

**THE REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY**

**THE IMPACT OF GLOBAL ECONOMIC CRISIS TO ICT
USERS IN NIGERIA**

Master's Thesis

ABUBAKAR GARBA MUSA

ISTANBUL, 2017

**THE REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY**

**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
INFORMATION TECHNOLOGY**

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Thesis Supervisor: Asst. Prof. Dr. Yucel Batu SALMAN

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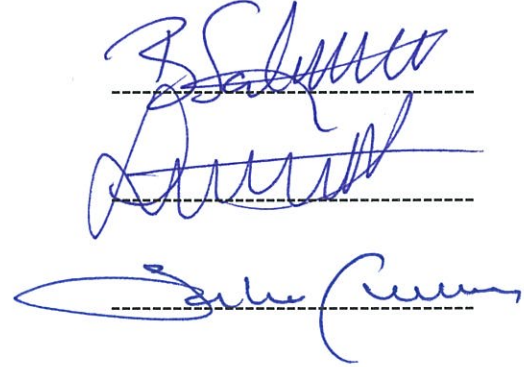
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Signature



DEDICATION

To my Parents

To Alh. Lawal Ahmad

They always picked me up on time
And encourage me to go on every adventure
Especially this one.

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Asst. Prof. Dr. Yucel Batu SALMAN has been the ideal thesis supervisor. His sage advice, insightful criticism and patient encouragement aided the writing of this thesis in innumerable ways, thank you sir.



ABSTRACT

THE IMPACT OF GLOBAL ECONOMIC CRISIS TO ICT USERS IN NIGERIA

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Information and Communication Technology is having a dramatic influence on almost all areas of human activities and one of the areas this influence is most manifested is the economy. The main objective of research examined how the global economic crisis impacted the ICT users in Nigeria and the study covered every area of ICT used in Nigeria and its effects on the economy, methods used, statement of the problems, solutions and ways identified which can contribute to the economic growth and development. Questionnaire was used in gathering the data, the data was analyzed using SPSS. Based on the research it is recommended to introduce a functional ICT policy in Nigeria and improve the accessibility beyond the urban areas; and this research will serve as a resource base to other scholars interested in carrying out further research in the field.

Keywords: Information and Communication Technology, Economy, Nigeria.

ÖZET

KÜRESEL EKONOMİK KRİZİN NİJERYA'DAKİ BT KULLANICILARI ÜZERİNDEKİ ETKİSİ

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Bilgi Teknolojisi

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Bilgi ve İletişim (Bilişim) Teknolojisi insan etkinliklerinin neredeyse tüm alanları üzerinde esaslı biçimde etki etmektedir ve bu etkinin kendini en çok belli ettiği alanlardan biri de ekonomidir. Bu araştırmanın ana amacı küresel ekonomik krizin Nijerya'daki BT kullanıcılarını nasıl etkilediğini irdelemek olup, çalışmanın kapsamına Nijerya'da kullanılan tüm BT alanlarının yanı sıra ekonomi üzerindeki etkileri, kullanılan yöntemler, karşılaşılan problemlerin dile getirilme biçimi, çözüm yolları ve ekonomik büyüme ve kalkınmaya katkı yapabilecek yaklaşım biçimleri de girmektedir. Veri toplamada anket formuna başvurulmuş olup, toplanan veriler SPSS kullanılarak analiz edilmiştir. Bizim önerimiz Nijerya'da işlevsel bir BT politikasının uygulamaya konulması ve erişebilirlik düzeyinin kentsel alanların ötesine taşınması yönündedir; bu araştırma sahada yeni araştırmalar gerçekleştirmeyi düşünebilecek başka bilim insanları için bir kaynak çalışma işlevi görecektir.

Anahtar Kelimeler: Bilgi ve Teknoloji (Bilişim) Teknolojisi, Ekonomi, Nijerya.

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ABBREVIATIONS

CCTV	:	Closed Circuit Television
CEO	:	Chief Executive Officer
CIA	:	Central Intelligence Agency
EU	:	European Union
FDI	:	Foreign Direct Investment
GDP	:	Gross Domestic Product
GPI	:	Global Peace Index
GSM	:	Global System for Mobile Communication
ICT	:	Information and Communications Technology
IMF	:	International Monetary Fund
ISP	:	Internet Service Providers
IT	:	Information Technology
JAMB	:	Joint Admission and Matriculation Board
OECD	:	Organization for Economic Co-operation and Development
PC	:	Personal Computer
PSCS	:	Public Security Communication System
NGN	:	Next Generation Networks
NTP	:	National Telecommunication Policy
WB	:	World Bank
3G	:	Third Generation

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

“Information and communication technology (ICT) offers the promise of fundamentally changing the lives of much of the world’s population. ICT impacts governance, businesses, people and the standards of our natural and built environment. The development of internationally comparable ICT statistics is very vital for governance, to design, implement, monitor and evaluate ICT policies” (Madueme, 2010).

Information and Communication Technology (ICT) is the backbone in the organizational competitiveness of the contemporary business environments. The impact of Information and Communication Technology can be felt on almost all areas of human activities and one of the areas of economic activities in which this influence is most manifested is the banking sector. The banking sector is very vital for the economy which makes indispensable contributions to the pace of economic growth and development of nations (Ajayi, 2003).

However, this study tries to analyze the effect of global economic crisis to ICT users in Nigeria. We are in the midst of crisis that has severely shaken the global financial system, this could lead to a transformation of the global economy, its institutions and its industries. Although the interim period can be difficult, the result could be a more sustainable future and information and communication technologies (ICT) have a vital role to play in creating it.

Equipment manufacturers are in the front line of the battle. But the good news is that, although business has been damaged, the ICT sector is dealing with the onslaught better than most. Already, it has been undergoing a transition to next-generation networks (NGN) and converged services. Financial difficulties could transform the sector further by creating new opportunities for future potential technologies, necessity is the mother of all inventions.

Telecommunication companies are also responding by taking a diligent approach to cost control, rather than seeking to reduce capital expenditure according to the analysts Informa Telecoms and Media Group. For mobile operators, the incremental cost of upgrading third

Generation (3G) networks is low. Also, the networks can be shared in order to boost coverage and at the same time cut costs Vodafone, for instance says that only 32 per cent of its 3G network is being used.

Fixed-line operators, too, could see increased sharing of networks, as financial necessity causes them to take a more flexible stance. There may be postponement of some projects to upgrade networks to optical fiber, nevertheless according to Informa most operators acknowledge that investment is paramount to ensure that network quality is not compromised by congestion.

Earlier in 2000, the Government of Nigeria at the federal level rolled out some driving reforms in the direction of the arrangement of more effective administrations in the country through its privatization and deregulation strategies in the ICT sectors. The strategy flourishes prompted the foundation of National Telecommunication Policy (NTP) in December 2001. These strategies, in addition to other things, give room for the foundation of an empowering situation for the deregulation and fast development of the telecommunication services across the country. The statement of purpose of the administration was to utilize ICTs for creation of wealth, instruction, global competitiveness, innovation, poverty eradication, and job creation. The approach objectives were to grow comprehensively aggressive quality labor in ICTs and related orders. This involves building up a pool of ICT engineers, researchers, professionals and programming designers. Consequently, appealing vocation openings will rise notwithstanding improvement of software and computer hardware's that can earn the country some foreign investments. The implementation of these ICTs policies led to the adoption of Global System for Mobile (GSM) Communications and its related components in Nigeria.

Towards the end of January 2009, Microsoft Corporation announced that it would cut 5000 jobs (about 5 per cent of the workforce) for the first time in the firm's history. This reflects a slowdown in the market for computer hardware and commercial software that began before the financial crisis. It shows up, too, in the market for microchips. In November 2008, for example, chip manufacturer Intel announced lower revenues, affected by significantly weaker than expected demand.

These results could signal a change in the landscape, with users wanting smaller, cheaper computers and free, open-source software. For example, the new notebooks continue to be popular. Notebooks are inexpensive portable computers that allow people to access the full functions of the Internet, compared with a mobile phone. Professional services provider Deloitte Touche Tohmatsu estimates that from about zero deals in 2007, to upwards of 50 million units could be sold in 2009.

One provider of free computer applications is the Internet Company, Google. It reported a 32-per-cent rise in revenues for the three months to the end of September 2008. We will manage Google for the long term, driving improvements to search and advertising, while investing in future growth areas, said CEO Eric Schmidt.

Google's free applications (such as the web browser Google Chrome, released in September 2008) are in the realm of cloud computing, where, as well as free software, there is a fast-growing market for commercial Software as a Service, or (SaaS). This entails a piece of software being provided and maintained via the Internet, eliminating the need to install or update it on the customer's own computer. It can reduce costs for companies including for server capacity, while allowing software vendors to establish ongoing revenue streams. And because the Internet makes SaaS a global resource, software developers can more easily find customers.

Established software providers need to respond with continuing investment in research and development, Microsoft CEO Steve Ballmer commented in a speech at the International Consumer Electronics Show held in Las Vegas, United States, in January 2009. Companies and industries that continue to pursue innovation during tough economic times will achieve a significant competitive advantage, positioning themselves for growth far more effectively than companies that hold back, he said. No matter what happens with the economy, or how long this recession lasts, I believe our digital lives will only continue to get richer. There really is no turning back from the connected world and the pace of technological advance (Mr. Ballmer 2009).

In Nigeria, provision of public infrastructure is grossly inadequate and poor. Vital telecommunication services, as well as public infrastructures needed for meaningful investment are lacking and, where found, are exorbitant and teledensity in Nigeria is still very low.

The presentation of the GSM in Nigeria was intended to extend teledensity across the country and to make these services less expensive and available to the lower-class individuals as it had been presented in some African nations like Morocco, Ghana, Tanzania, and South Africa among others. GSM is ICT based telecommunication that can add to the development and improvement of any country. These Telecommunication systems have created indispensable impacts on the gross domestic product (GDP) of Nigeria in terms of connectivity, security of lives, cut transportation cost, job creation, and communication linkages among others.

1.2 OBJECTIVES OF THE STUDY

The general target of this research is to examine the effect of global economic crisis to ICT users in Nigeria and with focus on these goals:

- a) To examine the important ICT tools in the Nigeria economy.
- b) To identify ways by which ICT can assist in curbing the economic crisis in Nigeria.
- c) To outline of some the factors restricting the utilization of ICT in all divisions of the Nigerian economy.

The research questions are listed below.

- a) What are the significant ICT tools in the Nigerian economy?
- b) What ways ICT can contribute to curb economic crisis in Nigeria?
- c) What are the factors responsible for under-using ICT in Nigerian economy?

The findings will be a useful guide to scholars, policy makers and the general public on how ICT can be used as a tool for curbing economic crisis in Nigeria. This thesis work will be a gateway to researchers interested in carrying out further research on Nigeria. This study on the impact of global economic crisis to ICT users in Nigeria will focus on area of ICT that is used in Nigeria and its impact on the economic growth and development.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The nature of the global crisis is always skeptical, the global economy has been hit by the aftermath of the financial meltdown that started with the sub-prime mortgage crisis in the U S A, Europe, Asia and then other parts of the world (Sanusi 2009).

The growing confusion to differentiate the global crisis from either a political dilemma, economic problem, or clash of ideas even makes the situation more skeptical. The speed at which the crisis is impacting the economic activity around the globe is astonishing, the 34-member OECD countries are long mostly in recession, and Asia's growth is controversially slowing more rapidly than expected since 1990 (Summers 2006).

Projecting and evaluating the enormity of the crisis has shaken the very foundations of the global financial institutions. The uncontrollable force of globalization which has torn apart the economic boundaries has not only wrecked all regulatory and protectionist powers of the state, but has outpaced and created uncertainty about the ability of the IMF to contain the crisis (World Bank, 2008). As the world economists, independently and jointly reveal their countries future, policies and programs has shown that the continued reign and existence of capitalistic ideology is seriously threatened. Regrettably, the crisis is further complexed by global concern issues the likes of climate change, volatile food and energy consumption (Commission for Social Development, 2009).

