖ Collocation and Infrastructure Sharing
- ❖ International Access and Voice over Internet Protocol
- ❖ Disconnection of Telecommunications Operators
- ❖ Dispute Resolution Guidelines
- ❖ Guidelines for the Use of 2.4GHz ISM Band for Commercial Telecom Services (Deployment of Wi-Fi)

2. Drafts

- Procedure for Granting Approval to Disconnect Telecommunications Operators New
- Procedure for the Management of Satellite Filings
- Guidelines On Common And Premium Short Code Operation In Nigeria
- Complaint Adjudication Guidelines
- Guidelines on Commercial Satellite Communications
- Regulations for the Registration Of Telephone Subscribers.
- Quality of Service Regulations.

3. Regulations

- Frequency Spectrum (Fees & Pricing, etc.) Regulations 2004
- Frequency Spectrum (Fees & Pricing, etc.) Regulations (Amended)
- Type Approval Regulations
- Numbering Regulations

- Telecommunications Networks Interconnection Regulations
- Competition Practices Regulations
- Universal Access and Universal Service Regulations
- Consumer Code of Practice
- Enforcement Processes

4. Reports

- Public Inquiry on The Registration Of SIM Card Regulations
- Public Inquiry on Guidelines On Common And Premium Short Codes Operation In Nigeria
- Public Inquiry on Guidelines On Technical Specifications For The Installation Of Mast And Towers 2009
- Public Inquiry on Satellite Network Filing Processes And Procedures
- Public Inquiry on Commercial Satellites Communications Guidelines
- Public Inquiry on Advertisement & Promotions Held On 14th July 2009
- Public Inquiry on Technical Standards for Interconnectivity of Networks
- Public Inquiry on Quality of Service Regulations
- Public Inquiry on ISP Regulations
- Public Inquiry on Consultation Guidelines
- Public Inquiry on Numbering Regulations
- Public Inquiry on Type Approval Regulations and Type Approval Guidelines
- Public Inquiry on Quality of Service Regulations
- Public Inquiry on Competition Practices Regulations
- Public Inquiry on Interconnection Regulations
- Public Inquiry on Consumer Protection Regulation

5. Other Documents and Notices

- ✓ Determination of Dominance in Selected Markets in Nigeria
- ✓ Revocation Notice of Two Interconnect Exchange Licenses; *Integrated Wireless Technologies Nigeria Limited* and *Telexchange Services Limited*.
- ✓ MTN Reply to Stakeholders' Submissions on Dominance.

- ✓ Determination Of Voice & SMS Interconnection Rates 2009 - (Current).
- ✓ Submissions by Telecommunications Vendors and Service Providers on Dominance in Selected Communications Markets in Nigeria.
- ✓ Consultation Paper on Dominance in Selected Communications Markets
- ✓ Landmark Decisions and Judgments involving the Commission
- ✓ Consultation Paper on the National Numbering Plan (NNP) for Nigeria
- ✓ Panel of Neutrals for Dispute Resolutions.
- ✓ Memorandum of Understanding Between the Consumer Protection Council and NCC.
- ✓ Licensing Framework for Unified Access Service in Nigeria. The Unified Access Service License Document is also available for download via the License document page.
- ✓ Response to Submissions by Operators at the Public Inquiry on Enforcement Regulation.
- ✓ Determination of Interconnection Rate (2006).
- ✓ Arbitration Scheme, Mediation Rules and Interconnection Dispute Resolution.

2.3.1: Functions of the Nigeria Communications Commission.

- The facilitation of investments in and entry into the Nigerian market for provision and supply of communications services, equipment and facilities.
- The protection and promotion of the interests of 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.
- Ensuring that licensees implement and operate at all times the most efficient and accurate billing system.
- The promotion of fair competition 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 service or facilities providers or equipment suppliers.
- Granting and renewing communications licences whether or not the licences themselves provide for renewal in accordance with the provisions of this Act and monitoring and enforcing compliance with licence terms and conditions by licensees.
- Proposing and effecting amendments to licence conditions in accordance with the objectives and provisions of this Act.

- Fixing and collecting fees for grant of communications licences and other regulatory services provided by the Commission.
- 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.
- 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.
- Management and administration of frequency spectrum for the communications sector and assisting the National Frequency Management (NFM) Council in developing a national frequency plan.
- Development, management and administration of a national numbering plan and electronic addresses plan and the assignment of numbers and electronic addresses therefrom to licensees.
- Proposing, adopting, publishing and enforcing technical specifications and standards for the importation and use of communications equipment in Nigeria and for connecting or interconnecting communications equipment and systems.
- The formulation and management of Nigeria's inputs into the setting of international technical standards for communications services and equipment.
- Carrying out type approval tests on communications equipment and issuing certificates on the basis of technical specifications and standards prescribed from time to time by the Commission.
- Encouraging and promoting infrastructure sharing amongst licensees and providing regulatory guidelines thereon.
- 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.
- 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.
- Designing, managing and implementing Universal Access strategy and programme in accordance with Federal Government's general policy and objectives thereon.

- Advising 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.
- 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.
- 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.
- Representation of Nigeria at proceedings of international organisations and fora on matters relating to regulation of communications and matters ancillary and connected thereto(www.ncc.gov.ng).
- The general responsibility for economic and technical regulation of the communications industry.

2.4: CHALLENGES FACING GSM OPERATING COMPANIES IN NIGERIA.

In spite of the benefits, Nigerians are enjoying from the advent of GSM technology, the operators are not finding it a world of roses in rendering services. In other words, GSM companies operating in Nigeria are seriously contending with numerous problems slowing down their operations.

According to Ndukwe (2003), the inherent challenges that still persist are weak infrastructure base, unusually huge demand for service due to inefficiencies of the past, spectrum planning and allocation problems, enabling laws and regulations limitations, and unreliable electric supply. Other challenges comprise interconnectivity, tariff regulations, effective competition, monitoring and compliance, managing consumer expectations, consumer education and institutional strengthening.

(a). Inadequate power supply:

The current power supply in the country is inadequate to meet the needs of the Nigerian mobile communications sector. To sustain regular network, the GSM companies have resorted to running their Base Transmission Stations (BTS) with generators which operate automatically whenever there is power outage from the public supply. Consequently, bulk tanks are constructed in each site for diesel storage and supply to the generators on regular basis. The cost

of maintaining and fueling the generators contributes a lot to the cost of providing regular networks and this remained the big problem facing telecom operators. From Table 1 below, unstable power supply costs the three major GSM operators in the country about 24 billion naira annually. It could be argued that the operators are charging high tariffs because self-electricity generation constitutes their highest cost of production.

Table 2.1: Annual cost of generating power for MTN, GLO, and Airtel.

Operator	Number of base station	Number of generators	Annual expenses on diesel
MTN	2,700	5,400	N7.5 billion
Globacom	3,000	6,000	N8.4 billion
Airtel	3,000	6,000	N8.4 billion

Source: Business World (2007) in (www.BottomLine.com)

As noted in Nigeria Communications Week investigation, in spite of the benefits Nigerians are enjoying from the advent of GSM technology, the operators are not finding it a world of roses in rendering services. The much talked about poor quality of services is a function of weak infrastructure base; operators have been powering their equipment with generators which are not the case in most environments. This is attributed to inefficient public power system.

Nigeria Communications Week investigations revealed that the four major operators in this space, MTN, Glomobile, Airtel and Etisalat are powering their over 22,000 base transceiver stations with 44,000 generators. They are also providing security for their equipment which has not deterred unscrupulous Nigerians from stealing these generators and diesel. Operators are losing an average of two generators daily and over a million litres of diesel to theft. This is indeed a huge lost to bear by operators.

(b)Transmission Infrastructure Problems:

This problem may have ranked next to power supply as the most challenging factor to GSM companies in Nigeria. According to Y’hello January edition (2007), MTN Nigeria Communications had to construct phase 1 of the Y’helloBahn transmission backbone which created the largest 4:1 backbone in Nigeria to address the problem of lack of reliable terrestrial transmission links, and spanned 3,400 kilometers across Nigeria.

(c) High import duties and tedious clearance process.

95% of mobile telephony equipments used in Nigeria is imported. The imports are subjected to tedious clearance process which slows down network deployment.

(d) Lack of good access roads and other social facilities.

GSM companies at times have to construct or repair roads to their host communities before sitting their masts. This is as a result of the fact that many rural communities in Nigeria lack accessible road network and other amenities like pipe borne water. Therefore, GSM companies are usually given conditions to provide same or they are denied access to such communities or villages. The time and cost of fulfilling these conditions deter the companies from expanding.

(e) Vandalisation of equipments:

Another major challenge threatening GSM operations in Nigeria is frequent vandalization of installations like the generator sets, Automatic Voltage Regulators (AVR), diesel, air-condition units by the men of the underworld. However, the replacement of these stolen or vandalized installations constitutes a serious setback to the GSM companies.

In the same vein, there is also the problem of area boys. One of the operators has had to shut down one of its sites in Lagos due to incessant demand of huge settlement by area boys. In the Niger Delta area, one of the operators reported that over 30 of its sites have become inaccessible due to activities of militant youths, who have refused them to refuel or maintain the sites except they parted with huge sum of money. It is unfair on the GSM operators, who unlike the oil companies are not taking any natural resources but are building telecommunications infrastructure around the country (Nigeria Communications Week investigation, 2010).

(f) Over- taxation:

GSM companies are currently contending with demands for taxes, levies and various charges at all levels and tiers of government often leading to double and regressive taxations. The associated challenge is the dramatic increase in statutory levies and charges. Recently, a Federal Government Agency is seeking to increase fees by 1000% to 5000%.

Again, operators are also faced with multiple taxation imposed on their equipment by different tiers of government, Abuja Capital Development Authority had sometime imposed N3 million annual fee on each base station in the metropolis. More so, the Association of Licensed Telecommunications Operators of Nigerian (ALTON), the umbrella body of the telecom operators, are in count with Lagos State government over the later imposition of N500,000 fee per base station in the state (Nigeria Communications Week investigation, 2010).

2.5: KEYS TO SUSTAINABILITY OF GSM OPERATING COMPANIES IN NIGERIA.

1. Power sector reforms

Current power supply is inadequate to meet the needs of the Nigerian Mobile Sector. NEPA currently provides only 16.87% of the requirements of Operators. In other words, operators will have to invest heavily in generators for about 84% of their power needs. Projected 138% increase in power generation by 2007 will not satisfy the power requirements of the mobile telephony sector given the projected growth rate of the sector. Power sector reform must therefore be accorded NATIONAL PRIORITY status in our developmental plans. The power sector reform process must address appropriate performance milestones for licensees including rural penetration targets. Government may need to guarantee power supply agreements with NEPA/unbundled entities and there is need for synergy between the NCC and the power sector regulator to avert a multiple regulatory regime.

