

THE RELEVANCE OF ELECTRONIC GOVERNANCE AND E-DRIVING LICENCE: THE NEXUS

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Abstract

The relevance of the public sector to socio-economic development in any nation cannot be underestimated. This has been re-echoed in the 2007 World Development Report which argued that “an effective public sector is vital for the provision of the goods and services – and the rules and institutions – that allow markets to flourish and the people to lead healthier, happier lives. Without it, sustainable development, both economic and social, is impossible” (World Bank, 2007). However, the public sector was not able to perform its function effectively. This has prompted and driven radical changes in public administration and management systems. Information Communication Technology (ICT) have been recognized as an effective tool that can help government reinvent itself, run cheaply, faster, better and produce new outcome (Heeks, 1999), this new approach is what has become known as E-governance. This study therefore examined the effects of E-governance on Public Sector Service Delivery in Nigeria, focusing on the e-Driving Licensing scheme in Enugu metropolis from 2011- 2015. The survey method was used in this study. Simple percentage/frequency distribution table and weighted mean was used to measure the direction of the perception of the respondents. Secondary data was used to test the hypothesis formulated for this study. Correlation coefficient was used to measure the relationship between the dependent and independent variables under study. The test of statistics was used to test the hypothesis to either reject or accept it. Finding from this study reveals that E-licensing has not improved the driver license application system since inception; the e-licensing scheme has not reduced the normal procurement waiting time; the e-licensing scheme has reduced the rate of road traffic offenders and E-licensing has led to a significant improvement in the reduction of road traffic accidents. The study recommended that ICT education should be promoted; Provision of user-friendly service and Set up outreach programs to train citizens.

Keywords: Driving licence, Electronic Governance, Information Communication Technology

Introduction

Public sector reforms in developed countries like the United Kingdom (UK), United States (US), Canada and Australia have shown that changes in political, social, economic and administrative environments have prompted and driven radical changes in public administration and management systems. The central objective of change was improvement in the ways in which government is managed and services delivered, with emphasis on effectiveness, efficiency, economy and value for money. This trend is primarily driven by citizens, who are placing new demands on their governments in the area of efficiency, accountability, transparency and better service delivery.

Driven by this global trend, many countries around the world are revitalizing their public sector to make it more efficient and citizen centric by deploying new and emerging technologies for accelerated service delivery to citizens. Within this milieu, Information Communication Technology (ICT) have been

recognized as an effective tool that can help government reinvent itself, run cheaply, faster, better and produce new outcome (Heeks,1999)

This new approach is what has become known as E-governance. E-governance is the application of information and communication technology to transform the efficiency, effectiveness, transparency, and accountability, of informational and transactional exchanges within government, between government, national, state, municipal and local level governments, citizens and businesses and empower business through access and use of information (Dwivedi and Bharti, 2010).

In 2001, Nigeria enacted the ICT Act and subsequently adopted e-governance model in its public service system. In keeping with the Nigerian government e-governance drive, Ministries, Department and Agencies (MDAs) were required to follow the trend. This propelled the Federal Road Safety Corps to set up an Information Technology Centre (ITC) 2007. It was designed to provide the technological backbone to drive the back-end and front-end operations of the Corps. On 1st October 2010, it commissioned the National Data Center and adopted the e-governance model, upgraded the Uniform Licensing Scheme (ULS) and introduced the E- Drivers License.

This study therefore examined the effects of E-governance on Public Sector Service Delivery in Nigeria, focusing on the e-Driving Licensing scheme in Enugu metropolis from 2011- 2015.

1.1 Statement of the Problem

The manual application for Driver's License in Nigeria was riddled with problems. Chidoka (2010) aptly describe it thus: "For too long, the people have experienced difficulties during attempts to obtain drivers' licenses. Apart from having to go back and forth to the licensing offices, the process, when it eventually commenced, virtually takes more than a day, as applicants are made to move from desk to desk, and from one office to another. This problems associated with the procurement of driver's license fuelled a flourishing trade in fake licenses. Drivers' licenses rackets, designed to defraud desperate, frustrated or gullible applicants, flourished as a result of the gaps in the current licensing process. Continuing he said, the manual licensing system and realization that the faulty production and issuance of our licenses, especially the driver's license has been responsible for growing cases of road traffic crashes in the country.

The Guardian of January 9, 2008, page 3 lent credence to Chidoka (2010), wherein it said: "The Federal Road Safety Commission (FRSC) has concluded plans so prosecute over "100" of its staff for allegedly defrauding various state governments through the printing of fake Drivers' Licences across the country..."