The telecommunications industry has become an economic power house as well as a social, educational, technological and medical platform globally. Accordingly, in the early 1980s and increasingly in the 1990s, the (WB) World Bank and (IMF) International Monetary Fund together have strategically positioned telecommunication networks as an economic power engine of many countries (Ojo, 2004). The telecommunication industry is not only critically important, but a significant benefactor in innovation, job creation, GDP and ease of doing businesses worldwide. Since the devastating global financial crisis, it is very important to step back and reflect on the effects on the telecommunication sector.

This research examines how the global economic crisis has impacted the telecommunications industry in Nigeria, adopting a multi-level approach, the impact of the global economic crisis

is first glanced, in terms of robustness of demand on services, revenues, earnings before interest, taxes, depreciation and amortization (EBITDA), Average Revenue Per User (ARPU), Operational Capital Expenditure and Operational Costs of vital telecommunications operators in Africa. At national level, the research focus on the effect of the crisis on the general economy plus impact on currencies, job losses and demand.

2.1 CONCEPT OF ICT

Both academicians and intellectuals have given different ICT definitions, it is an acronym that stands for Information and Communication Technology. Nevertheless, aside from explaining the acronym there is not a collectively accepted definition of ICTs because the concepts and methods of applications involved in ICTs are constantly unfolding on daily basis, so it's very hard to keep up with the evolution (Riley, 2012).

In order to understand the concepts regarding with the ICT in depth, it was broken down into its component constructs; (i) Information; (ii) communication (iii) technologies.

The best way to evaluate ICT is to focus on how digital technology that is already existing influenced the lives of individuals, businesses and organizations flow of information. ICT extents to any product that can store, process, retrieve, manipulate, transmit or receive information electronically in a digital form, for example personal computers (PC's), digital television, email and robots (Riley 2012).

In this way, one might say that ICT fundamentally includes the innovation, as well as the procedures of processing, storing, recovering, controlling, transmitting and getting of advanced information. Vitally, it is likewise worried about the way these distinctive subgroups can work together. Moreover, ICT likewise incorporates an assortment of computing equipment (PCs, servers, centralized computers, networked storage); the rapidly evolving individual gadgets market which comprise of smartphones, individual gadgets like iPad, MP3 players; the accumulation of utilization application software from the straightforward home-created spreadsheet to the unpredictable venture bundles and online

programming administrations. Moreover, it incorporates the equipment and programming expected to be a platform for systems to transmit data and the web which emerges as the significant driver of a large portion of the ICT. These Information and Communication Technologies are utilized for different purposes, including feasible improvement.

The use of ICT to practical advancement endeavors is exceptionally essential particularly in the domains of sustainable power source, water, natural preservation and, horticulture. Sustainability, be that as it may, is not without its difficulties as the thought of sustainability has prompted new knowledge into the difficulties of advancement where the way toward building unions and looking for normal motivation among partners with various interests moves toward becoming as imperative as the yield itself (Prabhakar and Basu, 2007). The World Commission on Environment and Development (The Brundtland Commission) defines sustainable development as the advancement which addresses the issues of the present without trading off the capacity of future eras to address their own issues. The big question is how could we facilitate sustainable development in ICT? Information may not be a universal remedy to hunger, neediness, ailments, lack of education, and so on. Be that as it may, the correct information at the ideal time, in any case, can achieve sustainable development when utilized fittingly with the greatest cooperation of partners. The characteristic estimations of ICT lie not in facilitating communication and flow of information yet rather in invigorating development and advancement through the help of virile and smooth financial exercises and additionally filling in as an impetus to economic improvement endeavors (Gladwin, et al 1995). In a nation like Nigeria where an immense segment of the populace lives beneath the destitution line (UNDP, 2012), ICT offers an opportunity to enable these individuals through imaginative social improvement and participatory utilization of ICT in agribusiness, instruction, tourism, advertising, wellbeing, confidence or religion, home administration, administration, and change them into beneficial human capital.

2.2 THE ROLE OF ICT IN BUSINESS PERFORMANCE

ICT influences financial development in three ways. To begin with, the hardware industry in ICT assumes an imperative part in some countries, although the impact is little in most countries. Having an ICT-delivering part can be critical, since the sector has been described by fast mechanical advancement and solid request. In, Ireland, Korea and Finland near 1 percent of the total work profitability development from 1996- 2001 period was because of ICT producing sector. In the United States, Japan and Sweden, the ICT producing industry additionally contributed essentially to profitability development. While the presence of an ICT producing sector can bolster development, this is not an essential to profit from ICT. Surely, the most critical advantages emerge from its successful utilization. Specifically, interest in the innovation adds to the capital stock that is accessible for specialists and in this manner, enables raise to work efficiency. Capital developing because of ICT speculation represented in the vicinity of 0.3 and 0.8 rate purposes of development in labor efficiency over the period 1995-2001. Canada and The United States got the biggest lift, the United Kingdom and Japan are having more unobtrusive one, while Italy, Germany, and France a significantly littler one.

In some countries, prominently Australia and the United States, there is prove that businesses that invest most in ICT, for example, wholesale and retail exchange, have encountered faster multi-factor efficiency (MFP) development. The utilization of ICT can enable firms to expand their general productivity in joining work and capital, or MFP. Faster MFP development may likewise be connected to organize impacts emerging from utilization of ICT, as these can prompt lower exchange expenses and more rapid advancement in innovation.

Point by point firm-level evaluation unveil that the utilization of ICT may enable effective firms to pick up piece of the pie to the detriment of less gainful firms, raising general efficiency. Furthermore, the utilization of ICT may enable firms to extend their item run, customize their services, upgrade their customer care service, to put it plainly, to advance. Besides, ICT may help lessen inventories or enable firms to coordinate exercises all through the esteem chain. Findings from the United Kingdom, shows that using e-commerce platforms can make a significant contribution to productivity.

Firm-level evaluations likewise demonstrate that ICT investment is just piece of a more extensive arrangement of changes that assist and improve execution. Investors that embrace ICT and e-business procedures and consolidate this with complementary investments like new skills and with hierarchical reforms, for example, new systems, new business strategies and new authoritative structures. These strategies regularly involve more notable obligation regarding singular specialists with respect to the substance and content of their work and, to some degree, prominent vicinity among the administration more and work (e.g. compliment administration structures). They likewise include a higher level of outsourcing and a more grounded concentrate by companies on their center qualities. Companies that adopt these strategies are more likely to gain more market share and higher productivity than other companies.

Investment in ICT takes time to affect, e.g. reforms in the hierarchical set-ups and specialist skills. Companies that embraced system innovations quite a while back, remarkably substantial firms, have regularly as of now possessed the capacity to make the innovation work, though later adopters are yet adjusting their hierarchy, administration and professionalism. Study in the United Kingdom, for instance, reveals that among the organizations that had officially embraced ICT innovations during or before 1995, more than half were utilizing electronic systems for obtainment by 2000. Interestingly, of the organizations that lone embraced ICT in 2000, less than 20% made purchases through electronic systems in 2000.

2.3 DEMYSTIFYING THE FINANCIAL CRISIS

The term monetary emergency is a wide term, which, all in all, is connected to an assortment of circumstances in which money related foundations or resources quickly lose a critical bit of their esteem. The term additionally alludes to conditions in which securities exchanges crash, there is a precarious deterioration of monetary standards, credit defaults happen, and other financial illusions burst, or recession sets in. The impacts of these financial crisis fall on both humans and financial industries related classification, making significant employment misfortunes to the latter and drops in foreign investment, trade income and volumes to the last mentioned.

Mishkin (1991) gives the accompanying meaning of a financial crisis: An interruption to monetary markets in which unfriendly determination and moral hazard problems turn out to be much more awful, with the goal that money related markets can't effectively channel assets to the individuals who have the most gainful venture openings. Subsequently, a financial crisis can control an economy far from a place of high monetary yield in which budgetary markets perform well to a circumstance in which financial yield forcefully decays. Subsequently, the signs of a worldwide monetary emergency are extensive financial stoppages in many nations (Te Velde, 2008).

2.3.1 The Economic Crisis and ICT

We are in the midst of a critical point that has severely shaken the global monetary framework. This could lead to a transformation of the global economy, its institutions and its industries. Although the interim period will be difficult, the result could be a more sustainable future and information and communication technologies (ICT) have a significant role to play in creating it.

Equipment manufacturers are in the front line of the battle. But the good news is that, although business has been damaged, the ICT sector is dealing with the onslaught better than most. Already, it has been undergoing a transition to next-generation networks (NGN) and converged services. Financial difficulties could transform the sector further by making new openings for nascent innovations. Necessity is the mother of invention.

Telecommunication companies are also responding by adopting a thorough strategy to cost control, rather than seeking to reduce capital expenditure, according to the analysts Informa Telecoms and Media Group. For mobile operators, the incremental cost of upgrading third-generation (3G) networks is low. Also, the networks can be shared in order to cut expenses and boost coverage (Vodafone, for instance, says that only 32 per cent of its 3G network is being used).

Fixed-line operators, too, could see increased sharing of networks, as financial necessity causes them to take a more flexible stance. There may be postponement of some projects to upgrade networks to optical fiber. Nevertheless, according to Informa, most administrators recognize that funding is indispensable to guarantee that system standards are not traded off by bottleneck.

2.4 GLOBAL IMPACT OF THE FINANCIAL CRISIS

The global economic catastrophe impacted all the economies, regardless of whether progressed, emerging economies or under-developed nations, in various ways. The IMF in 2009 attests that as the emergency created, development and exchange impacts started to impact all nations. Among others, recognized five key areas in which the global financial crisis has impacted the worldwide economy: declining genuine yield development; weakened budgetary frameworks; loss of employments; loss of trust in monetary markets prompting the diminished capacity of these establishments to do their intermediate role in the economy; and securities exchange misfortunes (Soludo 2009).

2.4.1 Declining Real Output Growth

The global financial crisis brought about a worldwide economic slowdown, pushing product costs lower. Products value drops as much as 40% were normal amid the stature of the global financial crisis and a valid example is copper and oil. Oil, a noteworthy global product observed its value plunge at the international market, wreaking harm on profit of oil exporting countries like Nigeria.

2.4.2 Falling FDI

The global financial crisis prompted more tightly credit conditions as budgetary foundations moved toward becoming more prudent in their loaning approach prompting a circumstance where credit moved toward becoming not so much plenteous but rather costlier. For transnational enterprises (TNCs) this brought about lower corporate benefits which compelled their capacity to carry out ventures for both local and foreign investments. Similarly, private capital streams to creating areas comprising essentially of FDI, altogether hindered, in the process devastating economies that had been depending on these foreign direct investments for significant infrastructure projects.

2.4.3 Weakened Financial Systems

At its stature, the financial crisis impacted banking, finance and credit markets bringing about the liquidation of some prominent global banks which had to be bailed by their individual governments, to prevent their fall. As opposed to the extreme effect of the financial crisis in other region's financial sectors, the impact on the African financial sector has been generally gentle. Not very many banks in Africa were straightforwardly exposed to shaky sheet exchanges, for example, securitization or subsidiaries, so Africa got away from the sub-prime and banking crisis, and did not require bank rescue plans (AERC, 2009).

2.4.4 Falling Remittances

As the financial crisis escalate, many people lost their jobs. This impacted numerous expatriate workers who do send money to their family and friends in their respective countries of origin, bringing about a drop-in remittance. Thus, most nations are encountering a slowdown in expatriate workers remittances because of the debilitating of economies in the West and in progressed African economies. Declining domestic and corporate spending keep on posing critical issues to tourism, impacting tourism incomes. The contracting global economy implied that both Official Development Assistance (ODA) and charity donations are all impacted. For instance, in Kenya, expatriate's remittances have been consistently falling from US\$61 million in October 2008 to US\$ 39 million in January 2009.

2.4.5 Collapse of Stock Markets Prices

The accomplishment of the stock exchange is one of the foremost pointers of the strength of any economy. The development of securities exchange lists is a pointer to future financial perspective. A falling stock index, for instance, mirrors the obscuring of the investment atmosphere while a rising stock index focuses to boost investors' confidence and soundness of the economy. In his paper, Te Velde recognized the stock exchange as a transmission channel of the global economic crisis to the economies of emerging countries, noticing that the global economic and financial crisis have plunged market values. At times, stock markets plunged by as much as 70% (Te Velde 2008).