2. Customs Reform

95% of mobile telephony equipment is imported. The pace of network rollout obligations and the need to maintain / improve the quality of network standards demands a speedy importation process. Imports are however currently subjected to a tedious clearance process, which could slow down network deployment. With a view to reducing clearance periods to 48 hours and abridging trade processing, Government should simplify tariff classifications; standardize FX rate; reduce CRI lead-time to 24 hours after shipment; allow clearance from payment of duty subject to requisite conditions; and expedite Ports concessioning under Ports reform. Operators should, in return commit to supporting the implementation of ASYCUDA2 and provide digital/ICT support to port reform processes.

3. Simplify Taxation

Operators are currently contending with demands for taxes, levies and various charges at all tiers of Government often leading to double and regressive taxation. Government should determine which tier should collect specific taxes; establish parameters for tax collection and enact the comprehensive tax reform bill. The associated challenge is the dramatic increase in statutory levies and charges. Recently, a Federal Government Agency is seeking to increase fees by between 1000% to 5000%! There is need to establish the basis for annual tax increments indexed against inflation and other relevant economic indicator. Operators should provide practical input into the harmonization process and support Government e-taxation initiatives.

4. Apply Fiscal/financial Incentives.

The level of investment required by the sector to compensate for infrastructural inadequacies in the economy, meet the tele-density and tele-access requirements of the sector, build a national transmission backbone justifies the need for financial and fiscal incentives for fledgling industry with great potential. Further, Operators have already outstripped network rollout targets prescribed in their mobile license and expectations in NEEDS. In Nigeria, as at end of 2004 there were just fewer than 10 million mobile lines translating in an increase of tele-density of 1:17 in 2004, which is expected to rise to 1:25 by 2007. The Indian example is worthy of emulation with the introduction of tax exemptions and reductions in 2004 to encourage higher network development especially for infrastructure providers.

Government should therefore provide fiscal & financial incentives to encourage & sustain private sector investment matched against achieving specified NEEDs targets; implement the uniform ECOWAS custom tariff bands; provide duty exemptions for telecom equipment used for developing backbone infrastructure and telecom equipment manufacture; and review annual operating levies, spectrum charges downward to encourage rapid expansion of telecom services. Operators should be obliged to strictly comply with regulatory requirements while supporting local SMME initiatives.

5. Construction of Backbone Infrastructure.

As NITEL's infrastructure is inadequate to meet the present and future needs of the GSM network, Operators have had to construct their own microwave and fibre optic network to meet network rollout obligations and provide efficient services. To date fibre optic networks span over 20,000 km across Nigeria. As NEEDS prescribes the development of a national communication and telecommunications backbone, Government should provide adequate incentives to encourage the construction of fibre optic networks. We must emphasize that this backbone will provide support for full multi-media and data capability. Self-regulation and industry guidelines agreed amongst Operators should ensure the optimal use of such backbone infrastructure.

6. Encourage Local Manufacture and Maintenance Capacity.

There is a need to encourage an indigenous industry that manufactures terminal, network and component supplies as over 95% of telecom equipment is imported at an estimated value of N1.2 billion. Key strategies would be a local content policy for manufacture of telecom equipment and supplies; the provision of supporting incentives, grants, loans, tax holidays and

subsidies; and the encouragement of information and communication clusters. A comprehensive industry survey with phased targets would greatly assist in achieving this goal. Operators could commit to supporting local industries, and encouraging equipment suppliers and manufacturers to establish local production plants and facilities.

7. Light Touch Regulatory Framework.

The manner of regulation often dictates the level of development achieved in the sector concerned. There is currently a need to align the present regulatory framework with market realities; balance the needs of customers with the level of support needed by a fledging telecoms sector and engender regulatory certainty by establishing formal consultation and rule-making processes. These measures will provide a suitable enabling environment for growth in the industry and ensure transparency on the part of the NCC.

We therefore counsel that the NCC introduce regulations on consultation and rule making processes; remove onerous license obligations and processes; conduct bi-annual industry and market studies with stakeholder participation; withdraw from regulating operational activities and encourage industry self-regulation. Government should further establish Competition Commission to manage competitive practices in the economy. The obligations of Operators in this regard include the timely provision of relevant data and statistics to NCC; strict compliance with license obligations; active participation in stakeholder engagement sessions; and delivery of qualitative and competitively priced services and products.

8. Strengthening the Security Apparatus in the Country.

Government has to equip the security agencies in the country to effectively and efficiently protect the lives and properties of the citizenry. This is true because there cannot be any meaningful development in an atmosphere of insecurity. Vandalization of network equipments must be prevented through collaborative efforts between the GSM companies and the government security agents. Thus losses would be minimized and steady network maintained to the benefit of the stakeholders.

2.6: IMPACT OF GSM OPERATING COMPANIES ON NIGERIAN ECONOMY.

According to (NCC 2011), some 10 years ago Nigerians were looking forwards the dawn of a new era in view of the licenses granted to three operators then to render services at the 900MHz frequency spectrum with Global System for Mobile (GSM) communications technology.

This year 2011, marks ten (10) years since the country began the liberalization of telecommunications industry through adoption of GSM technology as a means of providing Nigerians communications tools. The Nigerian telecommunications industry since then has experience significant growth, following the successful takeoff of the digital mobile telephone services, using GSM technology, from less than 500,000 active fixed telephone lines provided by Nigerian Telecommunications Limited (Nitel) and very few Private Telephone Operators (PTOs) as at mid 2001, to a population of over 120 million, the total number of connected fixed and mobile telephone lines increased to about 89.8 million both active and inactive lines early this year.

In fact, the entrance of the GSM companies has brought about such a revolutionary transformation that millions of Nigerians with no access to telecommunications now clutch mobile phones in their hands. It is common sight to see traders, fish sellers, hawkers, motorcycle riders among others using mobile phones. The staggering number of subscribers on four major GSM networks of MTN, Globacom, Airtel and Etisalat as Nigeria celebrates ten years of operations of this technology, is a testimony to the hunger of Nigerians for communications.

In the last ten years, since the GSM revolution started in the country, a lot of benefits have been enjoyed by the Nigerian subscribers who were hitherto at the mercy of the almost nonexistent but epileptic service rendered by the Nigerian Telecommunications (Nitel). Again, the monopoly of non effective service rendered by Nitel has been broken and communications across regions have been enhanced by GSM, thus encouraging the socio economic growth of the nation. It is an indubitable fact that effective communication is crucial and cannot be overemphasized in the socio economic development of a nation.

With a tele density presently at 65% and a subscriber base of nearly 89.8 million as at the end of April 2011, one could say that a feat has been achieved by the GSM revolution in connecting Nigerians to a critical service given the fact that before the advent of GSM, tele destiny was less than 4% and only about five hundred thousand Nigerians had access to telephony service in a nation of over a hundred million people.

Then having a telephone was a class issue and only the rich could afford the luxury and the muscle to withstand the stress of Nitel technicians who used to hold subscribers to ransom at every little opportunity. Then it was common sight to see the technicians asking for ladder, cables and all sorts to fix a line anytime a problem arises, it was indeed a nightmare. One could

easily recall the stress of keeping vigil at the office of Nitel in a bid to make calls and be confronted with the common problem of no tone come back tomorrow and so on. But thanks to president Obasanjo and the coming of GSM all that is now history.

The GSM revolution has indeed contributed over 80 percent of \$18 billion foreign direct investment. It has also stimulated local investment and increased job opportunities. It is common scene in urban areas as well as rural areas where there is coverage for young men and women sitting under an umbrella provided for them by GSM operators making calls for people at a token. This umbrella call centre initiative is today providing food to greater percentage of unemployed Nigerians, aside this are others who are trading in recharge cards and other products of GSM operators.

The impacts of GSM technology is enormous and still increasing as it gets expanded, we may not easily forget that Nigerians are now turning to GSM engineers, and there are young countrymen and women who eke out their living through repair of mobile handsets.

A case in point is the banking sector which gives customers the opportunity to monitor and carry out transactions on the move through their mobile phones. Automated teller machines (ATM) deployed by banks are working with the help of GSM General package radio service (GPRS) deployed by operators.

More so, there has been an increased turnover for advertising and marketing communication services basically because of the GSM operators that use the channel often times to reach their subscribers during campaign for more subscribers (www.ncc.gov.ng).

Wojuade (2005:57), asserted that mobile telecommunication has become one of the most important industries in the world. Although, perhaps, not the intent of introducing a new technology, the implementation of the GSM standard has directly and indirectly contributed to economic growth, led to the creation of new employment opportunities and contributed significantly to the GDP of our country, Nigeria. He also opined that determining the exact contributions is as equally difficult as calculating global mobile revenues: it is extremely difficult to know where to draw the lines. Typically, economists use a “multiplier effect” for a given industry to work out the impacts of all of its offshoots. However, the introduction of GSM has grossly enhanced competition by defining the interfaces to the subsystems’, but allowing the choice of the internal component technologies to be left to the equipment suppliers.

According to Balogun (2000), GSM facilitate economic development as it provides easy and effective communication needed to stimulate and promote trade between Nigeria and its foreign

partners in the world. Even at home , it play a cynical role in communicating government programmes thereby linking to entire sectors of the economy together in order to achieve a common goal. Above all, it encourages investment which in the long run promotes employment opportunities. At microeconomic level, the sector contribution to GDP by 53% in 2003 making it the third highest contributor ahead of the financial sector which has been in operation for about 100 years. It has attracted foreign direct investment of about \$5billion. In respect of employment, over 135, 000 persons have been directly and indirectly employed by the operators and their distribution chain components while the industries support service sectors such as banking, insurance, consultancies (legal, accounting, HR, tax) haulage, shipping and IT, as well as the small and medium scale Enterprises (SME) segment of the economy have also witnessed very significant levels of increased activity.

According to a report in Nigeria Tribune Newspaper of July 16, 2004, government treasury has been boosted by payment of over 200 billion Naira in taxes and levies. National productivity has also been enhanced as travel times and associated risks have been reduced, business communications improve and the rural-urban divide narrow down. Social and family relationship and the security situation have also been significantly enhanced. A significant number of not-for profit corporate social responsibility (CRS) initiatives are being sponsored by the operators. In his own contribution, Adeyeye in Wajuade (2005) said GSM has discouraged rural- urban migration, unlike before when rural dwellers were always eager to visit the cities. Now with GSM they travel to cities without boarding a vehicle. The introduction of GSM has also shown a potential for reducing crime and mortality rate. Accessibility to phone services ensure quick calls to security operations when the need arises as well as informing the fire stations during fire incidents to save live and properties. To Adomi (2006), GSM is used by Nigerians mostly to communicate with another. He explained that students used it to communicate with their course mates, friends, lecturers and family relatives. Additionally, family matters, finance, and academic matters constitute the topics/ subject of mobile communication for a majority of students, but mobile phone has limited the need for most of the students travel followed by facilitation of exchange information anytime the need arose.