Owatunmiseon (2015) expressed similar sentiment when he said, "The Nigerian Driver License Scheme was tailored after the America system but its implementation in Nigeria has been so bastardised that rather than leading to a reduction in the rate of road crashes and fatalities, it is on the increase. There are thousands of Nigerians holding the Driver License without knowing how to drive, not to talk of knowing the traffic signs among others.

Expounding further, he said: "Some officials of the Federal Road Safety Commission, Vehicle Inspection Departments, Motor Vehicle Licensing Authority, Driving Schools and Hospitals are conspiring together to racketeer the Driver Licence issuance through the backdoor and even front door bastardisation of the process thereby making an international mockery of the Nigerian Driver License programme. Sadly, no party among the Stakeholder is ignorant of this dastardly act but little or nothing is being done to halt it herby putting more and more innocent Nigerians at risk on the road. Many of the FRSC, VIO and MVAA Officials and their collaborators have become sudden multi – millionaires.

He thus recommended: "One of the ways this negative conspiracy in Driver License processing can be stopped is by stopping the use of old Driver License to process new e-Driver License and let all the candidates go through Driving Schools as Learners but the perpetrators of the evil are consistently resisting every move to stop such renewal because of the illicit money they are making from it.

These anomalies inherent in the manual driver license scheme necessitated the launch of the e-License scheme on IST October 2010. The license among other things have the following security features: biometric and facial recognition; finger print verification in 2D barcode on card tied to system record; data centralized rather than on card; guilloche security design; laser perforation ; ghost portrait; overlapping data ; split fountain printing ; altered font and variable micro script.

It has been six years since the introduction of the e-Drivers Licensing Scheme. Yet, the researcher is not aware of any study to ascertain the efficiency, effectiveness or otherwise of the scheme. This is the focus of this work, with special emphasis on Enugu metropolis.

1.2 Objectives of the Study

1. To assess citizen's perception of e- Driver License scheme in Enugu metropolis.
2. To ascertain whether e-governance has led to a significant reduction in the normal waiting time for driving license procurement.
3. To determine whether e-governance has led to a significant reduction in the rate of road Traffic offenders in Enugu Metropolis.
4. To find out whether e-governance has led to a significant reduction in the rate of road traffic accidents in Enugu metropolis?

1.3 Research Hypotheses

1. E-governance has led to a significant increase in the production of driver's license in Enugu metropol
2. E-governance has led to a significant reduction in the rate of road Traffic offenders in Enugu Metropolis.
3. E-governance has led to a significant reduction in the rate of road traffic accidents in Enugu

2.1 Literature Review

2.1.1 Electronic Governance

E-governance concept originated at the beginning of 21st century, mostly as a copy of e-commerce into public sector. All intentions were directed towards the presence of the public services on the Internet. In the early years of its development, e-governance follows the evolutionary e-business evolving model, which in particular means that in the early days of e-governance evolvement, primary focus of the e-services was simple appearance of graphic user interfaces with no interactions.

The term is used in a loose manner to describe the legacy of any kind of use of information and communication technology within the public sector. For those who see it as some form of extension of e-commerce to the domain of the government, it represents the use of Internet to deliver information and services by the government (Bhatnagar, 2007). The Department of Economic and Social Affairs of the United Nations defines e-governance as utilizing the internet and the world-wide-web for delivering government information and services to citizens (United Nations, 2008). General definition describes e-governance as the use of information and communication technologies (ICT) to transform government by making it more accessible, effective and accountable.

E-governance refers to the use of information technologies (such as the Internet, the World Wide Web, and mobile computing) by government agencies that can transform their relationship with citizens, businesses, different areas of government, and other governments. These technologies help deliver government services to citizens, improve interactions with businesses and industries, and provide access to information (Moon, 2002). E-governance can be defined as the use of emerging information and communication technologies to facilitate the processes of government and public administration (Drucker, 2001). This definition focuses on the use of ICT to assist in the administration or management of government.

Basu (2004) states that "e-governance refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses and other arms of government". In terms of actually using these technologies following are some ends, better delivery of government services to citizens, improved interactions with businesses and industries, citizen empowerment through access to information, or more efficient government management. Benefits resulting from these activities could be less corruption, increased transparency, greater convenience, revenue growth and cost reductions.

According to Chatfield (2009), e-governance refers to the use of information and communication technologies, particularly the internet, to deliver government information and services. E-governance is understood as the use of ICT to promote more efficient and cost effective government, facilitate more convenient government services, allow greater government access to information, and make government more accountable to the citizens (World Bank, 1992).

The aim of e-governance is to allow the public to initiate a request for a particular government service without going to a government office or having direct contact with a government employee. The service

is delivered through government web sites (Brannen, 2001). E-governance comprises of an alignment of ICT infrastructures, institutional reform, business processes and service content towards provision of high-quality and value added services to the citizens and businesses.