2.5 CHALLENGES OF ICT USE FOR ECONOMIC EMPOWERMENT

Similarly, as in numerous different sectors of development (e.g., farming, well-being, and education), Nigeria faces gigantic difficulties to utilize ICT for their own economic strengthening. Utilizing and profiting from ICT requires getting the skills, learning, moderate access to the innovation, data important to the client and an incredible measure of help (to make empowering environment). The difficulties are numerous, and they fall in a couple of classifications. The accompanying is a discourse of some of these difficulties and how they impede ICT use for economic empowerment.

2.5.1 Affordable Access and Availability of Infrastructure

Access to reasonable services and accessibility of infrastructure is, point of fact, a noteworthy necessity if ICT are to be utilized for economic empowerment. While this talk concentrates on effect of global economic crisis on ICT clients, it is vital to take note of that there are other foundations and administration related elements that may impact the utilization of ICT, for example, accessibility of power, good road networks and security, among others.

2.5.2 Access to Telecommunications Infrastructure.

Broadcast communications infrastructure is basic in most developing countries and expenses are exceedingly high. The limited infrastructures available, are mostly moved to the bigger cities and services available are just moderate to a handful of the population. Bandwidth costs and transmission costs brought about by Internet Service Providers (ISP) are high and passed on to clients. In the countryside, infrastructure is nearly non-existing, and services are excessively costly to the poor populaces.

Because of moderate growth of basic telecommunications infrastructure, options such as mobile phones have expanded significantly and progressed toward becoming nearly substitutes for fixed lines, especially in developing countries. In numerous nations, for example, Bolivia, Venezuela, Uganda, South Africa and the Philippines, mobile phone teledensity has outperformed or achieved parallel levels as that of primary fixed lines. This pattern demonstrates that, regardless of the way that mobile phone services are costly, customers esteem the capacity to communicate.

2.5.3 Access to ICT

Access to ICT is exceedingly reliant on telecommunications infrastructure, especially if one is concentrating on telephone services, faxes, email and the Internet. Notwithstanding, the utilization of ICT is not just in view of these services. Radio, for instance, gives an awesome wellspring of information in many areas of the world, thus does Television. Where accessible, PCs might be utilized as a wellspring of information and an instrument for training without the utilization of telecommunications. The utilization of CD ROMs, for example, on account of the IDRC-IWTC CD-ROM for uneducated in Africa: Ideas for Earning Money both in English and vernacular, delineate that ICT can be utilized as a part of inventive routes and in ways that are more successful and reasonable than other solutions, for example, acquiring the information by means of the Internet.

Notwithstanding being utilized as powerful ICT for development, radio and TV ought to be considered and utilized to teach populaces on the advantages of utilizing ICT for development. Television and radio projects can be created to instruct women on different developmental issues, including the different employments of ICT and thusly, increase awareness and information on ICT utilization. Whenever possible, such projects ought to be produced and led by women and substance ought to mirror a sex delicate point of view. Radio and TV are imperative as they additionally tend give information in local dialects. In any case, it is essential to know about local, regional and national gendered constraints to information.

2.5.4 Cost of Access and Lack of Affordable Solutions.

Notwithstanding when infrastructure is available, reasonable access is not guaranteed in most developing countries. The current patterns in strategy to move from all-inclusive administration (one phone for each family unit) universal access policies (access to communications and ICT through community access points), reflect concerns identified with the cost of framework and additionally user's capacity to pay for the service, especially in countryside's and poor towns. All-inclusive access strategies aim at providing solutions that will bring community access at a reasonable price. New innovations have made these strategies more encouraging and many developing nations are putting resources into such

strategies. Extension of telephones and ICT access points (e.g., in post offices) are examples of these strategies. Telecenters have turned into an elegant solution for universal access, however even these projects don't guarantee affordable access. Most telecenters are business ventures that should be manageable and along these lines, charge for services in view of their costs, which, in addition to other things, reflect high communication levies, costly hardware, and pay rates. While manageability and notwithstanding profitability is possible in many areas, it is unrealistic in numerous different areas. The principle challenge lies in the capacity of supporters to impact the procedure and stakeholders to set up policies that will enhance access and prompt project success, for example, marked down taxes for telecenters and community access projects or potentially extraordinary sponsorship to finance projects until the point when demand is big enough to ensure sustainability. It is important to understand that demand for ICT depends on public enlightenment of the services and their capabilities as well as on training of users.

2.5.5 Language and Content Limitations.

Absence of local and community related contents and content in local languages keeps on being a noteworthy obstruction in the utilization of ICT for economic empowerment. The impact of ICT can only be felt when it provides the needed information and tools that address demand. Interactive media devices are fundamental, as they can be designed to give information both in speech and written languages. The strategy is to create content that is applicable and valuable to groups in their own mother tongue. Gender and ICT advocates must endeavor to guarantee that such contents are created, and funds are allocated for such projects.

2.6 ICT AND SECURITY CHALLENGES IN NIGERIA

The state of insecurity in Nigeria today is no news to anyone and although it can be blamed on some factors that have been left unchecked for a long time by both the Government and people of Nigeria but the level of insecurity in the country today is alarming and threatening to destroy Nigeria as a country which requires quick, adequate and a new strategy to deal with the security challenges plaguing the nation. Apart from food insecurity, sluggish economy; terrorism, weak healthcare system and others, security failures have eaten deep

into the fabrics of the country. The circumstance in Nigeria since the start of this decade has been challenging with the emergence of different militant and terrorist organizations that challenged in the most vicious form the government in power; the growing security challenges like the continuing radicalization of the youth by some disgruntled scholars; kidnappings, the culture of nepotism in the public affairs; ritual killings, and cultism; the corruption that has turned into the point of interest of both public and political class; the crippling economy that is forcing average Nigerian into poverty; and the decaying of social and political institutions in the country over the decade, more than anything demand for quick and lasting solutions that will at least reduce the security threats facing Nigeria today. The mission for stability and growth is, without question, the Holy Grail for Nigeria; a condition under which the nation would have the capacity to create establishments and structures with the ability to economic prosperity, fair dissemination of national wealth, political steadiness and responsibility. To do this effectively, be that as it may, requires minimizing threats both real and potential that can pose a threat to the national security. Correspondingly, there is the need for reassessment and improvement on the strategy of the institutions means of handling the security threats in the country. Apart from the role that has been played by the traditional security agencies, Information and Communication Technology (ICT) is now the focus to lead Nigeria in the new era of globalization and knowledge and consequently development to manage and possibly eradicate threats facing the nation as expressed by the following top law enforcement agents in Nigeria;

2.6.1 A Survey of the Security Challenges in Nigeria

The current security challenges facing the nation is profoundly embedded in its socio-political and financial institutions throughout the years. Challenges for example corruption, nepotism, extreme poverty, poor governance, lack of industrial infrastructures, mono economy, terrorism and joblessness pose a big threat both socially and economically, leading to outward migration of qualified working-class citizens in search of greener pasture.

At the point when the 2005 report of CIA anticipated the fall of Nigeria in around 15 years, nationalists and experts alike responded distinctively to the study, and today it seems their

prediction might come to pass looking at how different nations in the sub-region are developing and Nigeria is retrogressing despite its claim to democracy. The present general condition of uncertainty in Nigeria has now lent weight to the report. It must be reviewed that since the study was released, the emergence of several crisis generally in the north of the country, have additionally solidified the condition of uncertainty in the country. Some of the crisis are described below;

- a) The Niger Delta crisis; kidnapping was more proclaim in the Niger-Delta region until late President Musa Yar'adua stretched out an amnesty program to the militants.
- b) The emergence of the extremist Islamic group called Boko Haram which means against western education has gone beyond the educational philosophy but politically motivated by some elements that derived joy in seeing fellow human beings being slaughtered as domestic animals and rendered homelessly including several acts of bombings and killings. A huge number of security agents had put their lives on the line in shielding Nigerians from Boko Haram invasion.
- c) The bloodbath between ethnic groups and the political violence that follows almost every elections result.

2.7 SECURITY CHALLENGES AND ICT IN NIGERIA: TRENDS AND IMPLICATIONS

Security and Crime are major issues at all levels, globally, regionally and nationally. The Institute for Economics and Peace (IEP) compiled a Global Peace Index (GPI) for the year 2014 with data collated by the Economist Intelligence Unit (EIU). The GPI attempted to measure the relative position of nations and regions peacefulness, factors examined include; levels of violence and crime within the country and external relations such as military expenditure and wars. The GPI ranks 162 countries, covering 99.6 percent of the world's population. Disturbingly this year, Nigeria ranked 151 out of 162 countries (Global Peace Index, 2014).

The types of security issues now plaguing Nigeria not only include corruption, human trafficking, drug abuse, murders, kidnapping, burglaries but also the recurring spate of hapless killings and kidnappings in the north-eastern part of the country by the Boko Haram Sect that was designated by the United States as a terrorist organization in November 2013. In the past, Nigeria law enforcement agents were at least able to contain most of the security challenges they were faced with. The situation today is totally different with the availability of Internet-based data-exchange applications. While in the past, law enforcement was confronted with mostly physical and traditional paper-based evidence and reports, today the clear majority of discovered material is digital. Offenders are increasingly using network services to disseminate and carry out criminal activities.

The Declaration of Principles for the World Summit on the Information Society advocates the utilization of Information and Communication Technologies (ICTs) as a stage to advance manageable advancement and enhance the quality of life among individuals. Thought on the utilization of ICTs to battle Nigeria's security challenges is an essential area for harmonization and coordinated effort among different Government bodies and security agencies in the nation. Crime and security challenges are a global threat and must be perceived that as a nation with multiple ethnic and religious groups, these problems need collaboration in human capacity building in the use of ICTs, technology deployment and financial resources. It should likewise be perceived that the usage of ICTs for the viable nursing of crime and security concerns does not stop with the security agencies, but extends to the judiciary and ordinary citizens as a whole.

2.8 ICT AS A TOOL TO TACKLE SECURITY CHALLENGES IN NIGERIA

Security problems and different obstacles in the country are multi-dimensional in scope and nature. Conventionally, security and crime foundations all through Nigeria have worked bureaucratic, paper based establishments which has smothered the procedure of data sharing, it is along these lines critical to perceive that the customary methods for addressing the challenges should be extended to include new non-conventional threats. The utilization of ICT is gradually emerging a way to curb security issues in the country. All things considered

there are some number ICT platforms slowly taking shape in response to incidents that have impacted the country which will lay the foundation for further evaluation of regulatory mechanisms for handling crimes in the country some of them include: Automated Fingerprinting Information Systems (AFIS) e.g. the introduction of the fingerprint authentication platform for JAMB examination, registration for election, mobile banking, e-commerce, bank verification number. Also, various terrorist and security forces have been moving toward the implementation and to utilize ICT technology such as the Public Security Communications System (PSCS) have installed CCTV cameras in Lagos and Abuja, to monitor crimes and address criminality (Emma, 2013). However, there is a challenge of sustainability of these ICT projects after their installation; as most of the qualified ICT professionals who can handle them prefer to migrate to more developed countries for greener pasture.

ICT structures while fundamental are not sufficient to develop the professionalism that is needed to feasibly address the security threats. Fact finding has shown contemporary policing to be knowledge intensive work that requires the inculcating of knowledge management culture and the successful utilization of information administration platform across the country. Learning Management System (KM System) alludes to an IT based framework for overseeing information in organizations and supporting development, handling, storing and sharing of data. With the particular ultimate objective to make such environment, the followings are key;

- i. Research and Development.
- ii. Inculcating a culture of disseminating information as a procedure not an event.
- iii. Practicing advanced learning based administration.
- iv. Transforming the knowledge for use in decision making in the organization.
- v. Integrating knowledge administration with the association's central goal and values.