Scotts (2004) reports a research carried out by Gamos Ltd on some characteristics of the use of telephones amongst rural and low income communities in some African Countries- Botswana, Ghana, and Uganda. The study reveals rural inhabitants and poorer urban users value phone services but do not use them very often compared to relatively more affluent users; over

40% of respondent in Uganda used mobile phones through friends and family and individuals; although a further 24% of people used mobile phone through teleshops; the result from all three countries were quite striking and consistent, demonstrating a strong preference for mobile phones rather than fixed line phones, and a preference for private phones rather than public access points. Scott in Adomi (2006) as well reports that educated people used phone more, have a strong intention to use phone in future, and have a more positive attitude towards phones. As part of moving industry, telecommunication is expected to provide employment opportunities for the unemployed graduates and school leavers. The licensed operators in Nigeria such as MTN, AIRTEL, GLO, ETISALAT and the likes are still recruiting workers.

Further, it has been empirically established that an increase in tele density has a positive proportionate impact on a nation's GDP, economic and social development. The Nigerian telecoms market exceeded all expectations by being one of the fastest growing markets in the world. In view of its infancy, it is not far from realizing its potentials and therefore requires adequate support and protection from the Nigerian Government. Growth has been of over 90% at the beginning of 2005. The GSM sub-sector has created an extensive value chain of inter-relationships and business that impact every facet of the economy. Direct and indirect employment has been created. Over 120,000 viable businesses have been created including dealers, distributors, retailers, suppliers and content providers. Cumulative contributions to date to the National Treasury are estimated at over N200 billion. The socio-economic influence extends to rejuvenating family & social relationships, narrowing the divide between urban and rural areas, enhancing the level of business in other industries and the robust growth of SMEs (<http://www.jidaw.com/digitalnigeria.html>).

In the same vein, Ndukwe asserted that with the inclusion of internet services, calling cards and other services in the Class License, the industry now boasts of an increased number of SMEs thanks to their participation in various service deliveries in the telecommunications sector. This growth in SMEs translates to an increase in revenue for the corporations, their families, the government through taxes, apart from their being employers of labour.

More so, a recent study carried out by the Nigerian Communications Commission revealed that the advent the mobile phone (GSM) in Nigeria has a positive relationship on economic growth. The study shows that a 1% increase in mobile telecommunication demand in Nigeria generates about 0.14% growth in the economy. With an impressive 655% increase in mobile

telecommunications demand in Nigeria between 2001 and 2007, the attendant economic growth rate has resulted in Nigeria witnessing great socio-economic development in key areas such as:

- Provision of Telecommunications infrastructure
- Development of SMEs
- ICT and Rural Development
- Development of policy framework
- Human capacity development
- Technology Development

(World Information Society report 2007: www.itu.int/osg/spu/publications)

According to Tella et al. (2007), GSM has emerged as an integral essential part of the culture and life of Nigerians. It has played a significant role in communication and encourages investment. In respect of employment, Manuaka (2008) and Okereocha (2008) found that, over 1,000,000 Nigerians have been directly and indirectly employed by the operators. While supportive enterprises and service organizations like banking, haulage, consultancies, insurance etc. have themselves blossomed. According to Soyinka (2008), mobile phone has empowered the poor by opening up veritable windows of wealth generation for them to get out of the scourge of poverty. For Adebayo (2008), the introduction of mobile telecoms has the potential for reducing the cost of doing business and increasing output. Soyinka (2008) and Ndukwe (2008) reported that the GSM business has contributed to the economy in the area of GSM recharge card printing. This has had the effect of saving Nigeria of about \$150 million monthly while providing employment and new skills to the dealers. It has also improved entertainment and networking among Nigerians, using short message service, SMS, and the signal calls. This view has been collaborated by Okereocha (2008). According to him, the telecommunication sector has become a major tool for empowering Nigerians, and with the continued inflow of massive investments and the doggedness of the industry regulator, the future looks bright. Sridhar and Sridhar (2003) argued that telecommunication has the potential to benefit urban areas, employers, employees and the society by reducing the need to travel and by reducing office distractions. As Egan (1997), pointed out, IBM reported savings of \$75 million in real estate expenses related to office space because of telecommuting. Also, companies' choice of Bakare and Lola 39 talent gets widened to even "mobility-impaired" talent. Contrary to perception, telecommunication has also increased employee participation in organizational

activity. As at 2002, more than 108 million users world-wide are working outside the boundaries of their enterprise. Evidence of such teleporting has been found in India, Europe, and U.S.A. The findings of authors like Irani et al. (2000), Mitter (2000), Pancucci (1995), Kurland and Egan (1999), Handy and Mokhtarian (1995), and Shin et al. (2000), testified to this claim.

Nevertheless, “how the entry of the Global System for Mobile (GSM) 10 years ago has helped to rev up the economy of Africa’s most populous country of 150 million people”, was a speech delivered by the vice Executive chairman of the Nigeria Communications Commission (NCC), Dr Eugene Juwah. He noted that Nigeria’s much touted mobile telecommunication revolution started 10 years ago to begin a positive process that has impacted in virtually all sectors of the economy including the financial, oil & gas, health and education sectors among others. Active players in the market of nearly 90 million subscribers include MTN Nigeria, Bharti Airtel Nigeria, Globacom Nigeria and Etisalat Nigeria.

According to a 2010 findings by the London based Pyramid Research the annual revenue from mobile services represents about 4% of Nigeria’s Nominal GDP while that of many African countries is between 2% and 7% to indicate a rising influence of the telecom sector in the overall performance of Nigerian economy. Apart from leading the continent, Nigeria is one of the world’s most outstanding successes in terms of uptake of mobile telephony since the service was first launched in August 2001.

An impressed Dr. Eugene Juwah, executive vice chairman of NCC, expected to be one of the chief speakers at the 10th Anniversary GSM Forum, described the GSM revolution as one of the most outstanding landmarks of the country’s political democratization and the consequent shift to economic liberalization.

“With only about 400,000 lines in 2001, with a dismal 0.4 tele density, the number of active lines by end of January 2011 stood at 89.8 Million lines, resulting in an impressive tele density of 64.16. In terms of growth, Nigeria is ranked the largest and fastest growing telecom market in Africa and among the ten fastest telecom growth markets in the world, an indication of its robustness to return on investments. “From a private sector investment of about US\$50 Million in 1999 when the democratic regime came in place, the telecom industry in Nigeria has by end of 2009, attracted more than US\$18 Billion in private sector investments, including Direct Foreign Investment. More than N300 Billion has been contributed to the coffers of the federal

Government through Frequency Spectrum sales, enabling government to plough back revenues earned from the sector for provision of development infrastructure at the various levels of government,” said Juwah.

The ICT Publishers Alliance consists of the premier media organizations focusing exclusively on the ICT sector. They include eWorld, Nigeria Communications Week, IT Edge News.Com, IT World, and eBusiness Life. The Alliance announced in Lagos series of activities including the ‘A Decade of GSM Forum’ it has designed in partnership with other stakeholders to commemorate one of the major highlights of technological transformation that has re-shaped most of Nigeria and Africa’s economies for good. “It is noteworthy that Nigeria has become the leading light in economic change through the radical uptake of mobile phones,” said Aaron Ukodie, CEO of Ajomedia and publishers of eWorld. “Celebrating 10 years of GSM in Nigeria equals celebrating a decade of economic advancement in another sector outside of the crude oil industry,” said Mrs. Ufuoma Daro CEO and Editor of eBusiness Life. Commenting further, Barrister Eyina Moses, publisher of IT World said “When we look at the tremendous progress achieved in other sectors such as the finance and banking sector, we see the overall impact of the telecommunications sector and how it has translated in the changes that have driven the financial market,”. The ICT Publishers Alliance said that a mix of right policy thrusts, proactive regulatory disposition, massive in flow of offshore investment and government’s willpower has ensured sustainable growth in the country’s telecommunications sector. “The result has been increased participation of Nigeria in the global telecommunications market with over 85 million subscribers” said Mr. Ken Nwogbo, CEO/editor-in-chief Nigeria Communications Week. “The GSM revolution opened a new vista for economic growth that was unprecedented,” said Mr. Segun Oruame, CEO of Know-How Media and publishers of IT Edge News.Com.

2.6.1: GSM Operating Companies and Job Creation/Employment in Nigeria.

According to (<http://www.jidaw.com/digitalnigeria.html>), GSM has created jobs much faster than any other sector of the economy.

Direct and indirect employment has been created. In fact, over one million jobs have been created since the liberalization of the telecom sector directly and indirectly, while

Over 120,000 viable businesses have been created including dealers, distributors, retailers, suppliers and content providers.

Again, according to Pita Ochai, for the past 10 years, many sectors of the national economy have experienced some positive impact which a revolution in the telecommunications sector has brought about. The most common sights on Nigerian streets since the revolution in the telecommunications sector started are business centres also known as call centres. They are characterized by umbrellas, kiosks, and shops painted with the colours of any of the service providers. In most cases, all that is needed for this business are a little capital, an umbrella as a shade, a stool, a table and a handset loaded with a certain amount of credit. The ease to start this business has moved a large number of Nigerians out of the labour market because it provides the means of livelihood for many people. Some Nigerians now earn incomes from the technical aspect of the business by repairing and fixing damaged mobile phones in their repair shops while other skilled Nigerians are gainfully employed by the GSM companies. Rosemary Mande, a call centre operator based in the Lugbe area of Abuja, took opportunity of the ease to start a call centre to move out of the Nigerian labour market. After a diploma in public administration in 2005, she moved to Abuja in search of jobs but was unable to get one after two years. She later took advice of a friend who encouraged her to start recharge card business just at the next road junction to her street. With the help of N10, 000 from an uncle in 2007, Mande got an umbrella, a plastic table, a stool and some amount of recharge cards for her new business. After about four years in the business, Mande told News watch that she had no regret venturing into the call centre business as her welfare has improved from the recharge card business. Elizabeth Aniah, also a call centre operator, in Oregun, Lagos State, was working in a factory where she earned a monthly salary of N25,000 before she resigned her appointment to take care of her sick mother in 2008. Aniah came out of the hospital after spending three months by her mother's hospital bedside in need of a job. She took to recharge card business in 2007, after failed attempts to get a new job. Aniah told News watch that her daily profit from the sale of recharge cards and phone calls now meet her daily needs that she no longer looks out for other jobs. Many shop owners in most parts of the country now combine whatever they do with a call centre business. Adah Oloche, a civil servant, uses the sale of recharge cards to augment his meager monthly salary. To him, the business is with a high turnover rate because his colleagues get all their call credits from him during office hours.