The scope of e-governance services extend from posting generally requested information on a website to providing and processing online requests such as electronic payment of taxes or other fees. The main rationale of e-governance initiatives is to put together services focused on citizens needs (Moon, 2002). E-governance involves novel forms of delivering and tailoring information and services, connecting communities and businesses locally and globally and reforming us towards digital democracy. E-governance offers flexible and convenient access to public information and services with the view of providing citizens an improved service (Moon, 2002).

2.2.2 Goals of E-Governance

The goals of e-Governance vary considerably among governments worldwide. Rightfully, the goals of e-governance are determined locally based on the political leadership of each government. The aim is to reorient governments to treat citizens as customers of government services and improve the day-to-day management of financial and budgetary systems. Governments are embracing other such various forms of e-Governance that: add channels of interaction among governments, businesses and citizens; improve the ability for government institutions to communicate, collaborate and otherwise work more efficiently and effectively with each other; streamline acquisition and procurement processes; reduce opportunities for corruption; and, increase the ability to capture revenue. Many of these e-Governance programs are structural elements of economic development and public sector reforms to address human development issues in developing countries (Schware and Deane 2003).

It is now growing more common for governments to use websites to enable visitors to go online to get government information, file and pay taxes, register automobiles, access vital records, communicate with government officials, and participate in decision-making. Through e-governance, governments are expected to improve performance and outcomes. Governments expect to achieve such gains as:

- Online data collection to reduce data entry costs and automate error checking;
- Reduce the communication costs with citizens;
- Greater sharing of data within government and between governments and other such stakeholders as NGO's, international agencies, and private sector firms;
- Reduce government publication and distribution costs through online publication (OECD, 2003).

2.2.3 Types of E-Governance

There are different types of e-governance based on using ICT to facilitate relationships between government and other key stakeholders. The types of relationships are with citizens (G2C – Government-to-Citizen), business (G2B – Government-to-Business), other governments (G2G – Government-to-Government), and employees (G2E – Government-to-Employees).

2.2.3.1 Government-to-Citizen E-governance Approach

Government-to-Citizen e-governance focuses on making information accessible to citizens online. This is referred to as a citizen-centric e-Governance when governments take further steps to provide online services organized around citizen needs. Some of these include:

- Renew Driver's License
- Get a Passport Application
- Register a car
- File a complaint
- Download relevant Government forms
- Search Government Records.

2.2.3.2 Government-to-Business Approach

Government-to-Business e-governance focuses on strategies using ICTs to facilitate government interactions with the private sector to procure goods and services and to coordinate transactions from private companies. One approach is known as electronic procurement (e-procurement). Because of the large number of purchases that governments make from the private sector, there is a need to develop

faster and more cost-effective routines to handle the typical procedures for procurement. Some of these include:

- File Taxes Online
- Apply for Government Tenders
- Get an export license.

2.2.3.3 Government-to-Employee

Government-to-Employee e-governance focuses on relationships within government among employees to coordinate internal operations and improve the internal efficiency of business processes. Some of these include:

- Calculating Retirement Benefits
- Checking allowances Rates
- Finding Training Opportunities, etc.
- Updating Personnel Information.

2.2.3.4 Government-to-Government Approaches

Government-to-Government focuses on providing services to governments through intergovernmental relations. This includes activities to coordinate stakeholders from the national, state/provincial, and local government as in the case of humanitarian or crisis response. Some of these include:

- Vital Records sharing
- Disaster Management
- Geospatial Information One-Stop
- Federal Government allocations to state and local Government

2.2.4 Domains of E-governance

There are three main domains of e-governance:

2.2.4.1 E-administration: The main purpose of e-administration is to improve the internal working of the public sector by cutting process costs, managing process performance, creating strategic connections within government bodies, and creating empowerment. Shortening the lead time for passport application from two weeks to one day is an example of e-administration.

2.2.4.2 E-service: This initiative focus mainly on improving the relationship between the government and its citizens by increasing the information flow between them – which notably, involves two- way communication – and improving the service levels of government towards its citizens. Public service institutes offering citizens the opportunity to apply example of e-services.

2.2.4.3 E-Society: This Initiatives extend e-service domain by focusing on institutional stakeholders, such as private sector service providers, other public agencies, and not for-profit and community organizations. E-society focuses on building long lasting partnerships and social/economical communities: for example through the creation of a business community portal.

2.2.5 The Stages of E-Governance

A couple of models have been proposed for the different stages in the evolution of e-governance services. However, the United Nations e-governance global survey has adopted a five stage e-governance model (UN e-governance survey, 2004, 2005; 2008).