Though ICT's does not present a perfect solution to the security threats confronting Nigeria, it presents exceptionally suitable open doors for enhancing synergy endeavors to successfully handle the country's security challenges. In enlightening the variables for thought to set up a

compelling system for effective implementation in the area of crime and security using ICTs, it is informative to take a gander at the issues from a worldwide viewpoint, to recognize conceivable accepted procedures which can be contextualized and utilized as a part of Nigeria.

For example, to fight against electronic crime and corruption, the Kenyan Government propelled anti-fraud detection software to detect and minimize fraud done through the internet. This was convenient as another law was actualized to enable courts to acknowledge cases based on digital proof.

The Government of India has additionally expanded its planned investment on homeland security by setting up a National Investigation Agency to deal with cross border terrorism. There is likewise a website saferindia.com created to strengthen the police services and there is a push to move from defensive to proactive policing, including having a secured network with information administration and examination tools. It is perceived that the cyberspace is the least policed and subsequently there is a vital global coordinated effort with Interpol.

While in Europe and the UK, there is a strategy which encourage police utilizing ICT, common ICT services, technology and products. The Strategy incorporates the selection of a single innovative stage, adherence to a set of standards and strategies, sharing of best practices through a cluster structure and sharing of information and resources. The UK would likewise be part of more extensive European strategy where security is a priority is the subject of the EU Seventh Framework Program (FP7). The goal of the Security Theme is to build up the innovations and knowledge for building capacities expected to guarantee the security of citizens from threats, for example crime, minimizing natural disasters, terrorism while respecting human rights.

Perceiving that powerful administration of crime and security requires more than a conventional approach and more than the straightforward execution of technology, across the world, organizations engaged in crime and security threats are utilizing knowledge

management processes and frameworks to escalate the reaction to global, regional and national threats

Gottschalk in Stewart and Mansingh (2010) proposed a model which are particularly appropriate to a policing organization. While the depiction beneath applies to a solitary organization, it is suggested that this approach might be appropriate to improve security in Nigeria. The four phase Knowledge Management Systems Model are:

- a. Officer to Technology – In this stage people covered are equipped with ICT devices, which would include computers and other specialized gadgets that upgrade stream of information and individual proficiency in storing and recording information.
- b. Officer to Officer – This stage includes enhancing the sharing of information. In this model, information about who had any intelligence report is mapped and made available all through the crime and security network. This mapping of expertise takes the information from top to bottom.
- c. Officer to Information Stage – Data collected is stored for mining and examination, along these lines changing the data into a valuable asset which is used for multi-media dissemination and strategy counsel.
- d. Officer to Application Stage – The information caught from the data frameworks are applied to solve security threats.

The achievements of utilizing these sorts of models are well documented. By giving real-time, exact and brief information, by enhancing the proficiency with which information is gathered, analyzed and disseminated, these models can be utilized to diminish security challenges all through Nigeria. A few different groups of research give cases of the utilization of knowledge management frameworks to crime and security. Eminently Donalds and Osei-Bryson, utilizing the case of the Caribbean; Jamaica proposed a framework (Criminal Investigation Knowledge Systems CRIKS) which could be utilized to help security challenges. CRIKS proposes to have the capacity to help the security organizations in different ways: gathering, storing, easy recovery of information, intelligence, innovation and reports about criminal exercises gotten from great Samaritans, local and international security

offices will improve the investigative capacity of the neighborhood security agencies. (Donalds, Osei-Bryson).

The utilization of ICTs to empower viable management of crime and security in Nigeria isn't a one-time phenomenon, yet a procedure of constant advancement. The primary starting push of the system will be to thoroughly communicate the advantages of ICT and adoption inside the information administration structure to empower better security at the borders and the general population in Nigeria. Among the primary advantages are:

- i. Improvement in clarity, openness and accountability of those responsible for crime. For instance, cooperating with citizens in strategy making can be enhanced through ICT.
- ii. Adoption and utilization of technology alongside re-designing the organization will prompt expanded proficiency and enhance public trust in the crime management structure.
- iii. ICTs will empower revolting cooperation in the global data network, which is fundamental given the trans-border nature of crime.

2.9 THEORITICAL FRAMEWORK

The contemporary IT revolution, appropriately caught by the foundation and openness to a global networking of information systems, has unequivocally influenced time and space in the sending and recovering of information, both within and across different organizations and moreover among various countries and regions. This improvement has accomplished remarkable changes in the course which decisions are come to and strategies completed in those organizations. Countries with advanced ICT systems, emerging from innovations in information technology, have made practicable on-line access to an assortment of emerging from innovations in information technology, and have changed the world into a virtual environment. In encouraging the move towards a more open and comprehensive global platform, the overall spread and utilization of innovations in IT, have no doubt made enormous contributions to the global search for efficient and effective solutions to pressing and often complex, local, regional and global problems. This is a key component in the

worldwide mission for sustainable national and regional development in developing countries. The dissemination of IT innovations, manifested in a tremendously enhanced computing and digital capacity, has for the most part been frail in Africa, particularly in the sub-Saharan African region. In any case, a solid enthusiasm for its appropriation to give information services has emerged lately in Africa for two fundamental reasons. To start with, the IT revolution has brought about access to computer cheaper and widely available. Besides, the considerable utility esteem added to IT in the provision of, and access to information services for advanced strategy and management, has become more widely recognized.

Innovation dissemination in the beneficiary countries is a multi-organize procedure which initiates with procurement of the innovation and lastly, the establishment, utilization and assimilation of the innovation. The assimilation procedure is the most significant, because it includes integrating with the community. Decades ago, the disappointment experienced by many developing countries, including Nigeria, which have imported foreign technologies worth billions of dollars, has been traceable to failure in the integration process. Henceforth, our structure is prefaced on the predominant condition in Nigerian organizations and how the innovation of electronic systems administration can be effectively adjusted for the successful and productive administration of these organizations.

There are three expansive classes of new emerging innovations that are applying profound progressing sway on industry, services and community in general. These are: IT, biotechnology, new materials and sustainable energy sources. Out of the three, just a single has encountered the most rapid development and taken the field of microelectronics, informatics, data processing and communications, into areas of life which just a couple of years prior were an exclusive preserve of space and advanced manufacturing systems. These emerging innovations share certain generic attributes, one of which is their knowledge intensiveness, research and development (R&D) intensiveness. All together thusly to provide a framework for proper assessment, strategic planning and long-term investment in R&D and production, a proper taxonomy is desirable and provides such taxonomy of technical innovations (Dosi et al 1988).

- i. Incremental innovations: It happen consistently over long period of time and at various stages of innovations, are usually focused on improving an existing product's development efficiency, productivity and competitive differentiation. Regularly, incremental innovations remain unnoticed, however their joined impacts are enormous to productivity growth.
- ii. Disruptive innovations: They are intermittent occasions and frequently because of deliberate R&D exercises inside firms and enterprises. At the point when radical innovations happen, they give the drive for new markets. An illustration is the oxygen steel-production, with which the Japanese picked up a market advantage over the USA and Europe after World War II.
- iii. Change of technology system: The prepared cases are the clusters of petrochemicals and manufactured material innovations, and electrically driven household consumer durable electronics that were introduced in the 1930s to 1950s. Clearly, this class of innovation impacts broad changes in technology influencing financial institutions, and offering ascend to totally new sectors.

3. RESEARCH METHODOLOGY

The analyst makes an endeavor to give a point by point clarification on the pattern of research design chosen for study. A distinctive description of the population is made which was adopted for this research study and corresponding sample sizes and sampling procedures used. Strategies utilized in gathering data is described and the reason for choosing such methods. The analyst likewise portrayed procedures or strategies for data presentation and analysis.

3.1 RESEARCH DESIGN

Because of the need for a comprehensive and yet simple research work, the researcher adopted a descriptive research method. A descriptive research method is widely used where the subject matter of the study such as the one chosen in this research work requires an in-depth description of event, variables, phenomenon and observable feature. The survey design was adopted for this study in order to cover the study of the population.

3.2 DESCRIPTION OF THE POPULATION

A population in a research work largely refers to the total number of factors to be considered in the research work. Where the research work is examined in an organization, the population in such a research work therefore covers the entire member of such organization. In this research work the description of the population uses refers to the entire staff and members of some selected ministries in Nigeria.

Because of the largeness of the population size of the organization under review, a sample size will be drawn to enable the researcher to have an accessible data. Sample size in a research work is done with the intention of reducing the large population into a hand few and testable number of respondent. The sample size that was adopted for this research work is 145. The sample size was drawn from officials of Ministries in Nigeria.

3.2.1: Gender Distribution

Here the participants were asked of their sex and close observation shows that there is a significant variation in the distribution by gender of the population as shown in table below:

Table 3.1: Gender statistics.

Statistics		
Gender of the participants		
N	Valid	145
	Missing	0
Mean		1.72
Median		2.00
Mode		2

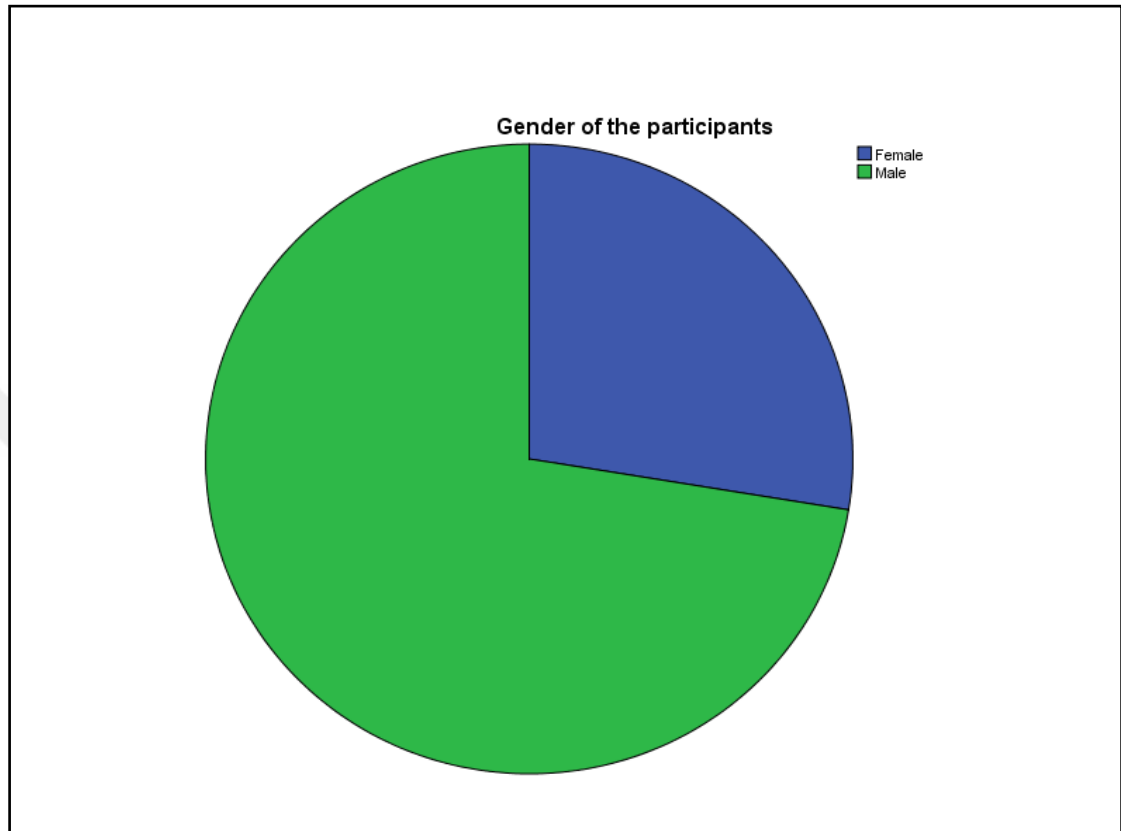
The gender statistic shows the valid number of the participants 145, with a mean of 1.72, median of 2.00 and a mode of 2.