Since 2001 when the revolution started in the telecommunications sector, the sale of GSM phones and its accessories has witnessed a boom in the country. According to the Nigerian Communications Commission (NCC), the total number of GSM lines in the country stands at 89.8 million as at February this year, 2011. What this means is that if each line goes with a GSM phone, 89.8 million GSM phones have been marketed in the country since the mobile telecommunications started about 10 years ago.

According to (NCC 2011), the rural dwellers have been involved in small businesses such as the telephone or GSM call centers. To many people, the introduction of the GSM into the country has transformed them from unemployed or employee status to employers and successful business men and women. A teeming population of 'would have been' jobless people has engaged themselves in the business of phone calls. The umbrella stand call centre is a prominent feature in every street of the rural areas and even in the urban areas. These operators are never short of customers as people are always patronizing them for one reason or the other, ranging from recharge card purchase to making of calls, some persons even collect the phone numbers of some operators so that they can receive calls through such centres. This business is very easy to start as all that is needed is a space where the umbrella (parasol), table, chairs and a mobile phone SIM (Subscribers Identification Module)) can be set.

2.6.2: GSM Operating Companies and GDP in Nigeria.

Apart from job creation for the skilled and unskilled Nigerians, the 10 years of the revolution in telecommunications has impacted positively on the economy of the country. According to Eugene Juwah, NCC executive vice-chairman, it has improved the performance of every sector of Nigerian economy. To him, the growth in the telecommunications sector has contributed significantly to the gross domestic product, GDP, which was before now dominated by the oil sector. He said that the percentage share of the GDP from the sector has continued to rise since the revolution started. In 1999, the telecommunications sector contributed only 0.06 percent to the GDP, but at the end of 2009, the contribution rose to 3.66 percent. The financial sector of the Nigerian economy has also benefited from the revolution in the telecommunications sector.

According to Juwah, activities in the financial sector have been deepened because investment portfolios of most banks have improved since the revolution started. It has also facilitated financial transactions in the banking and finance. Juwah said that electronic banking

such as Automated Teller Machine, ATM, services, online financial transactions, international credit and debit card facilities, airline ticketing and reservations, are some of the numerous ways that the introduction of GSM in the telecommunications industry has aided the growth, sophistication, security and quick transactions in the Nigerian financial sector. Nigeria is presently ranked the largest and fastest growing telecommunications market in Africa, and among the 10 fastest growing telecommunications market in the world, an indication of its robustness and good returns on investment. The private sector investment in 1999 was \$50 million which has increased to \$18 billion in 2009. More than \$300 billion is said to have been contributed by the different GSM operators to the coffers of the federal government through spectrum sales. Newswatch Magazine (<http://www.newswatchngr.com>).

The huge volume of business that the GSM market is driving in the Nigerian economy has become more manifest in recent years. This year 2005, the sector's contribution to the country's gross domestic product, GDP, is expected to exceed the combined inputs of the manufacturing, banking, insurance, and solid minerals sectors, according to estimates by the Federal Ministry of Finance.

The telecom sector's contribution this year, computed with Nigeria's gross domestic product figures put at \$206.66bn by the International Monetary Fund, IMF, is estimated at \$15.7bn, amounting to 7.6 per cent of the GDP. Finance and Insurance, manufacturing and solid minerals are put at 2.5, 4.5 and 0.4 per cent in that order, totalling 7.4 per cent, which is 0.2 per cent less than the 7.6 per cent estimates for the telecoms sector. Since 2005 (four years after it was liberalized), the telecoms sector remains the third largest contributor to the country's GDP in the non- oil sector, after agriculture and trade.

According to Ngozi Sams (2011), Nigeria's telecommunications sector currently accounts for about four per cent of the country's total gross domestic product (GDP), with room for growth, according to a survey by Pyramid Research, a United Kingdom based telecommunications research firm. Delivering the report of the research undertaken in collaboration with the Nigerian Communications Commission (NCC), in Abuja, Gabriella Baez, Managing Director of Pyramid Research, said Nigeria's telecoms industry has the potential to double the current growth rate.

“The impact of the telecoms sector on the GDP of Nigeria can be looked at from various points. The most transparent item is just the investment, the second is the revenue that is generated on annual basis by all the players in the industry and that accounts for roughly more than four per cent of the GDP in Nigeria. This is within the range of what we see within the varieties of markets around the world,” she said. “The telecommunications industry can generate anywhere from two to seven per cent and in Nigeria, it is four per cent and it is well within the range that we see in places like Europe, Africa and elsewhere within the developing markets.”

Ms. Baez noted that “the most important part of their finding was the confirmation that mobile phones are fundamental aspects of peoples’ lives and that the impact goes beyond what could be seen in a single communication industry. It spreads into education, health, productivity”.

2.6.3: GSM Operating Companies and Investment in Nigeria

According to Engr Earnest Ndukwe, (the past executive chairman of NCC), the huge investment potential that still exists in Nigeria’s GSM market is highlighted by the recent battle for a controlling stake in Vmobile, which provoked a bidding contest between Vodacom and Virgin. The two companies have since decided to make a joint bid. British companies have been slow to show an interest in the Nigerian market so far, but that may be starting to change. In January, the UK-based private equity investor Actis and the AIG African Infrastructure Fund (AAIF) invested US\$43.2 million (€24 million) to acquire a major stake in Starcomms, Nigeria’s leading fixed wireless telecom operator.

With presence in 15 African countries, Airtel is investing about \$800mn in Africa for network roll-out and services. Chairman of Airtel Nigeria, Oba Otudeko, said the company would make an initial investment of \$2bn into the Nigerian business in the next few years. Elsewhere, IHS Nigeria plc, Investec Asset Management, the International Finance Corporation and the Netherlands Development Finance Company have concluded an agreement for investment worth \$79 million (N11.9bn) in Nigeria. The deal, which is part of efforts to further improve growth in the nation's economy, would be in form of an equity investment in IHS. The investment, which IHS says is subject to regulatory approvals, would help the company build

and acquire mobile phone towers in sub-Saharan Africa, thereby increasing mobile phone coverage and reducing communication costs in the region. Investec made the money available via its African private equity funds. The increasing investment in the sector has been buoyed by ballooning figures of phone subscribers. According to the Nigerian Communications Commission, NCC, estimates, active telephone subscribers in the country are now nearing the 90 million mark, while a tele-density of 65 per cent currently obtains. GSM subscribers are estimated to have the lion's share of 81,195,684, while subscribers to CDMA and Fixed Wireless services had 6,102,105 and 1,050,237 respectively. Many analysts doubt the figure though. Of the country's estimated population of N150 million, there is believed to be a large number of infants, the aged, illiterates and rural residents who are not using the telephone facility. Their number is calculated to be over 80 million.

Nigeria receives the largest amount of Foreign Direct Investment (FDI) in Africa. Foreign Direct Investment inflows have been growing enormously over the course of the last decade: from USD1.14 billion in 2001 and USD2.1 billion in 2004, Nigeria's FDI reached USD11 billion in 2009 according to UNCTAD, making the country the nineteenth greatest recipient of FDI in the world, courtesy of GSM companies in Nigeria, (Corporate Nigeria 2010/2011 is a Corporate Guides International publication).

According to www.businssday.online.com, Oladipupo Alabi, a telecom engineer and treasurer, Association of Licensed Telecommunications Operators of Nigeria (ALTON), said Investments in the telecom sector in Nigeria since 2001 has exceeded \$20 billion, out of which about \$12.5 billion are foreign direct investment (FDI). More than 80 per cent of the FDI, however, has been in the GSM industry.

In the words of Kunle Azeez (2011), he noted that in addition to the \$18.5bn investment hitherto invested in the nation's telecoms sector, Nigeria's foreign direct investments increased by a total of \$940m (about N141.2bn) in 2010, following the landing of Main One submarine cable, at the cost of \$240m (36.2bn) and Glo 1 submarine cable infrastructure at \$700m (N105bn). Main One is a submarine cable that runs from Portugal to Lagos, covering 7, 200 kilometres and provides, from day one, 1.92 terabytes per second (Tbps) capacity. Main One plans to upgrade the speed with additional 40 gigabyte persecond, Gbps, in order to get significant improvement. Glo 1, on the other hand, is a 9,800 kilometre cable connecting 16

West African countries with Europe and United States. It has current capacity of 640 gigabytes and an ultimate capacity of 2.5Tbps. The two submarine cables have been proving bandwidth capacities to telecoms companies as well as internet service providers (ISPs) in the country. The next phase of their accessibility to Nigerians, according to the Chief Executive Officer of Etisalat Nigeria, Mr. Steven Evans, is “for Nigeria to build enough transmission links that provide an avenue to make Internet access available to Nigerians irrespective of their locations through the fibre optic cables.” Etisalat, is getting some of its capacity from Main One while Globacom is leveraging Glo 1 to boost its operations. Other organizations have also signed up to both Main One and Glo 1 for their capacity and this is expected to continue in 2011.

Globacom’s Group Executive Director, Mr. Paddy Adenuga, once said that “Glo 1’s current and ultimate capacity is enough to cater for the required broadband capacity of Nigeria for the next 15 to 20 years.” Experts say while 2010 witnessed the landings of the cables in Nigeria, the next phase should be how to put them to proper use to develop the economy.

2.7: IMPACTS OF GSM TECHNOLOGY ON THE PEOPLE OF NIGERIA.

According to Ndukwe (2009), the revolution of information and communication technology (ICT) has brought assurance to many people especially low income earners that they can feed themselves or families, provide shelter for selves and have a secured future. The Global Service for Mobile communication (GSM) serves as a tool for economic, political and social interactions among people of all profession, classes and status. The GSM is said to have improved the capacity of small-scale entrepreneurs who rely on it as an important means of communication needed to be able to do their jobs. The GSM usage has also helped to bridge the communication gap between urban and rural dwellers as was witnessed in the Niger Delta area of Nigeria. He also noted that about 80% of Nigeria’s population is located in the rural areas and to ensure the people’s security, there is the important need for access to information and knowledge. Official statistics shows that Nigeria has a telephone subscriber base of about 70million (NCC, 2010), of which about 62million are GSM subscribers. Before now, access to telephone was the exclusive preserve of the rich and privileged few in the country until 2001 when the GSM was introduced.

The rural dwellers have been involved in small businesses such as the telephone or GSM call centres. To many people, the introduction of the GSM into the country has transformed them from unemployed or employee status to employers and successful business men and women. A teeming population of 'would have been' jobless people has engaged themselves in the business of phone calls. The umbrella stand call centre is a prominent feature in every street of the rural areas and even in the urban areas. These operators are never short of customers as people are always patronizing them for one reason or the other, ranging from recharge card purchase to making of calls, some persons even collect the phone numbers of some operators so that they can receive calls through such centres. This business is very easy to start as all that is needed is a space where the umbrella (parasol), table, chairs and a mobile phone SIM (Subscribers Identification Module)) can be set.