2.2.5.1 Stage 1 - Emerging Presence

In this stage a country commits to becoming an E-governance player. A formal but limited web presence is established through a few independent government websites which provide users with static organizational or political information. In this phase, governments develop web sites to post information about different government agencies. Visitors to the web site can access information, official documents, download forms, and contact government officials through e-mail. The content is static and allows the government to have a place on the web. The site provides such basic information about the agency as the type of services provided, hours of operation, contact information, location of offices, and links to policies and procedures.

2.2.5.2 Stage 2 - Enhanced Presence

In this stage, a country's online presence begins to expand as the number of official websites increase, with more dynamic and specialized information content that is frequently updated. The interaction is

still primarily unidirectional with information flowing essentially from government to the citizen. During this phase the e-governance strategy focuses on implementing channels for individuals to communicate with government officials, search for information and services. There is typically a full landscape of sites for each public organization. The user can access web features that provide greater interaction between citizens and different government agencies.

2.2.5.3 Stage 3 - Interactive Presence

In this stage a country's presence on the internet expands dramatically by entering the interactive mode with access to a wide range of government institutions and services. Governments begin to use a web portal to deliver a wide variety of services and content. Typically, a web portal serves as the gateway to the e-governance services and contains links to the different branches of government. The web visitor is able to access important information and offer features to download forms and retrieve data from agency databases that once required in-person visits to government offices.

2.2.5.4 Stage 4 - Transactional Presence

In this stage, two way interactions between the citizen and the government is included. Here e-Governance strategies focus on features that allow individuals to perform such transactions electronically as making payments, filling out and submitting applications, or renewing licenses. Many of the developing countries have initiated national e-governance strategies to add more self-service applications online. For example, in such countries as Pakistan and India users can go online to pay utility bills, file and pay taxes (e.g. federal excise tax, income tax, sales tax). The applications connect the user directly to backend transaction processing systems. The online services provide access 24 hours a day, 7 days a week. ICT infrastructure developments in this phase enable government agencies to begin to implement cross-agency and shared services provided there are governance and management mechanisms in place to coordinate this type of effort.

2.2.5.5 Stage 5 - Networked (or Fully Integrated) Presence

This stage represents the most sophisticated level in the online e-governance initiatives. It is characterized by an integration of G2G, G2C and C2G (and reverse) interactions. The government encourages participatory deliberative decision making and is willing and able to involve the society in a two-way open dialogue (UN Global E-governance Readiness Report, 2004). This level features a government with ministries operating using a fully integrated ICT infrastructure to make-up enterprise architecture. With this infrastructure, government processes are seamless. Data can be shared horizontally with other ministries or vertically between different levels of government or between external constituents.

This phase includes integration across government agencies, between central and regional and local governments, and across sectors. Citizens have access to all levels of government in a transparent fashion. Governments measure the performance and quality of service and evaluate how well its ministries are doing to provide e-governance services. Tools such as customer relationship management software are used to enhance the user experience for citizens. Very recently, governments have made efforts to diversify access points by creating mobile phone applications and services. Governments are integrating Web 2.0 features such as blogs, wikis, and RSS feeds in this stage to enhance information sharing and collaboration as a way to support greater citizen participation in government decisions.

2.2.6 Evolution of E-Governance in Nigeria

Records from the Nigerian Federal Office of Statistics (FOS) show the first computer sold in Nigeria was to the Nigerian Ports Authority (NPA) by ICL in 1948 (UNU, 2004) during the British colonial administration in Nigeria. However, the first digital computer appeared in Nigeria in 1962 (UNU, 2004). The diffusion and use of ICT products in the country seem to have an elitist dimension (Anandarajan, Igbaria & Anakwe, 2002), because people working for large multinationals, local banks, and government agencies appear to use ICT products more than do other members of the population. Nationwide, the use, adoption, accessibility, and availability of ICT products and infrastructure in Nigeria are very poor despite the early starting date.

During the late 1970s, the Nigerian government promulgated an indigenization decree that set apart business categories for Nigerians only. The computer business was one such area. IBM, one of the three main computer vendors in Nigeria during this period, elected to leave the country. The indigenization decree stimulated an influx of several indigenous firms into the computer business. This was good for the country because of the increased computer purchases during that period. From 1975 to 1977, the country recorded 39 computer (minicomputer and mainframe) installations compared to 197 installations from 1978 to 1980, the period following the promulgated decree (UNU, 2004). By 1988,

the number of computer installations in Nigeria had reached 754 (UNU, 2004). Additionally, by the late 1970s the Nigerian government established the Central Computer Committee (CCC), whose mandate was to create standards for users and vendors of computers in Nigeria and develop inputs for the national policy on computing (UNU, 2004).