Table 3.2: Gender frequencies

Gender of the participants				
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	40	27.6	27.6	27.6
Valid Male	105	72.4	72.4	100.0
Total	145	100.0	100.0	

40 out of the 145 participants are females which represent 27.6% and 105 are males with represent 72.4% of the population.

Figure 3.1: Gender percentages.



3.2.2: Marital Status

Here participants were asked of their marital status and observation shows that there is a close variation in the distribution as shown in the table below:

Table 3.3: Marital status statistics.

Statistics		
Participants Marital Status		
N	Valid	145
	Missing	0
Mean		3.59
Median		4.00
Mode		4

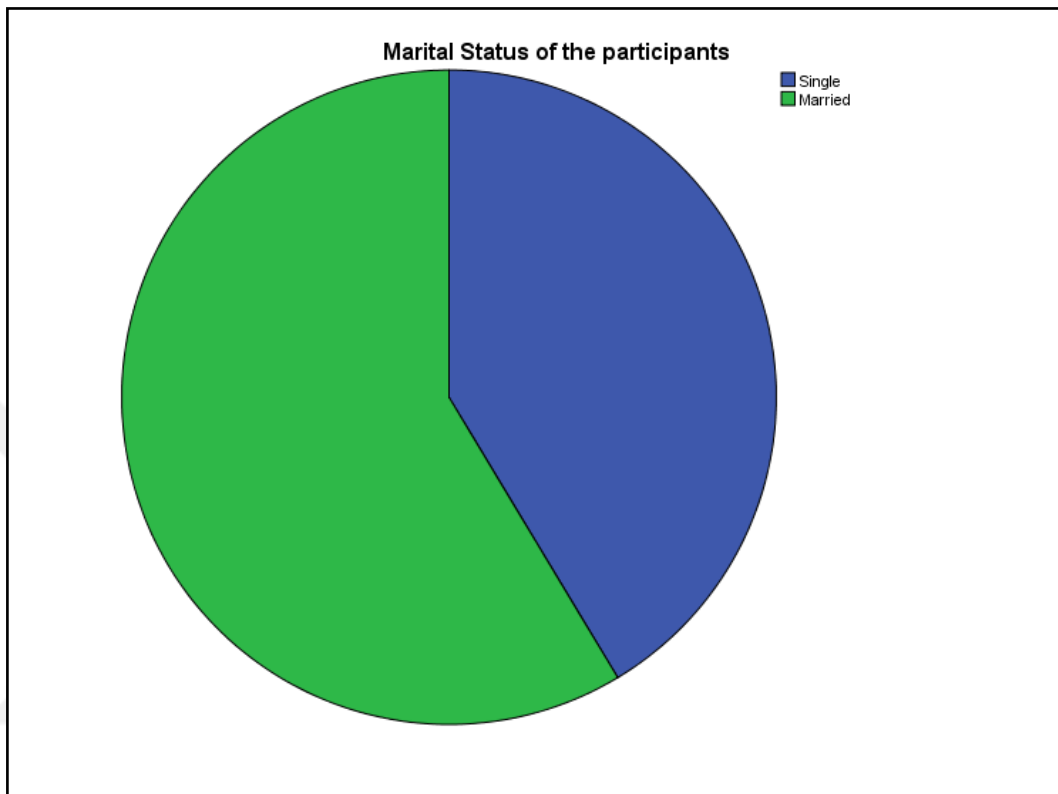
The gender statistic shows the valid number of the participants 145, with a mean of 3.59, median of 4.00 and a mode of 4.

Table 3.4: Marital status frequencies.

Marital Status of the participants				
	Frequency	Percent	Valid Percent	Cumulative Percent
Single	60	41.4	41.4	41.4
Valid Married	85	58.6	58.6	100.0
Total	145	100.0	100.0	

60 out of the 145 participants are single which represent 41.4% and 85 are married with represent 58.6% of the population.

Figure 3.2: Marital status percentages.



3.2.3: Working Experience

Here the participants were asked of their working experiences and the data obtained is shown in the table below:

Table 3.5: Working experience statistics.

Statistics		
Working Experience		
N	Valid	145
	Missing	0
Mean		5.94
Median		6.00
Mode		6

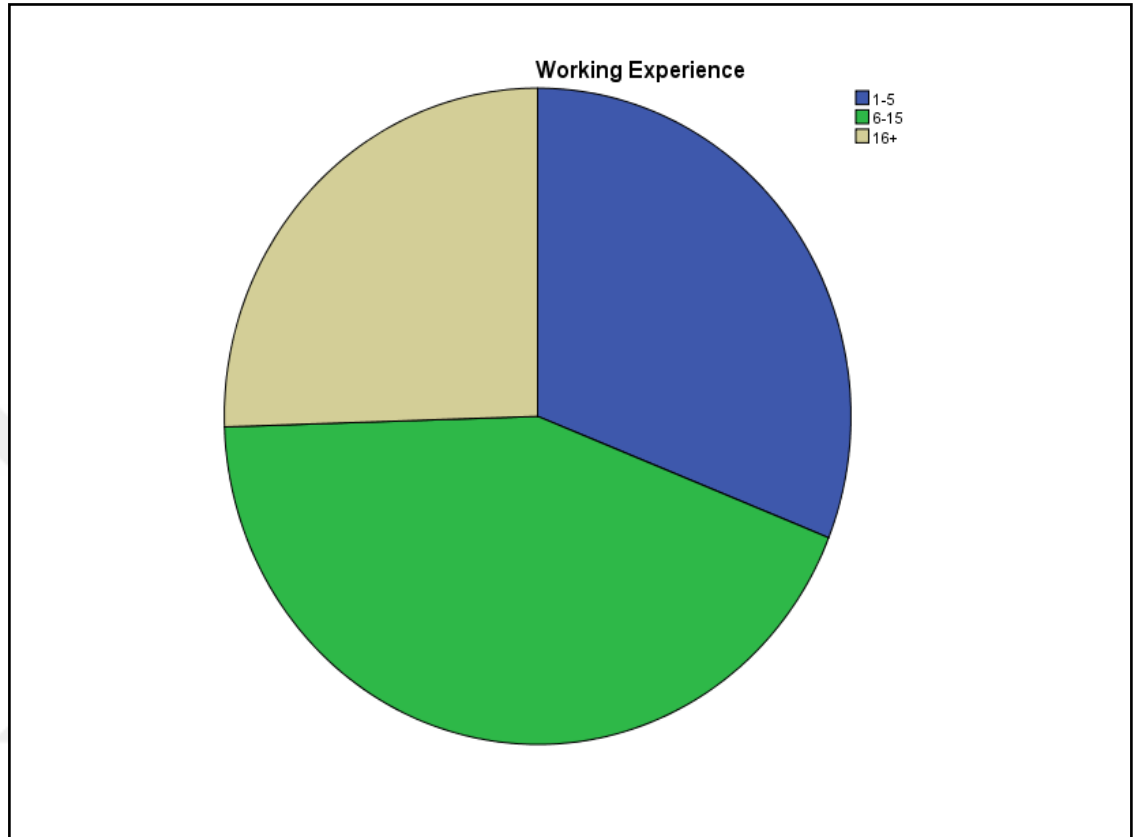
The gender statistic shows the valid number of the participants 145, with a mean of 5.94, median of 6.00 and a mode of 6.

Table 3.6: Working experience frequencies.

Working Experience				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1-5	45	31.0	31.0	31.0
Valid 6-15	63	43.4	43.4	74.5
Valid 16+	37	25.5	25.5	100.0
Total	145	100.0	100.0	

45 out of the 145 participants are having 1-5 years of working experience which represent 31.0% and 63 have 6-15 working experience with represent 43.4% of the population and 37 have 16+ working experience with represent 25.5%.

Figure 3.3: Working experience percentages.



3.3 METHOD OF DATA COLLECTION

Instrument utilized here, alludes to the techniques utilized by the researcher or apparatuses utilized by the researcher to characterize all the vital data required for the successful conclusion of the research study. In perspective of the distinctions in the nature of the data required for the research work, the research will have employed the following instrument.

- a) **Primary Data:** With the end goal of essential information accumulation, the analyst utilized the utilized of structure survey, which contains strategic questions, which if

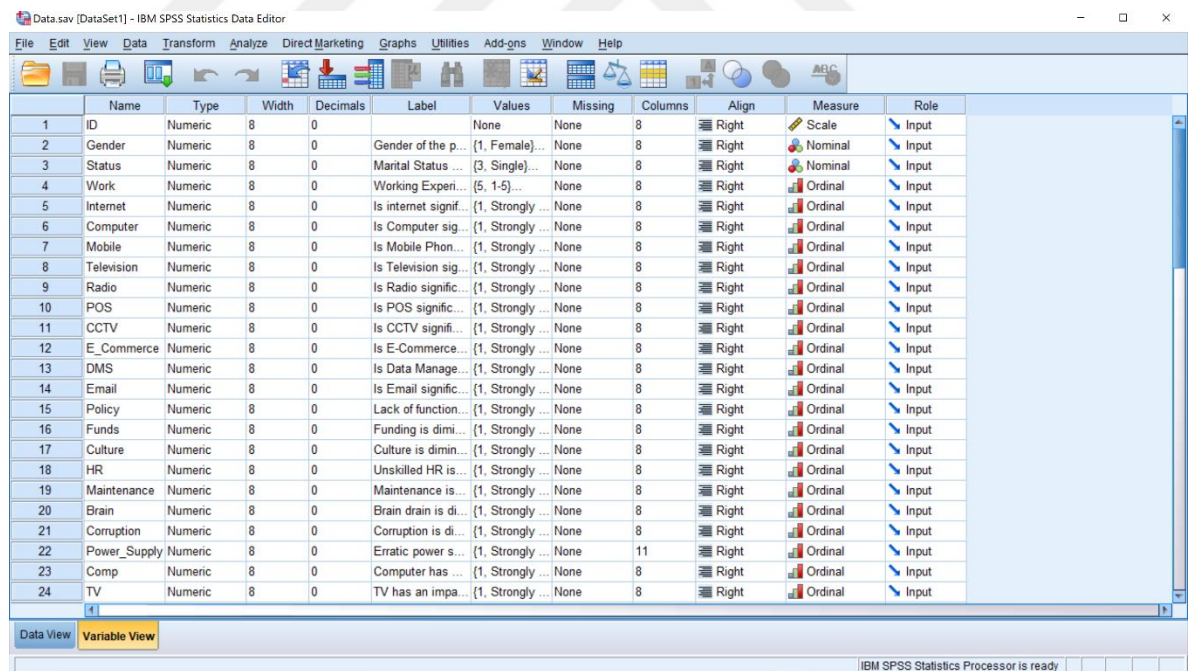
answered, will assist in completing the research. The questionnaires were therefore distributed to randomly selected staffs.

Some textbooks, journals, newspapers, articles, past projects, magazines, and internet web pages where refer to for in-depth analysis.

3.4 METHOD OF DATA PRESENTATION AND ANALYSIS

For the purpose of precise yet, comprehensive data analysis the researcher employed the use of SPSS to analyze the data, participants as well as their respective opinions be grouped using frequencies, tables, bar charts, chi-test and statistics.

Screenshot of the data view from the SPSS program.



Sample of the questionnaire.

BAHCESEHIR UNIVERSITY
FACULTY OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF INFORMATION TECHNOLOGY
ABUBAKAR GARBA MUSA

QUESTIONNAIRES ARE TO BE USED AS PART OF MY RESEARCH FOR THE COMPLETION OF MY THESIS TOWARDS THE ACHIVEMENT OF MASTERS DEGREE IN INFORMATION TECHNOLOGY.

SEX		MARITAL STATUS		WORKING EXPERIENCE (YEARS)		
FEMALE	MALE	SINGLE	MARRIED	1-5	6-15	16 ABOVE

PART ONE

Are these ICT tools significant to the Nigerian economy?