The major impacts of the GSM revolution are as summarized below:

I. Livelihood Sustainability

The initial bulk purchase of recharge cards will depend on the operator's starting capital, and this can be increased gradually as the operator ploughs back some of his profit into the business. These operators use special SIM cards meant for business, so that they attract a lower call charges than the non business normal SIM card. The difference between the call rates of the two SIMs is what amounts to profit for the call operator. With as low as Nigerian Naira 12,000 (about 79USD), composed of a phone of naira 5,000, a pack of recharge cards costing about naira 4,000, two plastic stools costing about naira 2,000 and an umbrella of about naira 1, 000, one could start up the business. These ways have been used by many jobless people to feed themselves, save to buy cloths, domestic items and also save to provide them with shelter.

II. Sponsorship of other Business

Sometimes, the rural dweller engages in the GSM business as a last resort means of raising money to finance his or her major business of interest. The low income earner does not have an easy access to credit facilities needed to finance the business of their choice and so would readily and willingly resort to the GSM business as a way of raising and saving fund to later start the business of their interest.

III. Saving for School

It was found that many of the youths involved in the GSM business are people who were academically inclined but could not continue their education as a result of inability to pay their fees and meet up with other educational expenses such as purchasing books, transportation and feeding. This has resulted in their withdrawal from school and engaging in this business to raise money with the hope of going back to school in the future ([www. Naijabizcom](http://www.Naijabizcom)).

According to Omeruo Kenneth), looking back to what life used to be for all of us before the GSM evolution about 10 (ten) years ago, it gives one a clear understanding of the positive impact GSM has on the people of Nigeria. The way we used to communicate and do businesses have changed tremendously, the life of the common people has equally been touched in different ways. In fact, it cuts across every facet of life. Some of the blessings of mobile communication in Nigeria has been directly or indirectly on the populace, the co-operate world, business world, and the society at large (www.gsmusersforum.com)

He opined that Job creation and employment is one of the good things that GSM brought to us. The sector is the highest sector that has employed both skilled and unskilled manpower in recent times. A great number of people especially the young graduates have been given employment in the GSM companies where they make a living and are useful to their families.

Apart from this direct employment, jobs have been created, where many people are self reliant doing their own GSM businesses, one of such business is making of calls and the sale of recharge cards to GSM users. This business is popularly known as business centers or call centers. Looking around the cities, towns and even villages one will hardly walk about two poles without seeing a business center mainly characterized by the use of umbrellas, kiosks and even shops painted with the colors of the mobile service providers. It is easy to start because it requires little startup capital, in fact all you need is your umbrella as a shade, a stool, a table and your handset loaded with calling credit of any amount say #1000, and you have started. This has provided a means of livelihood for many people who would have been unemployed; some have also learnt the technical aspect of the business by repairing and fixing of mobile phones in their repair shops.

Sales of GSM phones and its accessories are big business, it is also very profitable here in Nigeria, and I consider it the biggest gain of this revolution. It has really provided affluence for many who are in the business big time. The return on investment is superb. Having the statistics that over 16 million handsets have been sold so far, 32.2 million mobile lines in Nigeria now, with the number of mobile lines increasing to 43 million within the year 2007, and a projection of about 76 million mobile lines come 2011, all these are indicators of how the market is and where it is going. Many people have actually tapped into this boom. This business is very lucrative. If you have ever visited the Computer Village, Ikeja, Lagos, You will understand the veracity of the statistics and research given above, the market is said to be the largest phone market in Africa.

Again, the impact is also felt in the way businesses are being done these days, it has reduced the risk and cost of traveling long distances, since one can be in his house and actually attain to the business using his mobile phone. It has made all of us ubiquitous. Businesses are being done nowadays at the speed of thought like Bill Gates envisaged.

Corporate Organizations like the banks for example, have integrated GSM technology into banking operations known as Mobile banking where a customer has full access to his or her account using the mobile phone or device. Examination bodies and educational institutions have also employed this technology too where candidates check their results on their mobile phones, the internet can also be accessed from the mobile phone and other value added services like picture messaging, music downloads etc, giving the users a beautiful experience.

Socially, we have benefited in corporate social responsibilities of the service providers and phone companies. Some have provided educational facilities, AIDS campaign awareness, ICT labs, Hospitals and sponsorship of several events, one of such events is the Globacom (one of the service providers in Nigeria) Premiership League where huge amount of money is set aside for the development of Nigeria football. Many individuals have also benefited from these companies by being their ambassadors.

Our social life has also being impacted on, relationships with friends, relatives and loved ones are kept alive through phones calls, I have personally benefited from the mid night free calls being offered by MTN, I have good time to talk to my friends and loved ones.

In (www.ITREALM Online.com), Nweke, R. (2011), reports that the advent of Global System for Mobile (GSM) communications is stimulating a free society in Nigeria, unknown to many Nigerians, especially the adolescents, the freedom they now enjoy, courtesy of the liberalization of the telecommunications sector.

Today, it is easier for a stranded car-owner at the other side of Lagos to call his or her mechanic to come to the rescue, then follow-up with the mechanic until he or she gets to the spot where the attention is required.

Also, today, it is no longer news that several people's lives have been saved since the coming of mobile communications in Nigeria in 2001. A case in point that quickly comes to mind was that of a widow, Mrs. Elebele Ihuoma who suddenly took ill at about 11pm, penultimate Friday. Her confused eldest daughter returned from work and saw her mother lying motionless, but breathing.

All she could remember was to buzz her mum's closest friend around their vicinity, Mrs. 'Tonia Domson, who resides within the same Oshodi suburb of Lagos and within a distance of about 800 meters away. It follows that Mrs. Domson swiftly drove down to Mrs. Elebele's house in the family car and put up a call to her family doctor before rushing her friend to the doctor's nearby clinic to ensure prompt attention; where the medical doctor on-call informed them after due examination that Mrs. Elebele had suffered a stroke. Now, to the glory of God she has fully recovered and the rest is better imagined than experienced if that call was not made by the daughter.

As a result of the introduction of GSM companies in Nigeria, citizens now air their views unbarred on how they are governed and should be governed on prints via SMS to the editor, call-in during television and radio programmes to express themselves. Just as it could not be forgotten in a hurry that recently President Goodluck Jonathan reversed his ban on Nigeria national football team from foreign matches, which he alluded to interactions he had with Nigerians through the media and mostly on his Facebook account.

Today, to save time, customers now call hair salon operators to know if they have chance to attend to them or should book for another date instead of getting to the salon and be told that the Barber or stylist has just left to no particular location.

Before now, many Nigerians residing in the urban areas rarely go home except for festivals such as Christmas, Easter, Sallah and New Yam. Nowadays, it has become literally a 'sin' not to get in touch with the family, especially where one's parents are still living, customarily at the rural areas; if one is in the city for one or two weeks. All these have changed with the coming of GSM for local parlance and liberalization of the telecommunications market for the experts and investors. In fact, most Nigerians think that GSM or the availability of mobile telephony is all about giving dividends as real freedom to the populace of Nigeria, following the return of democracy in 1999. Critically examining this, one would discover that it's not far from the truth. Nigerians have not had it so good in over 40 years and now they could call and talk as long as they want to anyone, anywhere via their mobile handsets. Thus, encouraging one to ask what is liberalisation and democracy as well as how both could affect the level of freedom enjoyed in a given society like Nigeria.

There is no gain saying the fact that mobile phone usage and adaptation in Nigeria have become a ritual to an extent that one industry observer once described GSM as General Street Madness (GSM), due to the fact that people who own GSM phones are often seen talking and laughing on the street all alone.

To some it has become status symbol as disclosed by Yemisi, a system administrator recently that the 'unfortunate trend' is that, even her office cleaner's mobile phone, of course, a Blackberry and is costlier than her phone, simply because one has to literally belong to the rave of the moment.

For some people it has been about using technology to find their old friends and like the group chief executive officer, Teledom Group, Dr. Emmanuel Ekuwem, once said that telecommunications is like a water tap, which when opened would discharge water based on the kind of pipe – big or small - used to lay it. This means that the more the telecommunications industry is opened up, the more freedom it enables people to communicate. Ekuwem also noted that Communications in this sense could come through voice call, data; internet, World Wide Web (www), knowledge-base among other useful means it could be put to.

Therefore, it could be apt to state that democracy has brought Nigerians the necessary freedom they desire as a society, mostly since the advent of GSM in the country. Like another

industry observer argued, Nigeria gained true independence on May 29, 1999; that is, the day Military through former head of state, General Abdulsalami Abubakar, retired, handed over government to a democratically elected government led by former General Olusegun Obasanjo; who invariably capitalised on the freedom of democracy to liberalise the telecommunications sector.

Now, with over 90 million Nigerians talking, the freedom embedded in Information and Communications Technologies (ICT) and capsulated in GSM manifested during the just concluded 2011 general elections; as results were exchanged from various monitoring groups, data pulling became an alias for Nigerian youths and youths at heart and use of social media like Facebook and Twitter to name a few, through mobile phones.

It has now dawn on many Nigerians that democracy pays, after all, they are enjoying the freedom spurred by GSM technology, at least, chatting these days with one's parents and family from various parts of the world has permeated the Nigerian society to what a rural woman once described as 'oyibo gossip' – English gossip, for sake of using mobile phones at ease, to chat with family members in faraway lands like China, India and Europe.

He went further to say that talking is known to engender a free mind and free mind begets free society which paves the way for dialogue and investment in addition to flourishing of businesses, especially in the small, medium enterprise (SMEs). At least, at the last count, Nigeria had over 50,000 commercial call centre operators, tagged 'umbrella people,' with Foreign Direct Investment (FDI) in billions of Dollars and employment created for Nigerians, thereby collapsing the 'Berlin walls' of doing business in Nigeria to a greater extent.

Apart from the fact that talking in a given society eases tensions, it also aligns to one of the GSM operators marketing catchphrase ... 'Now Nigerians are talking' in other words things are looking up (ITREALMS Online).

On the same note, Efem (2006), in this write-up takes a look at the sales promotions of major telecoms operators, x-raying the positive and negative impact of the promos on subscribers. In his opinion, he said that since the beginning of the Global Systems for Mobile Communication (GSM) revolution in Nigeria in 2001, following the sale of GSM licenses to operators by the administration of President Olusegun Obasanjo, Nigerians have been having easy access to

information that hitherto was a rare commodity. On the heels of this welcome development in the last nine years is the proliferation of sales promotions by major telecommunications providers eager to gain market share. Aside gaining market share, the aim of the promos is to impact positively on the lives of the people by rewarding them for using the operators. Major operators like MTN, Globacomm, Airtel, etc have over the years spent huge sums of money on promos to add colour to the lives of the subscribers on one hand and at the same time add to more subscribers to their network on the other. MTN recently concluded a 90 million one-day a millionaire promo, which produced one millionaire a day for 90 days.