Unfortunately, the incoming government dismantled this body. Consequently, the country was without any national ICT policy for many years (Ifinedo, 2004). It was not until the year 2000 that the country began to clamor for a new national ICT policy that resulted in the birth of the Nigerian telecommunication policy. The country again witnessed an expansion in ICT products diffusion and use. In addition, a governmental agency called the Nigerian Communication Commission (NCC) that was formed in 1992 was reactivated in 2000 (Ifinedo, 2004). The Nigerian national ICT policy became more effective when the new civilian government created the Nigerian IT Development Agency (NITDA), whose mandate was to administer the ICT policy for the country (NITDA, 2001). NITDA's strategies include the establishment of an e-governance model for Nigeria in specific areas such as e-administration, e-judiciary, e-healthcare, e-taxation, e-education, and so forth (Ajayi, 2003b).

Further, evidence suggests that the use of ICT products by the ordinary Nigerian citizen and government officials is growing remarkably (Ajakaye & Kanu, 2004; Hamilton, Jensen & Southwood, 2004). Nigeria seems to be moving in the right direction with the formulation of its new national ICT policy, which appears to promote e-governance initiatives. However, the main problem for the country continues to be the unavailability or poor condition of the enabling infrastructure for e-governance, such as telecommunication facilities. Nigeria has unfavorable statistics on its ICT infrastructure. For example, basic telecommunication services such as telephone lines, Internet access, and so forth, required for e-governance are inadequate in the SSA region, including Nigeria (Ifinedo, 2005). The teledensity (number of telephone lines per 100 inhabitants) in Nigeria in 1999 was 0.5, but rose to 2.0 in 2002 only after the Nigerian government liberalized the ICT sector. Similarly, Nigeria's Internet usage is poor (ITU, 2005). In 2002, there were 100,000 Internet users in Nigeria (CIA: World Factbook, 2004).

Currently, it is encouraging to know that Nigeria has made steady progress both in its infrastructure and internet usage. According to the UN E-Governance Survey (2014), Nigeria climbed from 162nd place to 141th in the last twelve months, and is the 19th country in the top 20 in Africa, with a development index of 0.2929. That is significant progress, I must say, considering where we were in the past years.

2.2.7 E-Readiness and E-Governance Ranking: Nigeria

E-Readiness is defined as, 'the degree to which a community is prepared to participate in the information age (networked world). It is measured by assessing a community's relative advancement in the areas that are most critical for ICT adoption and the most important applications of ICT' (Zaied, 2007).

E-Readiness is defined by different studies as the preparedness of a country for e-governance in terms of its technological infrastructure, human resource development, and telecommunication infrastructure. E-Readiness is the capacity to participate in and benefit from the global digital economy; preconditions necessary for e-governance, e-Commerce, and e-Development; degree to which a community or organization, is prepared to participate in the Networked world.

The United Nations global (UN) e-governance readiness index (UN e-governance survey, 2004; 2005; 2008) is a comparative ranking of the countries of the world according to two primary indicators: the state of e-governance readiness; and the extent of e-participation. It is a composite measurement of the capacity and willingness of countries to use e-governance for ICT-led development. By ranking the performance of countries on a relative scale, the index provides a valuable input for policy making and agenda setting for the future and serves as a benchmarking tool for monitoring progress of countries as they progress towards higher levels of digital public service delivery in the future.

The UN global e-governance readiness index comprises of the Web measure index, the telecommunication infrastructure index and the human capital index. A description of the parameters that make up the index as presented in the UN e-governance survey (2004; 2005; 2008) is presented.

2.2.8 Challenges and Factors Affecting E-Governance in Nigeria

Although many governments from developing countries are enthusiastic about e-governance and offer some level of online service, why does it remain challenging to implement e-governance services? The simple reason is that e-governance is not easy. Like many other African nations, there are some clear problems which influence the implementation of e-governance in Nigeria. Problems impacting on web implementation for Nigeria are outlined below.

2.2.8.1 Technological Issues

E-Governance involves taking computer-based technologies and combining them with human-based administrative processes to create new ways of serving citizens. Organizations have to adapt ICTs to business processes. Consequently, e-governance requires the government leaders and managers to address three issues:

- First, how do you take the technologies of the Internet and integrate them with existing information systems and existing organizational and institutional processes?
- Second, how do you build e-governance applications to meet the needs, capabilities and values of the end user?
- Third, how do you overcome the reality of the organizational, economic, political, technological, legal, and local environment that through complex factors influence and define the context of the e-governance service?