1. Internet

Strongly Agreed	Agreed	Disagreed	Strongly Disagreed

2. Computer

Strongly Agreed	Agreed	Disagreed	Strongly Disagreed

3. Mobile Phone

Strongly Agreed	Agreed	Disagreed	Strongly Disagreed

4. Television

Strongly Agreed	Agreed	Disagreed	Strongly Disagreed

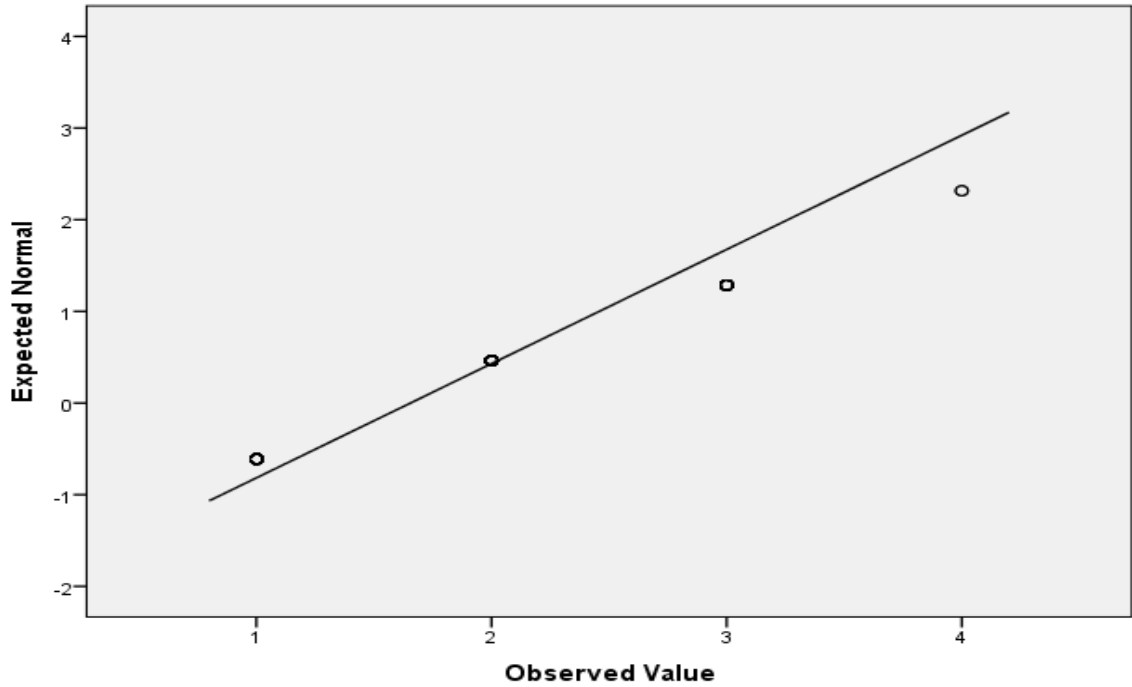
Screenshot of the data view from the SPSS program.

	ID	Gender	Status	Work	Internet	Computer	Mobile	Television	Radio	POS	CCTV	E_Commer...	DMS	Email	F
1	1	1	3	5	1	1	4	3	2	4	4	4	4	3	
2	2	2	4	7	2	1	1	4	4	2	3	2	3	4	
3	3	2	4	7	1	1	2	3	4	1	2	1	2	2	
4	4	2	4	5	2	2	1	2	1	2	4	3	1	2	
5	5	1	3	5	3	3	4	2	4	1	2	1	4	4	
6	6	1	3	6	4	1	2	3	2	2	2	2	2	3	
7	7	2	4	6	1	2	1	4	4	1	3	1	1	1	
8	8	2	3	6	2	1	2	1	3	2	4	3	2	4	
9	9	2	4	6	3	1	4	2	1	3	1	2	4	1	
10	10	2	4	6	2	1	1	3	2	1	2	2	2	3	
11	11	2	4	6	1	2	2	1	4	2	3	1	1	2	
12	12	2	3	6	2	1	3	4	3	1	4	1	2	4	
13	13	2	4	6	1	1	4	2	1	2	1	2	4	2	
14	14	2	4	7	1	3	1	1	3	3	2	3	1	3	
15	15	1	3	5	2	1	1	1	4	4	2	1	2	2	
16	16	1	4	7	1	2	1	3	2	3	4	2	3	4	
17	17	1	3	7	2	1	4	2	1	3	1	1	4	1	
18	18	1	3	5	1	1	1	1	3	2	3	3	2	3	
19	19	2	3	6	2	1	2	2	2	1	4	2	1	2	
20	20	2	3	7	2	2	2	4	3	3	2	1	2	4	
21	21	2	3	7	4	1	1	1	1	2	3	2	4	1	
22	22	2	3	6	4	1	4	3	3	1	2	1	1	3	
23	23	2	4	6	2	1	1	1	2	2	4	4	2	2	

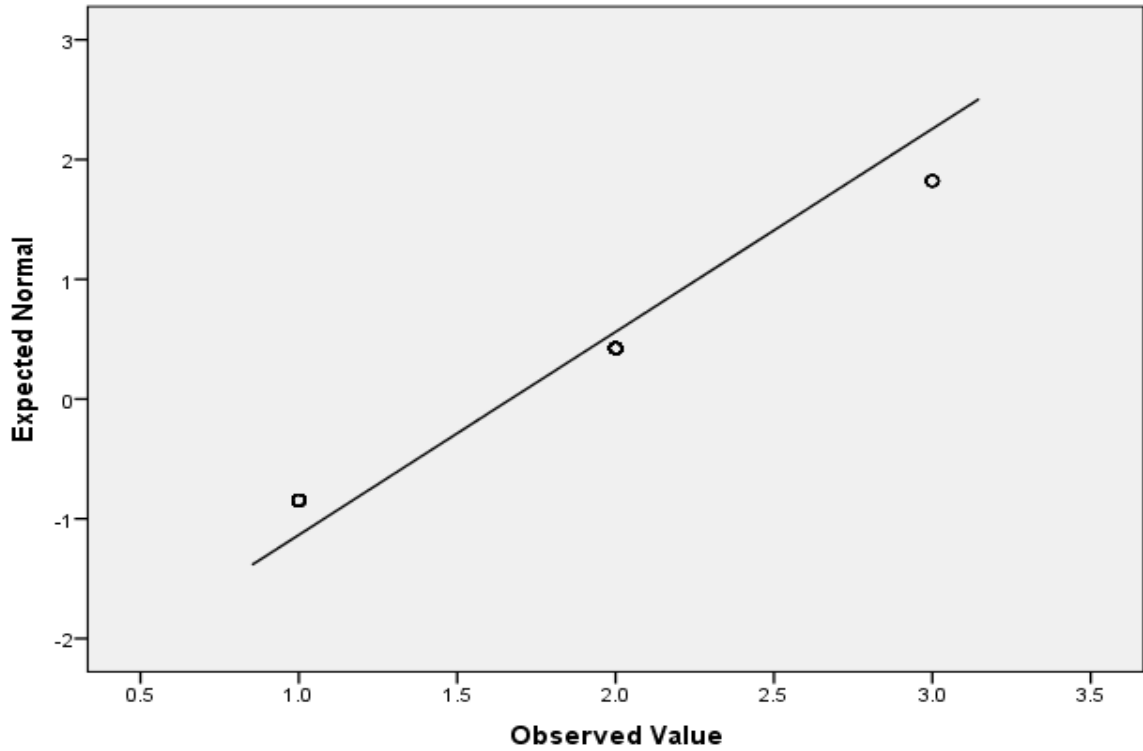
Screenshot of the data view from the SPSS program.

	ID	Gender	Status	Work	Internet	Computer	Mobile	Television	Radio	POS	CCTV	E_Commer...	DMS	Email	F
1	1	Female	Single	1-5	Strongly a...	Strongly a...	Strongly Di...	Dis-agreed	Agreed	Strongly Di...	Strongly Di...	Strongly Di...	Strongly Di...	Dis-agreed	
2	2	Male	Married	16+	Agreed	Strongly a...	Strongly a...	Strongly Di...	Strongly Di...	Agreed	Dis-agreed	Agreed	Dis-agreed	Strongly Di...	Di
3	3	Male	Married	16+	Strongly a...	Strongly a...	Agreed	Dis-agreed	Strongly Di...	Strongly a...	Agreed	Strongly a...	Agreed	Agreed	
4	4	Male	Married	1-5	Agreed	Agreed	Strongly a...	Agreed	Strongly a...	Agreed	Strongly Di...	Dis-agreed	Strongly a...	Agreed	
5	5	Female	Single	1-5	Dis-agreed	Dis-agreed	Strongly Di...	Agreed	Strongly Di...	Strongly a...	Agreed	Strongly a...	Strongly Di...	Strongly Di...	Di
6	6	Female	Single	6-15	Strongly Di...	Strongly a...	Agreed	Dis-agreed	Agreed	Agreed	Agreed	Agreed	Agreed	Dis-agreed	
7	7	Male	Married	6-15	Strongly a...	Agreed	Strongly a...	Strongly Di...	Strongly Di...	Strongly a...	Dis-agreed	Strongly a...	Strongly a...	Strongly a...	
8	8	Male	Single	6-15	Agreed	Strongly a...	Agreed	Strongly a...	Dis-agreed	Agreed	Strongly Di...	Dis-agreed	Agreed	Strongly Di...	Di
9	9	Male	Married	6-15	Dis-agreed	Strongly a...	Strongly Di...	Agreed	Strongly a...	Dis-agreed	Strongly a...	Agreed	Strongly Di...	Strongly a...	
10	10	Male	Married	6-15	Agreed	Strongly a...	Strongly a...	Dis-agreed	Agreed	Strongly a...	Agreed	Agreed	Agreed	Dis-agreed	
11	11	Male	Married	6-15	Strongly a...	Agreed	Agreed	Strongly a...	Strongly Di...	Agreed	Dis-agreed	Strongly a...	Strongly a...	Agreed	Strc
12	12	Male	Single	6-15	Agreed	Strongly a...	Dis-agreed	Strongly Di...	Dis-agreed	Strongly a...	Strongly Di...	Strongly a...	Agreed	Strongly Di...	
13	13	Male	Married	6-15	Strongly a...	Strongly a...	Strongly Di...	Agreed	Strongly a...	Agreed	Strongly a...	Agreed	Strongly Di...	Agreed	Di
14	14	Male	Married	16+	Strongly a...	Dis-agreed	Strongly a...	Strongly a...	Dis-agreed	Dis-agreed	Agreed	Dis-agreed	Strongly a...	Dis-agreed	
15	15	Female	Single	1-5	Agreed	Strongly a...	Strongly a...	Strongly a...	Strongly Di...	Strongly Di...	Agreed	Strongly a...	Agreed	Agreed	Strc
16	16	Female	Married	16+	Strongly a...	Agreed	Strongly a...	Dis-agreed	Agreed	Dis-agreed	Strongly Di...	Agreed	Dis-agreed	Strongly Di...	
17	17	Female	Single	16+	Agreed	Strongly a...	Strongly Di...	Agreed	Strongly a...	Dis-agreed	Strongly a...	Strongly a...	Strongly Di...	Strongly a...	Strc
18	18	Female	Single	1-5	Strongly a...	Strongly a...	Strongly a...	Strongly a...	Dis-agreed	Agreed	Dis-agreed	Dis-agreed	Agreed	Dis-agreed	
19	19	Male	Single	6-15	Agreed	Strongly a...	Agreed	Agreed	Strongly a...	Strongly Di...	Agreed	Strongly a...	Agreed	Agreed	Strc
20	20	Male	Single	16+	Agreed	Agreed	Agreed	Strongly Di...	Dis-agreed	Dis-agreed	Agreed	Strongly a...	Agreed	Strongly Di...	
21	21	Male	Single	16+	Strongly Di...	Strongly a...	Strongly a...	Strongly a...	Strongly a...	Agreed	Dis-agreed	Agreed	Strongly Di...	Strongly a...	
22	22	Male	Single	6-15	Strongly Di...	Strongly a...	Strongly Di...	Dis-agreed	Strongly a...	Strongly a...	Agreed	Strongly a...	Strongly a...	Dis-agreed	Strc
23	23	Male	Married	6-15	Agreed	Strongly a...	Strongly a...	Strongly a...	Agreed	Agreed	Strongly Di...	Strongly Di...	Agreed	Agreed	