The promo unarguably impacted on Nigerians and added to MTN's subscriber base as well. Curiously most of the winners that emerged were those on the low rung of societal ladder whose circumstances really needed the million naira to turn their lives around. MTN however, ran into troubled waters with the consumer protection council CPC, which sealed its offices as a result of the "Y ello promo which GSM company declared was illegal. MTN was later vindicated by an Abuja high court ruling that declared that the promo was in order. Honourable Justice Binta Nyako gave a landmark ruling and declared that the CPC has no powers to regulate sales promotions in Nigeria.

Globacom on the other hand is currently involved in a promo where winners stand to win over 500 million naira worth of prizes. The prizes include brand new cars, cash, generators and free airtime etc to be won in 180 days. This is coming on less than a few weeks after the conclusion of a similar promo by Glo where some lucky subscribers took home cars, houses etc.

Vmobile (now Airtel), also recently concluded a mega promo where some lucky winners took home 100 thousand dollars each, countless cars and household items that would no doubt enhance their lives. This baptism of promos one can argue is no doubt good for the citizenry given the fact that about half of the Nigerian population is currently living below the poverty line.

Furthermore, following a recent research that declared Nigerians as the happiest people on earth, promos like this can give the poor man hope of a better life in the face of grinding poverty and hopelessness said Efem. Even though some might interpret the promos as gambling, it cannot be contested that lives have been impacted upon, he added. The promos usually reward

customers with cash, sometimes running into millions, brand new cars, household items that enhance life that most can hardly afford, free airtime etc.

Take the story of Reuben Okeke, a 51-year-old tailor based in Awka, Anambra State who won a brand new Honda City car at Glo's double slam promo. An overwhelmed Okeke, reacting to the win stated that he was too shocked to believe what was happening. "Since I was born I have never experienced this. I have never seen this kind of luck. Imagine me owning a brand new car just like that. My life don change pata pata," he stated. For 33-years-old Mobile Police Corporal, Adozi Solomon, who won a kia Picanto car in the Port-Harcourt promo, life will never be the same again because in his wildest dreams he never ever thought that this will happen. Expressing thanks to Glo for changing his life, he stated that "At first, I didn't believe this was real. Even as I got here, I still had doubts, until the car keys were handed over to me. Now, I am a living testimony," he declared.

MTN's Y'ello Millionaire promo also brought joy to the household of Abidin Lateef, a vulcanizer from Oshogbo in Osun State. The poor man almost could not express or believe that he won a million naira. Same for Charity Eze, a phone call operator in Port Harcourt, Rivers State who won a million naira .She was filled with joy and couldn't stop praising God and MTN. Vmobile's last knockout promo literally almost knocked life out of Olajide Olawole and Ebube Erem Udo who both won 100,000 dollars each. Olajide kept on giving God and Vmobile praise for changing his life forever. Not that this reporter blames him, you don't wake everyday and have more than 14 million naira to do with as you please in this hard time. These and many more testimonies abound as to how scores of lives have been positively impacted upon.

Beyond the promos and its benefits however, is the ugly trend of "fraudulent promos" currently being perpetrated by a fake outfit run by an unknown syndicate that is taking Nigerians to the cleaners through dubious means. The unknown syndicate is taking advantage of these promos to con the masses by tricking them into parting with some money after informing them that they've been picked as winners of non- existent promos.

Recently this reporter almost fell a victim of these unscrupulous Nigerians when she received a text message early morning, informing her that she was a proud winner of 475,000 naira. The text congratulated the writer for her good fortune and urged her to send her details to a certain GSM number and await further instructions. This writer's curiosity was aroused and

she sent some details and thereafter called the number. A male voice congratulated her and told her that information about her had been received and asked her to come to Abuja to collect the cheque. When this writer protested that she couldn't go to Abuja and asked for the cheque to be made available at their Port-Harcourt office which is closer to the writer, she was asked to send ten glo recharge cards of one thousand naira each which translates to ten thousand for her cheque to be sent by DHL to her. This writer played along and collected ten used glo recharge cards nos which she sent via text to them instead. When they called her back to tell her they were waiting for the recharge cards, this writer sweetly told them to fly over to Eket to collect the glo recharge cards in person.

The point this reporter is making is that she has received several complaints by several people who have fallen victims of these unscrupulous people. This ugly trend is rapidly sweeping through the Nigerian society with more and more victims who may fall prey to the fake promo trap.

Nevertheless, kudos should go to some of the operators who have tried to warn subscribers of the antics of these con men but more should be done. V mobile should be commended for promptly sending text messages to warn subscribers, any time one receives a fraudulent text message to disregard any text message purportedly sent by them. They warned that winners of any promos are usually informed through calls and not text messages.

MTN and GLO at different occasions have also sent text messages warning their subscribers to avoid falling into the traps of these men. MTN went a step further by putting a paid advert in the papers warning subscribers of the unscrupulous text messages flying around informing them of purportedly winning xyz amounts. MTN in the paid advert titled "beware of fraudulent text messages" went on to inform subscribers that an MTN winner will receive calls from a staff in the advert of them winning, stressing that a list of winners is usually published in national dailies. The advert also stated that MTN never asks winners to part with either money or recharge cards before redeeming prizes, adding prizes will only be redeemed at MTN offices or service centres.

Finally, it is therefore important to note that not all the effects have necessarily been positive. Research shows, for example, covariance between teen criminality and mobile telephone use. Heavy users of mobile telephony are overrepresented among those who are involved in various

forms of deviance (fighting, alcohol and narcotics use, various forms of theft, etc.) (Ling 2005b; Pedersen & Samuelson, 2003).

CHAPTER THREE.

3.0: RESEARCH METHODOLOGY

The aim of this chapter is to discuss the methods and procedures adopted by the researcher in carrying out the research work. The chapter contains sources of data, population and sample size determination, data analysis techniques and validity and reliability of data.

3.1: AREA OF THE STUDY

The study was carried out in the following selected GSM companies in Enugu: Mtn Nig Ltd, Airtel Nig Ltd, and Globacom Nig Ltd.

3.2: SOURCES OF DATA.

Two major sources of data were used, they are; primary and secondary sources of data.

(a) Primary source of Data

This is firsthand information collected by the researcher. Meanwhile, the primary data collected are data from personal observation, interview and questionnaire.

(b) Secondary source of Data

Secondary data were facts that the researcher collected from already existing sources. The secondary data collected for this study were obtained from books, internet, newspapers, journals, and magazines.

3.3: POPULATION OF THE STUDY

The target population of the study consists of all senior and junior staff of the three selected GSM companies in Enugu. Also, the researcher randomly selected 100 GSM subscribers in Enugu metropolis.

Table 3.1: The population distribution of the staff of GSM companies in Enugu metropolis.

GSM companies	Number of Junior Staff	Number of Senior Staff	Total
Mtn Nig Ltd	50	25	75
Airtel Nig Ltd	45	20	65
Globacom Nig Ltd	40	20	60
TOTAL	135	65	200

Source: field study 2011.

3.4: SAMPLING TECHNIQUE.

For the purpose of this study, the actual population is two hundred 200 employees from the three selected GSM companies plus hundred (100) randomly selected GSM subscribers in Enugu, making it a total of three hundred (300). However, for the fact that the population is small, there is no need of finding the sample size. Hence, a non- probability sampling method was adopted. Thus the sample size is 300.

3.5 DESCRIPTION OF RESEARCH INSTRUMENTS

The researcher adopted various techniques in the collection of data. These techniques include the following:

- i Questionnaire
- ii Interview
- iii Observation.

(i) Questionnaire:

The major instrument that was used in collecting data for this study is a structured questionnaire. The questions were designed in a Likert Scale format, to help the researcher acquire the necessary information needed for the study.

However, two sets of questionnaires were designed and distributed. Questionnaire (1) which contains 15 questions is meant for the GSM subscribers in Enugu metropolis, while questionnaire (2) which contains 20 questions is meant for the staff of the three selected GSM companies in Enugu, making it a total of 35 questions.

(ii) Interview:

The researcher orally interviewed both senior and junior staff of the three selected GSM companies and GSM subscribers in Enugu metropolis.

(iii) Observation:

The researcher also made direct observation in the premises of Mtn Nig Ltd, Airtel Nig,Ltd and Globacom Nig Ltd, in Enugu metropolis.

3.6 DATA ANALYSIS TECHNIQUES

The data collected were presented in tables, while Chi- Square (X^2) Statistical tool was used to test the hypotheses.

But Chi- Square is represented by the formula: $(X)^2 = \frac{\sum (FO - Fe)^2}{Fe}$

Where:

- X^2 = Chi- Square
- FO = Observed frequency
- Fe = Expected frequency, and
- \sum = Summation.

The Chi- Square (X^2) test provides the basis for testing whether more than one population may be considered equal. It provides a means of comparing a set of observed frequencies with a set of expected frequencies. The calculated X^2 will be compared with the critical value of the X^2 , by using the normal level significance of 5%, which leaves 95% confidence interval.

The degree of freedom is given by $(r - 1)(c - 1)$, which is the number of rows and columns in the contingency table. The contingency table shows the observed and expected frequencies. The difference between the calculated values of the chi- square will form the basis for accepting or rejecting the null hypotheses.

DECISION RULE:

The rule is to reject H_0 (Null hypothesis) if the calculated X^2 is greater than the critical value of X^2 , otherwise do not reject. This implies that when the null hypothesis is rejected, the alternative hypothesis (H_1), invariably, will be accepted.

3.7 VALIDITY OF THE RESEARCH INSTRUMENT

To make sure that the research instrument used in this study is valid, the researcher ensured that the instrument measure the concepts it supposed to measure. More so, a proper structuring of the questionnaire and a conduct of a pre-test of every question contained in the questionnaire was carried out to ensure that they are valid. Again, the design of the questionnaire was made easy for respondents to tick their preferred choice from the options provided as it has been established that the longer the length of the questionnaire, the lower the response rate. Response validity was obtained by re-contacting the individuals whose responses appeared unusual and inconsistent.

3.8 RELIABILITY OF THE RESEARCH INSTRUMENTS

According to Zeller and Carmines (1979:11) in Onwumere (2009:68) reliability is the degree to which similar outcomes are produced by a measuring instrument when used in different situations. In other words, reliability means the state or quality of being depended upon. To ascertain that the instrument is reliable, the researcher adopted a test re-test method, where some copies of the questionnaire were distributed on a second occasion and it was observed that the degree of correlations and consistency was quite high, signifying high degree of association. This shows that the questionnaire is reliable.