2.2.8.2 Understanding the Citizen

Government leaders also face a second challenge of meeting the demand for e-governance services. What are the typical behaviors of citizens online? Who is likely to go online to use government services? What types of barriers and obstacles turn people away from going online to use government services? What factors encourage users to feel comfortable with e-governance services? Once a person makes a visit online, will they return? Will they encourage other people to use the site or not? Government leaders can only expect to realize the benefits from cost-savings or better service quality if the user population grows.

So, e-governance services must cover the breadth and diversity of individuals who may have a wide range of skills, language abilities, education levels, income and beliefs.

2.2.8.3 Performance Expectancy

Performance expectancy describes the extent to which an individual believes that using a system will help him or her attain gains in his or hers human development. Does using the system improve opportunities to obtain a job or perform well in his or her job, find and participate in educational activities, and otherwise increase the freedom of users to participate in processes that deeply affect their lives (Walsham, 2007).

2.2.8.4 Effort Expectancy

Effort expectancy is defined as the degree of ease of using the system. This is based on whether the individual user feels as if a great deal of learning is necessary for using the system, how complex the system functions are, and other issues related to literacy and the use of ICTs. In a review of e-governance sites of developing countries, this report determined that many of the sites fall short in making it easy for web visitors to use the online government services. Additionally, many of these factors are determined as features that may annoy web visitors.

2.2.8.5 Privacy and Security Concerns

The privacy and security of citizens when they use government services is also another challenge. If citizens feel their privacy and security is at risk by participating in e-governance then they will be reluctant to use these services (Lau, 2003). In their interaction with government online citizens will at times be required to provide personal information. Therefore, the government must guarantee the privacy and security of this information. In addition to this, the government must also ensure that technical solutions are applied and that there is a “transparency of procedures and possibly independent auditing” (Lau, 2003). The coordinators and implementers of e-governance must respect accepted privacy principles while at the same time “allowing the benefits of the internet and other technologies to flow to citizens” (Lau, 2003). It would also be a step in the right direction if governments take an active role in the development of policy related to privacy and security (Lau, 2003). With a proper security and privacy policy in place with accompanying technology which ensures this, transactions involving personal details and payment for services could be more easily conducted on e-governance websites.

2.2.8.6 Electricity supply

Nigeria at present generates less than 10,000MW of electricity for a nation of over 160 million people, this is very low thereby forcing many households and companies operating in the country to depend on generators for their electricity. This would have adverse effects on the implementation of e-governance in the country. It would not make a lot of sense if e-Governance is introduced and the people to benefit from it cannot access it to make use of it.

2.2.8.7 Teledensity

According to statistics from the Nigerian Communication Commission (NCC) there are more than 67 million phone users in Nigeria as at April of 2009 and a teledensity of 47.98. The telecoms industry in Nigeria is the fastest growing in Africa and the third in the world going from a teledensity of 0.73 in 2001 to 47.98 in 2009 (Ayo and Ekong, 2008). Recently, as at January 2015, there were 140,822,483 network subscribers and a teledensity of 100.59 (www.ncc.gov.ng accessed 21st March 21, 2015). This, definitely have a positive impact on the implementation of e-Governance in the country.

2.2.8.8 Internet Diffusion

Internet diffusion in Nigeria was virtually non-existent in 1999 and it has now risen to a population of over 10 million users, second only to Egypt with an online population of 10.5 million (Ayo and Ekong, 2008). Recently, Nigeria is the 9th highest country of internet users numbering 67,101,452 (www.internetlivestats.com accessed 21st March 21, 2015). The key to successful implementation of e-governance is the level of internet diffusion in the country therefore more has to be done to improve on this.

2.2.8.9 Adult Literacy Rate

According to Ayo and Ekong (2008), adult literacy rate in Nigeria is above average and therefore would be a good factor in the implementation of e-governance in the country. Furthermore with the introduction of initiatives such as the Universal Basic Education scheme (UBE) which ensures free education for children till 15 years of age, the literacy age is likely to improve in the near future (Ayo and Ekong, 2008).

2.2.9 Federal Road Safety Corps and the E-Governance Quest

FRSC management desired an organisation where the staff understood the primal importance of data and possessed the requisite skills for data collation and analysis. This level of proficiency could not be achieved back in 2007 when the FRSC had a ratio of 1 computer to 200 staff. It was imperative that every staff of the Corps had access to a computer and possessed the ability to use such technology tools to conduct their daily activities.

As a result, FRSC invested significant financial resources to acquire computers to increase the ratio to the current 1 computer to every 20 staff. For instance, FRSC management has fully computerized all the Corps' Duty Rooms - the facilities from where patrol teams depart for their daily operations. The Patrol teams use the computers to file the reports from their daily patrols and operations: booked offenders, fines issued, impounded vehicles, RTC data etc. The data is submitted real-time to the FRSC Data Centre in Abuja.