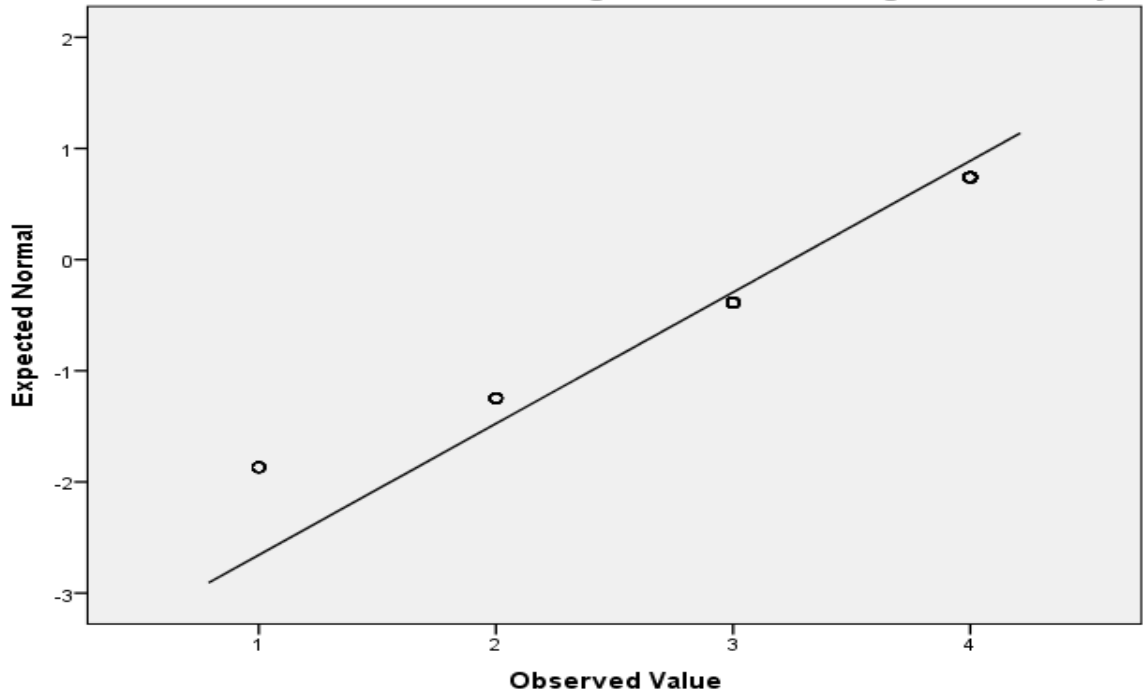
Normal Q-Q Plot of Corruption is diminishing the use of ICT in Nigerian economy



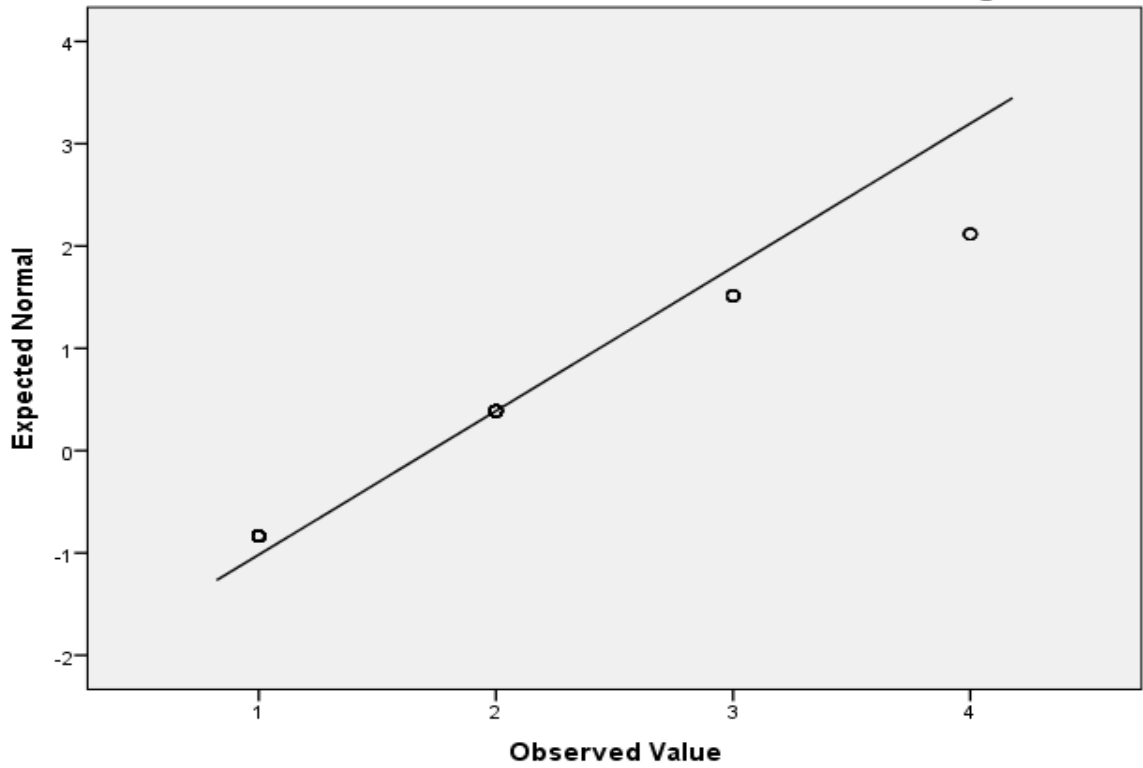
Normal Q-Q Plot of Lack of functional ICT policy is diminishing the use of ICT in Nigerian economy



Normal Q-Q Plot of Culture is diminishing the use of ICT in Nigerian economy



Normal Q-Q Plot of Can Business Innovation drive the economic growth



4. DATA PRESENTATION AND ANALYSIS

This chapter will present data relevant to the subject matter at stake, upon which analysis will be drawn. Major findings will also be drawn in line with the research questions.

Table 4.1: Cross tabulation for gender and corruption.

		Corruption is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Gender of the participants	Female	17	12	11	0	40
	Male	61	29	13	2	105
Total		78	41	24	2	145

Table 4.1 indicate a cross tabulation between gender of the participants and how corruption is diminishing the use of ICT in the Nigerian economy. 17 Female participants and 61 Male participants strongly agreed that corruption is diminishing the use of ICT in the Nigerian economy.

Table 4.2: Cross tabulation for marital status and corruption.

		Corruption is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Marital Status of the participants	Single	40	13	7	0	60
	Married	38	28	17	2	85
Total		78	41	24	2	145

Table 4.2 indicate a cross tabulation between marital status of the participants and how corruption is diminishing the use of ICT in the Nigerian economy. Where 40 single participants and 38 married participants strongly agreed that corruption is diminishing the use of ICT in the Nigerian economy.

Table 4.3: Cross tabulation for working experience and corruption.

		Corruption is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Working Experience	1-5	27	6	11	1	45
	6-15	32	23	7	1	63
	16+	19	12	6	0	37
Total		78	41	24	2	145

Table 4.3 shows a cross tabulation between working experience of the participants and how corruption is diminishing the use of ICT in the Nigerian economy. 27 participants with working experience from (1-5 years), 32 participants with (6-15) working experience and 19 participants with (16+) working experience strongly agreed that corruption is diminishing the use of ICT in the Nigerian economy.

Table 4.4: Cross tabulation for gender and lack of functional policy

		Lack of functional ICT policy is diminishing the use of ICT in Nigerian economy			Total
		Strongly agreed	Agreed	Dis-agreed	
Gender of the participants	Female	17	19	4	40
	Male	40	60	5	105
Total		57	79	9	145

Table 4.4 indicate a cross tabulation between gender of the participants and how lack of functional policy is diminishing the use of ICT in the Nigerian economy. 17 Female participants and 40 Male participants strongly agreed that lack of functional policy is diminishing the use of ICT in the Nigerian economy.

Table 4.5: Cross tabulation for marital status and lack of functional policy

		Lack of functional ICT policy is diminishing the use of ICT in Nigerian economy			Total
		Strongly agreed	Agreed	Dis-agreed	
Marital Status of the participants	Single	22	32	6	60
	Married	35	47	3	85
Total		57	79	9	145

Table 4.5 indicate a cross tabulation between marital status of the participants and how lack of functional policy is diminishing the use of ICT in the Nigerian economy. 22 single

participants and 35 married participants strongly agreed that lack of functional policy is diminishing the use of ICT in the Nigerian economy.

Table 4.6: Cross tabulation for working experience and lack of functional policy

		Lack of functional ICT policy is diminishing the use of ICT in Nigerian economy			Total
		Strongly agreed	Agreed	Dis-agreed	
Working Experience	1-5	19	23	3	45
	6-15	18	40	5	63
	16+	20	16	1	37
Total		57	79	9	145

Table 4.6 indicate a cross tabulation between working experience of the participants and how lack of functional policy is diminishing the use of ICT in the Nigerian economy. 19 participants with working experience (1-5), 18 with (6-15) years of working experience and 20 with (16+) working experience strongly agreed that lack of functional policy is diminishing the use of ICT in the Nigerian economy.

Table 4.7: Cross tabulation for gender and culture

		Culture is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Gender of the participants	Female	5	3	12	20	40
	Male	3	11	45	46	105
Total		8	14	57	66	145

Table 4.7 indicate a cross tabulation between gender of the participants and how culture is diminishing the use of ICT in the Nigerian economy. 5 Female participants and 3 Male participants strongly agreed that culture is diminishing the use of ICT in the Nigerian economy.

Table 4.8: Cross tabulation for marital status and culture

		Culture is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Marital Status of the participants	Single	4	3	23	30	60
	Married	4	11	34	36	85
Total		8	14	57	66	145

Table 4.8 shows a cross tabulation between marital status of the participants and how culture is diminishing the use of ICT in the Nigerian economy. 4 Female participants and 4 Male participants strongly agreed that culture is diminishing the use of ICT in the Nigerian economy.

Table 4.9: Cross tabulation for working experience and culture

		Culture is diminishing the use of ICT in Nigerian economy				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Working Experience	1-5	5	5	18	17	45
	6-15	3	6	22	32	63
	16+	0	3	17	17	37
Total		8	14	57	66	145

Table 4.9 indicate a cross tabulation between working experience of the participants culture is diminishing the use of ICT in the Nigerian economy. 5 participants with working experience (1-5), 3 with (6-15) years of working experience and none with (16+) working experience strongly agreed that lack of functional policy is diminishing the use of ICT in the Nigerian economy.

Table 4.10: Cross tabulation for gender and new services

		Can emergence of new services drive the economic growth				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Gender of the participants	Female	17	18	4	1	40
	Male	42	55	5	3	105
Total		59	73	9	4	145

Table 4.10 indicate a cross tabulation between gender of the participants and how emergence of new services drives the economic growth. 5 Female participants and 3 Male participants strongly agreed that emergence of new services drive the economic growth

Table 4.11: Cross tabulation for marital status and new services

		Can emergence of new services drive the economic growth				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Marital Status of the participants	Single	24	28	6	2	60
	Married	35	45	3	2	85
Total		59	73	9	4	145

Table 4.11 shows a cross tabulation between marital status of the participants and how emergence of new services drives the economic growth. 24 Female participants and 35 Male participants strongly agreed that emergence of new services drive the economic growth.

Table 4.12: Cross tabulation for working experience and new services

		Can emergence of new services drive the economic growth				Total
		Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Working Experience	1-5	18	24	2	1	45
	6-15	28	27	5	3	63
	16+	13	22	2	0	37
Total		59	73	9	4	145

Table 4.9 indicate a cross tabulation between working experience of the participants and how can emergence of new services drive the economic growth. 18 participants with working experience (1-5), 28 with (6-15) years of working experience and 13 (16+) working experience strongly agreed that emergence of new services drive the economic growth.

Q1. What are the significant ICT tools in the Nigerian economy?

Table 4.13: Significant ICT tools in the Nigerian economy.