CHAPTER FOUR.

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The chapter focuses on the analysis of the data collected through appropriate statistical tools such as tables and percentages. From the analysis of the questionnaire distributed and returned, it is necessary to recall that out of the total of three hundred (300) copies of the questionnaire distributed, two hundred and eighty five (285) representing 95% of the sample size were completed and returned, while 15 questionnaires representing 5% of the sample size were not returned.

Questionnaire Distributed, Returned and not Returned.

Table 4.1

Respondents	Number of questionnaire Distributed	% of questionnaire distributed	Number of questionnaire returned	% returned	Number of questionnaire not returned	% not returned
Staff	200	66.67	190	63.3	10	3
GSM subscribers	100	33.33	95	31.7	5	2
Total	300	100	285	95	15	5

Source: Field study

Table 4.2: Sex of the Respondents.

Gender	No of Respondents	% Distribution
Male	195	65
Female	105	35
Total	300	100

Source: Field Study

The result in Table 4.2 above shows that 195 (65%) of the respondents were males, while 105 (35%) were females. This implies that there are more males than females.

Table 4.3: Marital Status of the Respondents

Marital status	No of Respondents	% Distribution
Single	125	42
Married	155	52
Divorce	30	6
Total	300	100

Source: Field Study

The table 4.3 shows that 125 (42%) of the respondents were single while 155 (52%) were married and 30(6%) were shown to be divorced. This implies that there were more married people than divorced and single people.

Table 4.4: Age of the Respondents

Respondents Age in years	No of Respondents	% Distribution
16 – 25	40	13
26 – 35	95	32
36 – 45	130	43
46 years and above	35	12
Total	300	100

Source: Field Study

Table 4.4 shows that 40 (13%) of the respondents fall within the range of 16- 25 years, 95 (32%) of the respondents fall within the range of 26-35years, 130 (43%) fall within 36 – 45 years, while 35 (12%) of the respondents fall within 46 years and above. This confirms that there were more adults than teenagers.

Table 4.5: GSM Network Usage of Respondents

Years of using GSM	No of Respondents	% Distribution
1 – 3 years	15	5
4 – 6 years	55	18
7 – 9 years	105	35
9 – years and above	125	42
Total	300	100

Source: Field Study

Table 4.5 shows that 15 (5%) of the respondents have used GSM for 1 – 3 years, 55 (18%) have used GSM for 4 – 6 years, while 105 (35%) have used GSM for 7 – 9 years, and 125 (42%) of the respondents have used GSM network for 9 years and above.

Table 4.6: Responses of Respondents on the impact of GSM Operating Companies on Nigerian Economy (reproduced from questionnaire 2).

Questions	Description	SA	A	SD	D	Row Total
7	There is a dramatic increase in gross domestic product (GDP) since the introduction of GSM in Nigeria.	110	84	4	2	200
8	GSM companies generate revenue to the government of Nigeria.	120	80	0	0	200
9	GSM business promotes poverty reduction in Nigeria.	60	60	50	30	200
10	GSM facilitates economic development and growth of other sectors of the economy like banking, education etc.	90	70	30	10	200
11	GSM business attracts foreign direct investment (FDI) in Nigeria.	100	90	6	4	200
12	With GSM technology, there is a boost in Small and Medium scale Entrepreneurships (SMEs) in Nigeria.	102	68	18	12	200
13	GSM technology facilitates crime reduction in Nigeria.	96	64	30	10	200
Column Total		678	516	138	68	1400

Source: field study

From the table above, 597 (85%) of the respondents answered in the agreement category, While 103 (15%) answered within the disagreement category.

**Table 4.7: Responses of the respondents on the impact of GSM on the people of Nigeria
(Reproduced from questionnaire 1)**

Questions	Descriptions	SA	A	SD	D	Row Total
9	The advent of GSM technology in Nigeria has helped to enhance business Operations in Nigeria.	52	43	3	2	100
10	With GSM technology in Nigeria, quality of life is enhanced.	37	33	18	12	100
11	The introduction of GSM provides job opportunities to the people of Nigeria.	58	40	0	2	100
12	GSM business now serves as a source of income to the people of Nigeria.	48	32	12	8	100
13	The advent of GSM has improved the standard of living of the rural dwellers and low income earners.	45	35	14	6	100
14	The emergence of GSM technology has helped to reduce rural- urban migration in Nigeria.	46	25	19	10	100
15	GSM facilitates easy access to communications in Nigeria.	64	36	0	0	100
Column Total		350	244	66	40	700

Source: field survey.

From the table 4.3 above, a total of 594 (85%) of the respondents answered in the agreement category, while 106 (15%) answered within the disagreement category.

Table 4.8: Responses on the challenges facing GSM Operating Companies in Nigeria.

Questions	Descriptions	SA	A	SD	D	Row Total
14	Inadequate electricity power supply to meet the needs of GSM operations is a major challenge facing GSM operating companies in Nigeria.	170	30	0	0	200
15	GSM operators have resorted to running their Base Transmission Station (BTS) with generators, and the consequent cost of maintenance and fueling is a big challenge.	100	90	6	4	200
16	Inadequate transmission infrastructure is one of the most challenging factors impeding the operations of GSM companies in Nigeria.	135	60	3	2	200
17	GSM companies in Nigeria are currently contending with high demands of taxes, levies, and other various charges at all levels and tiers of governments.	160	40	0	0	200
18	Lack of accessible road networks and other social amenities in most rural communities make it difficult for GSM companies to expand their network facilities.	125	70	3	2	200
19	Mobile telephone equipments used by GSM companies in Nigeria are imported and are subjected to high import duties and tedious clearance process which slows down network deployment	105	70	15	10	200

20	There is frequent vandalization of installations of GSM operators such as generator sets, Automatic Voltage Regulators (AVR), diesel, air- condition units etc, by the men of underworld.	100	80	12	8	200
Total Column		895	440	39	26	1400

Source: field survey.

From the table, 1335 (95%) of the respondents answered in agreement category, while 65 (5%)

Answered within the category of disagreement.

Test of Hypothesis 1

Ho: GSM operating companies do not facilitate economic development, increase GDP and attract foreign direct investment in Nigeria.

Hi: GSM operating companies facilitate economic development, increase the gross domestic product (GDP) and attract foreign direct investment (FDI).

To test the hypothesis, questions (7 – 13) from questionnaire (1) were used.

Table 4.9: A contingency table (reproduced from table 4.6) for hypothesis testing.

S/No	Description	Agreement Category	Disagreement Category	Row total
7	There is a dramatic increase in gross domestic product (GDP) since the introduction of GSM in Nigeria.	194(170.57)	6(29.43)	200
8	GSM companies generate revenue to the government of Nigeria.	200(170.57)	0(29.43)	200
9	GSM business promotes poverty reduction in Nigeria.	120(170.57)	80(29.43)	200
10	GSM facilitates economic development and growth of other sectors of the economy like banking, education etc.	160(170.57)	40(29.43)	200
11	GSM business attracts foreign direct investment (FDI) in Nigeria.	190(170.57)	10(29.43)	200
12	With GSM technology, there is a boost in Small and Medium scale Entrepreneurships (SMEs) in Nigeria.	170(170.57)	30(29.43)	200
13	GSM technology facilitates crime reduction in Nigeria.	160(29.43)	40(29.43)	200
	Column total	1194	206	1400

Chi- square (χ^2) table.

Cell	O _i	E _i	O _i – E _i	$\frac{(O_i - E_i)^2}{E_i}$
1	194	170.57	23.43	3.22
2	6	29.43	-23.43	18.65
3	200	170.57	29.43	5.08
4	0	29.43	-29.43	29.43
5	120	170.57	-50.57	15.00
6	80	29.43	50.57	86.90
7	160	170.57	-10.57	0.66
8	40	29.43	10.57	3.80
9	190	170.57	19.43	2.21
10	10	29.43	-19.43	12.83
11	170	170.57	-0.57	0.00
12	30	29.43	0.57	0.01
13	160	170.57	-10.57	0.66
14	40	29.43	10.57	3.80
Total	1400	1400	0	182.25

$$DF = (r - 1)(c - 1)$$

$$= (7 - 1)(2 - 1)$$

$$(6)(1) = 6$$

$$\text{Level of significance} = 0.05$$

$$\chi^2_6 \text{ under } 0.05 = 12.59 \text{ (Critical chi- square value)}$$

$$\text{Calculated chi- square } \chi^2 = 182.25$$

Decision:

If the calculated value of the test hypothesis is less than or equal to chi- square χ^2 critical value, accept the null hypothesis.

Therefore, since the observed or calculated (182.25) is greater than the critical value (12.59), the null hypothesis was rejected, thus accepting the alternative hypothesis which states that GSM facilitates economic development, increase gross domestic product (GDP) and attracts foreign direct investments (FDI) in Nigeria.

Testing of Hypothesis II

H₀: The introduction of GSM technology does not enhance business operation, quality of life and offer employment opportunities to Nigerians.

H₂: The introduction of GSM technology enhances business operation, quality of life and offer employment opportunities to Nigerians.

To test hypothesis (ii), questions (9 – 15) from questionnaire (1) were used.

Table 5.0: A contingency table (reproduced from table 4.7) for hypothesis testing.

S/No	Description	Agreement Category	Disagreement Category	Row total
9	The advent of GSM technology in Nigeria has helped to enhance business operations in Nigeria.	95(85)	5(15)	100
10	With GSM technology in Nigeria, quality of life is enhanced.	70(85)	30(15)	100
11	The introduction of GSM provides job opportunities to the people of Nigeria.	98(85)	2(15)	100
12	GSM business now serves as a source of income to the people of Nigeria.	80(85)	20(15)	100
13	The advent of GSM has improved the standard of living of the rural dwellers and low income earners.	80(85)	20(15)	100
14	The emergence of GSM technology has helped to reduce rural- urban migration in Nigeria.	71(85)	29(15)	100
15	GSM facilitates easy access to communications in Nigeria.	100(85)	0(15)	100
	Column total	594	106	100

Chi- square (χ^2) table.

Cell	O _i	E _i	O _i – E _i	$\frac{(O_i - E_i)^2}{E_i}$
1	95	85	10	1.18
2	5	15	-10	6.67
3	70	85	-15	2.65
4	30	15	15	15.0
5	98	85	13	2.00
6	2	15	-13	11.3
7	80	85	-5	0.29
8	20	15	5	1.67
9	80	85	-5	0.29
10	20	15	5	1.67
11	71	85	-14	2.31
12	29	15	14	13.1
13	100	85	15	2.65
14	0	15	-15	15.0
Total	700	700	0	75.78

$$DF = (r - 1)(c - 1)$$

$$= (7 - 1)(2 - 1)$$

$$(6)(1) = 6$$

$$\text{Level of significance} = 0.05$$

$$X^2_{6 \text{ under } 0.05} = 12.59 \text{ (Critical chi- square value)}$$

$$\text{Calculated chi- square } X^2 = 75.78$$

Decision: If the calculated value of the test hypothesis is less than or equal to chi- square X^2 critical value, accept the null hypothesis.