To achieve the goal of full compliance to computer use, FRSC management instituted electronic mail as the primary medium for internal communication. In fact, management instructed that an FRSC email account was a prerequisite to a staff receiving their monthly salary. This was a bold move given that when it was introduced in 2008, internet penetration rate in Nigeria was still at about 28 percent. By the end of the first month, only 5,000 of the over 15,000 staff had activated their email accounts. this seemingly minor (yet strategic measure) set off severe backlash that resulted in petitions to the then President Umaru Yar'adua calling for the termination of Chidoka's appointment.

Luckily for the Corps, President Yar'adua supported the reform efforts. Having won the battle, it meant that all staff had to use computers at least once a month to receive their salary notices. Once they logged into their email accounts, they saw other corporate correspondences and soon realised that non-usage of the email system could be career limiting. This success increased computer use by FRSC staff to about 30 percent by the end of the first year.

Other process changes included the introduction of FRSC Intranet as another primary channel for internal communication. This meant that staff had to log on to the Intranet to obtain institutional knowledge on the Corps activities. Furthermore, management instructed that all patrol reports must be completed and submitted electronically every day. As a result, all staff had to get conversant with computer usage. Today, over 95 percent of all patrol reports are submitted online and on time. Buoyed by these early victories, FRSC management pushed the envelope by introducing the use of computers for all promotion examinations. This was revolutionary, as it had never been done in any other public sector organisation in Nigeria. This decision meant that computer proficiency was a prerequisite for career advancement in the Corps. To be promoted, one had to be proficient in both the examinable content and in the use of computers. By December 2012, over 103 Corps staff had taken the online promotion examinations.

These simple, yet avant-garde, measures have increased technology use in FRSC to 100 percent. Today, it is almost impossible to start and complete any administrative or operational function within the FRSC without employing technology in one form or the other.

With increased use of computers in the Corps, management shifted its focus to other forms of technology and tools to improve connectivity between its offices. These included satellite-based connectivity, phones within a closed user network, and a toll free number to connect to the 24-hour emergency call centre.

As at 2007, none of the FRSC offices were interconnected. Management shifted its focus to communication and information technology. With almost 400 VSAT across Nigeria, FRSC is one of the most technology networked public sector organisation in the country. By December 2012, FRSC management had deployed almost 400 very small aperture terminals (VSAT) across Nigeria and achieved real-time connectivity of most of the offices. Official memos are now sent at the speed of a click.

Although FRSC had a “Data Dash board” prior to the start of Osita Chidoka’s tenure, it had difficulties using the data. In addition to the difficulties of collating road traffic data using manual processes, the key challenge was the need for classification, processing and analysis of the data in a computerized database system for easy retrieval to aid decision-making. FRSC departments were expected to upload data to Dashboard but at best, the tool was used mainly for end-of year reporting. FRSC management could not use the information from the data in its management decisions because the data were not received in a timely manner.

By 2010, FRSC Data Centre was created as a warehouse for various management information systems used to track, capture and manage a wide range of data. To ensure continuous update of the Dashboard, data reporting was assigned the highest score of the six criteria used in evaluating individual and departmental performance. This evaluation determines one’s career progression within the organisation and has some immediate financial rewards attached. Data reporting constitutes 20 percent of the overall performance score.

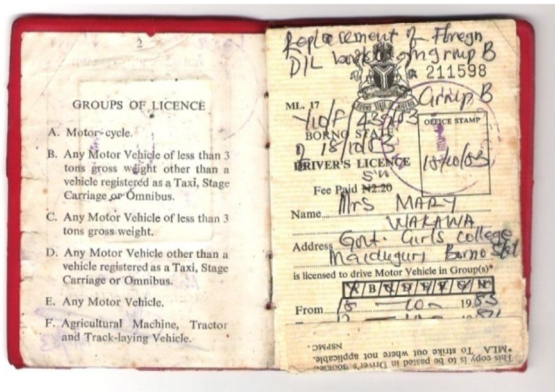
For instance, the National Vehicle Identification Scheme (NVIS) which relies on a database linking license plates to the vehicle owner’s international passport number, auto insurance policy number and proof of vehicle ownership; has been used by the State Security Service to identify vehicles used in crimes.