\$Tools Frequencies

		Responses		Percent of Cases
		N	Percent	
Significant tools in the Nigerian econom ^a	Is internet significant to the Nigerian economy	72	12.9%	50.3%
	Is Computer significant to the Nigerian economy	105	18.9%	73.4%
	Is Mobile Phone significant to the Nigerian economy	68	12.2%	47.6%
	Is Television significant to the Nigerian economy	43	7.7%	30.1%
	Is Radio significant to the Nigerian economy	17	3.1%	11.9%
	Is POS significant to the Nigerian economy	60	10.8%	42.0%
	Is CCTV significant to the Nigerian economy	41	7.4%	28.7%
	Is E-Commerce significant to the Nigerian economy	64	11.5%	44.8%
	Is Data Management System significant to the Nigerian economy	46	8.3%	32.2%
	Is Email significant to the Nigerian economy	41	7.4%	28.7%
Total		557	100.0%	389.5%

a. Dichotomy group tabulated at value 1.

From the table above, we can see the numbers and percentages on significance of some ICT tools to the Nigerian economy. In particular, we can see that the most important tool from the responder’s perspectives is computer 18.9 percent while internet 12.9 percent and Mobile Phone 12.2 percent came second and third.

“Information and Communication Technologies (ICTs) enhance service provision to the economic sector, we can say that the power of economic competitiveness of a country depends on the productivity of its ICT sector with internet, computer and mobile phones leading the race. 9 billion electronic devices are connected to the Internet today and in OECD countries, more than 95 percent of businesses have an online presence. The Internet provides them with new ways of reaching out to customers and competing for market share”. (World Bank 2016).

“Numerous public services have become available online and through mobile phones. The transition to cloud computing is one of the key trends for modernization” (World Economic Forum 2016).

Q2. What are the factors diminishing the use of ICT in the Nigerian economy?

Table 4.14: Factors diminishing the use of ICT in the Nigerian economy.

\$Use_of_ICT Frequencies

		Responses		Percent of Cases
		N	Percent	
Factors diminishing the use of ICT ^a	Lack of functional ICT policy is diminishing the use of ICT in Nigerian economy	79	21.2%	56.0%
	Funding is diminishing the use of ICT in Nigerian economy	43	11.6%	30.5%
	Culture is diminishing the use of ICT in Nigerian economy	14	3.8%	9.9%
	Unskilled HR is diminishing the use of ICT in the Nigerian economy	38	10.2%	27.0%
	Maintenance is diminishing the use of ICT in Nigerian economy	36	9.7%	25.5%
	Brain drain is diminishing the use of ICT in Nigerian economy	43	11.6%	30.5%
	Corruption is diminishing the use of ICT in Nigerian economy	41	11.0%	29.1%
	Erratic power supply is diminishing the use of ICT in the Nigerian economy	78	21.0%	55.3%
Total	372	100.0%	263.8%	

a. Dichotomy group tabulated at value 2.

Table 4.14 shows factors that are diminishing the utilization of ICT in the Nigerian economy. Eight (8) factors namely Lack functional ICT policy, Unskilled HR, Brain drain, corruption, vendor and maintenance erratic power supply, culture, and funding were identified. The effect of each factor is shown in the above table with their respective frequencies and percentages, lack of functional ICT policy topped the table with 21.2 percent followed by erratic power supply 21 percent while funding and brain drain both got 11.6 percent. According to the respondent’s culture, funding and vendor/maintenance played a very little role here.

Q3. How can ICT drive the economic growth?

Table 4.15 Marital Status and Workforce Transformation Cross Tabulation.

			Can workforce transformation drive the economic growth				Total
			Strongly agreed	Agreed	Dis-agreed	Strongly Dis-agreed	
Marital Status of the participants	Single	Count	18	31	8	3	60
		% within Can workforce transformation drive the economic growth	39.1%	54.4%	27.6%	23.1%	41.4%
	Married	Count	28	26	21	10	85
		% within Can workforce transformation drive the economic growth	60.9%	45.6%	72.4%	76.9%	58.6%
Total		Count	46	57	29	13	145
		% within Can workforce transformation drive the economic growth	100.0%	100.0%	100.0%	100.0%	100.0%

From the above table we can see the numbers and relative percentages of single and married participants who believe workforce transformation drive the economy and those that don't. We can see the majority 77 percent of married participants strongly disagreed while 54 percent of single agreed that workforce transformation drives the economic growth.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.141 ^a	3	.043
Likelihood Ratio	8.315	3	.040
Linear-by-Linear Association	1.932	1	.165
N of Valid Cases	145		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.38.

With a Pearson chi-square value 8.141 and significance value (P) of 0.04

Table 4.16 How ICT drive the economic growth.

\$conomy Frequencies

		Responses		Percent of Cases
		N	Percent	
How can ICT drive the economic growth ^a	Can Business Innovation drive the economic growth	58	20.4%	44.3%
	Can emergence of new services drive the economic growth	59	20.7%	45.0%
	Can workforce transformation drive the economic growth	46	16.1%	35.1%
	Can direct job creation drive the economic growth	72	25.3%	55.0%
	ICT contribution to the GDP drive the economic growth	50	17.5%	38.2%
Total		285	100.0%	217.6%

a. Dichotomy group tabulated at value 1.

From the table above, we can see the numbers and percentages on how technology help the economic growth. In particular, we can see that the most important factor in the economic growth is direct job creation with 25.3 percent while emergence of new services 20.7 percent and Business innovation 20.4 percent came second and third.

“The ICT sector is, and is expected to remain one of the largest employers. In US alone, computer and Information Technology jobs are expected to grow by 22 percent creating 758,000 new jobs and in 2013, the global technology market grew by 8 percent, creating jobs, salaries and widening range of services and products. Internet accounts for 3.4 percent of overall GDP in some countries and the doubling of mobile data use caused by increased in 3G connections boost the GDP per capita growth rate by 0.5 percent globally. Lastly ICT enabled the emergence of completely new sector: the app industry and research show that Facebook alone created over 182,000 jobs in 2011” (World Economic Forum 2013)

Table 4.17 T-Test gender and corruption.

Group Statistics					
Gender of the participants		N	Mean	Std. Deviation	Std. Error Mean
Corruption is diminishing the use of ICT in Nigerian economy	Female	40	1.85	.834	.132
	Male	105	1.58	.782	.076

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Corruption is diminishing the use of ICT in Nigerian economy	Equal variances assumed	.426	.515	1.819	143	.071	.269	.148	-.023	.561
	Equal variances not assumed			1.767	66.705	.082	.269	.152	-.035	.573

There is no difference in the mean between female and male participants on how corruption is diminishing the use of ICT in the economy.

Table 4.18 T-Test Marital status and Power supply.

Group Statistics					
Marital Status of the participants		N	Mean	Std. Deviation	Std. Error Mean
Erratic power supply is diminishing the use of ICT in the Nigerian economy	Single	60	1.83	.642	.083
	Married	85	1.55	.627	.068

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Erratic power supply is diminishing the use of ICT in the Nigerian economy	Equal variances assumed	3.521	.063	2.626	143	.010	.280	.107	.069	.491
	Equal variances not assumed			2.615	125.259	.010	.280	.107	.068	.493

There is a difference in the mean between single and married participants on how erratic power supply is diminishing the use of ICT in the Nigerian economy.

4.1 FINDINGS AND DISCUSSION.

From the above analysis, the following are major findings on the research:

From Table 4.13 show that computer is the most significant ICT tool in the economy, this might surprise some but obviously it's due to fact that more than half of the world's

population is still not connected to the internet and most of these people are either living in Southeast Asia or Africa. But that doesn't mean the internet play a little or no role in the economy as in OECD countries, more than 95 percent of businesses have an online presence. The Internet provides them with new ways of reaching out to customers and competing for market share. Over the past few years, social media has established itself as a powerful marketing tool. ICT tools employed within companies help to streamline business processes and improve efficiency. The unprecedented explosion of connected devices throughout the world has created new ways for businesses to serve their customers (World Economic Forum 2013).

The analysis from table 4:14 also revealed that ICT can be utilize effectively through introduction of a functional ICT policy, skilled and trained HR, incentives and a good working environment, war on corruption, backup generators to counter the erratic power supply, enlightening the public, vendor and maintenance and good funding. Access to telecommunications infrastructure is one of the challenges and is very vital to the economy. ICT can be used to fight corruption and electronic crime in Nigeria by providing the youth with employment in the ICT sector, the introduction of new software and CCTV to monitor transaction.

Unskilled and untrained human resource lead to the employment of expatriates and with most African economies weak and struggling they cannot sustain the expatriates (Gardner 1994) A study revealed that all the public libraries studied pointed out lack of ICT personnel and lack of funds. The most interesting aspect of the findings is the libraries in South Africa express lack of burglaries to protect the computers from being stolen whereas findings from two Nigerian libraries reveal power supply as one of the barriers for ICT use (Chisenga 2004)

Table 4.15 show that ICT drive the economic growth through Direct job creation, Emergence of new services and Business innovation and this is supported by world economic forum finding with said in 2013, the global tech market grew by 8 percent, creating jobs, salaries and a widening range of services and products.

4.2 RECOMMENDATIONS

Consequent upon the findings of the research, the following recommendations, would reduce unemployment and improve the economy of Nigeria:

- i. A comprehensive ICT policy framework must be effectively formulated to impact the economy, society and governance positively.
- ii. Nigeria's telecommunications framework should be upgraded, and the dilapidated ones replaced to support the full utilization of ICT.
- iii. ICT potentials should involve private and public partnership in the funding, implementation and proper monitoring of quality ICT policies.
- iv. The country's contemporary security challenges should be enthusiastically handled to give a haven for both international and local investors to come in.
- v. Intensive seminars, conferences and workshops should be mounted by relevant bodies to educate and upgrade the technical skills of Nigerians around ICT.
- vi. Finally, access to telecommunication and ICT infrastructure should be introduced up to rural areas as this will enable Nigerian citizens acquire knowledge on how to operate modern office equipment.

4.3 LIMITATION OF STUDY

The questionnaire is a self-report instrument, and some respondents may have difficulty in understanding the questionnaire's format and in the sourcing of materials, data collection and in the processing of information. Insufficient funds may handicap the effectiveness of the researcher.

5. CONCLUSION

Information and Communication Technology (ICT) is the backbone in the organizational competitiveness of the contemporary business environments. The impact of Information and Communication Technology can be felt on almost all areas of human activities and one of the areas of economic activities in which this influence is most manifested is the banking sector. The banking sector is very vital for the economy which makes indispensable contributions to the pace of economic growth and development of nations.

However, this study tries to analyze the effect of global economic crisis to ICT users in Nigeria. We are in the midst of crisis that has severely shaken the global financial system, this could lead to a transformation of the global economy, its institutions and its industries. Although the interim period can be difficult, the result could be a more sustainable future and information and communication technologies (ICT) have a vital role to play in creating it.

Table 4.13 show that computer is the most significant ICT tool in the economy, this might surprise some but obviously it's due to fact that more than half of the world's population is still not connected to the internet and most of these people are either living in Southeast Asia or Africa.

Table 4:14 also revealed that ICT can be utilize effectively through introduction of a functional ICT policy, skilled and trained HR, incentives and a good working environment, war on corruption, backup generators to counter the erratic power supply.

Table 4.15 show that ICT drive the economic growth through direct job creation, Emergence of new services and Business innovation

Although the dissertation generates an important finding in the field of Information and Communication Technology, i have to acknowledge limitations in insufficient funding, time factor and data processing.

- i. A comprehensive ICT policy framework must be effectively formulated to impact the economy, society and governance positively.
- ii. Nigeria's telecommunications framework should be upgraded, and the dilapidated ones replaced to support the full utilization of ICT.

- iii. ICT potentials should involve private and public partnership in the funding, implementation and proper monitoring of quality ICT policies.
- iv. The country's contemporary security challenges should be enthusiastically handled to give a haven for both international and local investors room to come in.
- v. Intensive seminars, conferences and workshops should be mounted by relevant bodies to educate and upgrade the technical skills of Nigerians around ICT.



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