Meanwhile, the observed or calculated (75.78) value is greater than the critical value (12.59), hence, the null hypothesis was rejected, thus accepting the alternative hypothesis which states that the introduction of GSM technology enhances business operation, quality of life and offer employment opportunities to Nigerians.

Testing of Hypothesis III

HO: Inadequate power supply; transmission infrastructural problems; high import duties and tedious clearance process; vandalization of network installations; lack of accessible road networks; etc, are not some the challenges facing GSM operating companies in Nigeria.

H3: Inadequate power supply; transmission infrastructural problems; high import duties and tedious clearance process; vandalization of network installations; lack of accessible road networks; etc, are some of the challenges facing GSM operating companies in Nigeria.

To test the hypothesis (III), questions (14- 20) from questionnaire (2) were used.

Table 4.7: A contingency table (reproduced from table 4.8) for hypothesis testing.

S/no	Description	Agreement Category	Disagreement Category	Row total
14	Inadequate electricity power supply to meet the needs of GSM operations is a major challenge.	200(190.7)	0(9.3)	200
15	GSM operators have resorted to running their Base Transmission Station (BTS) with generators and the consequent cost of maintenance and fueling is a big challenge.	190(190.7)	10(9.3)	200
16	Inadequate transmission infrastructure is one of the most challenging factors impeding the operations of GSM companies in Nigeria.	195(190.7)	5(9.3)	200
17	GSM companies in Nigeria are currently contending with high demands of taxes, levies, and other various charges at all levels and tiers of governments, thereby leading to double and regressive taxations.	200(190.7)	0(9.3)	200

18	Lack of accessible road networks and other social amenities in most rural communities make it difficult for GSM companies to expand their network facilities.	195(190.7)	5(9.3)	200
19	Mobile telephone equipments used by GSM companies in Nigeria are imported and are subjected to high import duties and tedious clearance process which slow down network deployment.	175(190.7)	25(9.3)	200
20	There is frequent vandalization of installations of GSM operators such as the generator sets, Automatic Voltage Regulators (AVR), diesel, air- condition units etc, by the men of underworld.	180(190.7)	20(9.3)	200
	Column Total	1335	65	1400

Chi- square (χ^2) table.

Cell	O _i	E _i	O _i – E _i	$\frac{(O_i - E_i)^2}{E_i}$
1	200	190.7	9.3	0.45
2	0	9.3	-9.3	9.30
3	190	190.7	-0.7	0.00
4	10	9.3	0.7	0.05
5	195	190.7	4.3	0.10
6	5	9.3	-4.3	2.00
7	200	191	9.3	0.45
8	0	9	-9.3	9.30
9	195	191	4.3	0.10
10	5	9	-4.3	2.00
11	175	190.7	-15.7	1.30
12	25	9.3	15.7	26.50
13	180	190.7	-10.7	0.60
14	20	9.3	10.7	12.31
Total	1400	1400	0	64.46

$$DF = (r - 1) (c - 1)$$

$$= (7 - 1) (2 - 1)$$

$$= (6) (1) = 6$$

$$\text{Level of significance} = 0.05$$

$$X^2_{6 \text{ under } 0.05} = 12.59 \text{ (Critical chi- square value)}$$

$$\text{Calculated chi- square } X^2 = 64.46$$

Decision:

If the calculated value of the test hypothesis is less than or equal to chi- square X^2 critical value, accept the null hypothesis.

However, the observed or calculated (64.46) is greater than the critical value (12.59), hence the null hypothesis was therefore rejected, thus the alternative hypothesis which states that Inadequate power supply; transmission infrastructural problems; high import duties and tedious

clearance process; vandalization of network installations; lack of accessible road networks; etc, are some of the challenges facing GSM operating companies in Nigeria was accepted.

CHAPTER FIVE

5.0: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.

5.1: SUMMARY OF FINDINGS:

The following are the major findings of the study:

1. GSM operating companies facilitate economic development, increase the gross domestic product (GDP) and attract foreign direct investment (FDI) to Nigerian economy. Test of hypothesis (I) approved this, $89.82 > 12.59$.
2. The introduction of GSM technology enhances business operation, quality of life and offers employment opportunities to Nigerians. Test of hypothesis (II) approved this, $75.78 > 12.59$.
3. Inadequate power supply; transmission infrastructural problems; high import duties and tedious clearance process; vandalization of network installations; lack of accessible road networks; etc, are some of the challenges facing GSM operating companies in Nigeria. Test of hypothesis (III) approved this, $66.42 > 12.59$.

5.2: CONCLUSIONS

Based on the findings of the study, the researcher concludes that the deregulation of the Nigerian telecommunication sector, hence, the introduction of GSM technology has made very significant positive impact on the economic situations of Nigeria.

5.3: RECOMMENDATIONS

From the findings presented above, the following recommendations were made.

1. Government of Nigeria should expand tele-density and directly make telephone communications cheaper and accessible. To achieve this goal, more licenses should be given to GSM operators in order to allow for healthy competition among the GSM operators as this will help to improve quality of services, quality of product, and consequently increase employment opportunities in the country.
2. Government should also provide the necessary economic infrastructure (particularly power supply) to the GSM operators in order for them to deliver efficient services and be able to reduce their call charges.

3. Government should equally encourage local manufacture of GSM operating equipments and components.

4. Finally, government should strengthen the security apparatus in the country so as to be able to protect GSM installations from vandalization by men of the underworld.

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APPENDIX

Department of Management,
Faculty of Business Administration,
University of Nigeria,
Enugu Campus.
20th May, 2011.

Dear Respondent,

I am a post-graduate student currently carrying out a study on evaluating the impact of GSM operating companies on Nigerian economy. Please, kindly study the questionnaire and supply all the information required. You are also required to tick [] in the boxes provided against your choice of answer.

Finally, please note that all information given would be strictly treated with utmost confidentiality.

Yours faithfully,

.....

Anioke Chigozie Calistus.

QUESTIONNAIRE 1: For GSM subscribers in Enugu

Instruction: please kindly tick [] against the option (s) chosen.

SECTION A

1. Sex: (a) Male [] (b) Female []

2. Age: (a) 18- 25 [] (b) 26-35 [] (c) 36- 45 []
(d) 46 years and above []

3. Marital Status: (a) Married [] (b) Single [] (c) divorced []

4. Educational Qualifications: (a) SSCE/GCE [] (b) OND/NCE []
(c) B.Sc/HND [] (d) M.Sc/MBA/Ph.D []

5. How long have you been using GSM telephone in Nigeria?
(a) 1-2 years [] (b) 3-5 years [] (c) 6- 8years [] (d) 8-10 years []

6. Do you agree that GSM service is preferred to Fixed/wireless service in Nigeria?
(a) Strongly Agree [] (b) Agree [] (c) Strongly Disagree [] (d) Disagree []

7. GSM subscribers encounter problems such as inter- connectivity problems, network failure, high tariff, call and drop problems etc, with GSM services in Nigeria? (a) Strongly Agree []
(b) Agree [] (c) Strongly Disagree [] (d) Disagree []

8. Would you agree that there is competition in the Nigerian GSM market?
(a) Strongly Agree [] (b) Agree [] (c) Strongly Disagree []
(d) Disagree []

Objective 2: To Determine The Impact of GSM on The People of Nigeria.

S/No	Questions	SA	A	SD	D	Undecided
9	The advent of GSM technology in Nigeria has helped to enhance business operations in Nigeria.					
10	With GSM technology in Nigeria, quality of life is enhanced.					
11	Introduction of GSM provides job opportunities to the people of Nigeria.					
12	GSM business now serves as a source of income to the people of Nigeria.					
13	The advent of GSM has improved the standard of living of the rural dwellers and low income earners.					
14	The emergence of GSM technology has helped to reduce rural- urban migration in Nigeria.					
15	GSM facilitates easy access to communications in Nigeria.					

QUESTIONNAIRE 2: For GSM Operating Companies in Enugu.

Instruction: please kindly tick [] against the option (s) chosen.

SECTION A

1. Sex: (a) Male [] (b) Female []

2. Age: (a) 18- 25 [] (b) 26-35 [] (c) 36- 45 []
(d) 46 years and above []

3. Marital status : (a) Married [] (b) Single [] (c) Divorced []

4. Educational Qualifications: (a) SSCE/GCE [] (b) OND/NCE []
(c) B.sc/HND [] (d) M.Sc/MBA/PhD []

5. Which GSM company do you work with? (a) MTN Nig Ltd []
(b) GLOBACOM Nig Ltd [] (c) AIRTEL Nig Ltd []

6. What category of staff are you? (a) Junior Staff [] (b) Senior Staff []
(c) Management staff []

Objective 1: To Ascertain the Impact of GSM Operating Companies on Nigerian Economy.

S/No	Questions	SA	A	SD	D	Undecided
7	There is a dramatic increase in gross domestic product (GDP) since the introduction of GSM in Nigeria.					
8	GSM companies generate revenue to the government of Nigeria.					
9	GSM business promotes poverty reduction in Nigeria.					
10	GSM facilitates economic development and growth of other sectors of the economy like banking, education etc.					
11	GSM business attracts foreign direct investment (FDI) in Nigeria.					
12	With GSM technology, there is a boost in Small and Medium scale Entrepreneurships (SMEs) in Nigeria.					
13	GSM technology facilitates crime reduction in Nigeria.					
Objective 3: To identify the challenges facing GSM companies operating in Nigeria.						
14	Inadequate electricity power supply to meet the needs of GSM operations is a major challenge.					
15	GSM operators have resorted to running their Base Transmission Station (BTS) with generators and the consequent cost of maintenance and fueling is a big challenge.					
16	Inadequate transmission infrastructure is one of the most challenging factors impeding the					

	operations of GSM companies in Nigeria.					
17	GSM companies in Nigeria are currently contending with high demands of taxes, levies, and other various charges at all levels and tiers of governments.					
18	Lack of accessible road networks and other social amenities in most rural communities make it difficult for GSM companies to expand their network facilities.					
19	Mobile telephone equipments used by GSM companies in Nigeria are imported and are subjected to high import duties and tedious clearance process which slow down network deployment.					
20	There is frequent vandalization of installations of GSM operators such as generator sets, Automatic Voltage Regulators (AVR), diesel, air- condition units etc, by the men of underworld.					