2.2.10 Evolution of the Nigerian Driver’s License

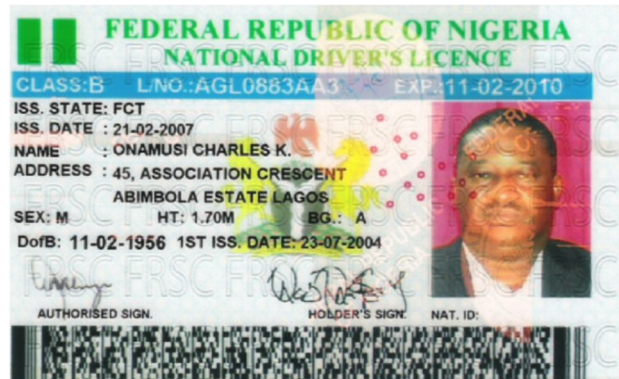
The driver license (DL) has grown over the years from one (1) processing centre to one hundred and forty (140) as at December 2011. It has nine classes categorized into four colors.

- **Green colors – Motorcycles**
- **Blue stripes – Private**
- **Red stripes – Commercial**
- **Yellow stripes – diplomatic**

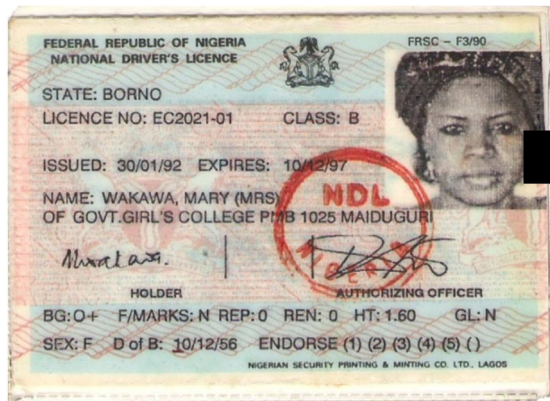
An individual can be licensed to hold one or more classes on a single card



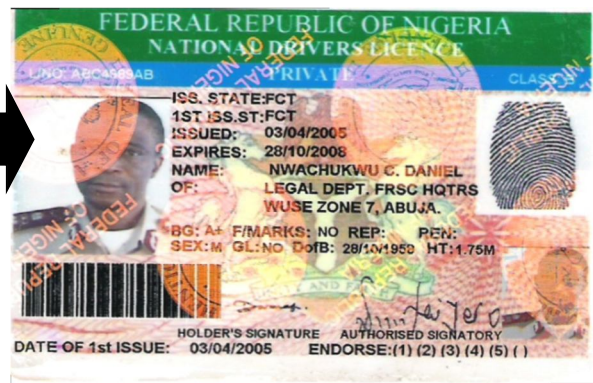
Booklet Format



Customized License



Laminated Format



Enhanced License

2.2

Th Fig 2.1 Evolution of the Nigerian Driving License

anniversary by the immediate past head of the FRSC, Osita Chidoka. It comes with state of the art security features. The diagram below illustrates that.

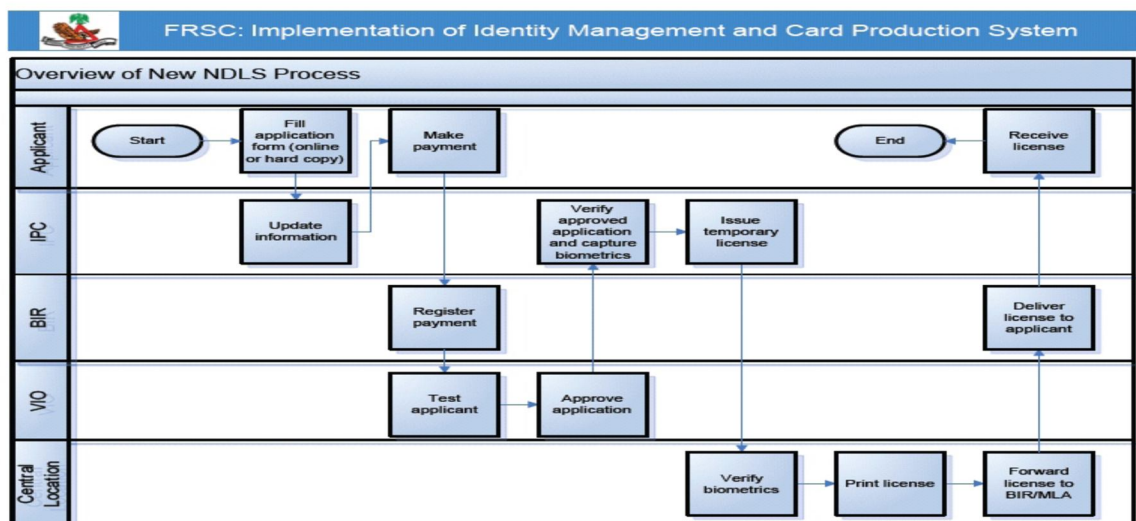
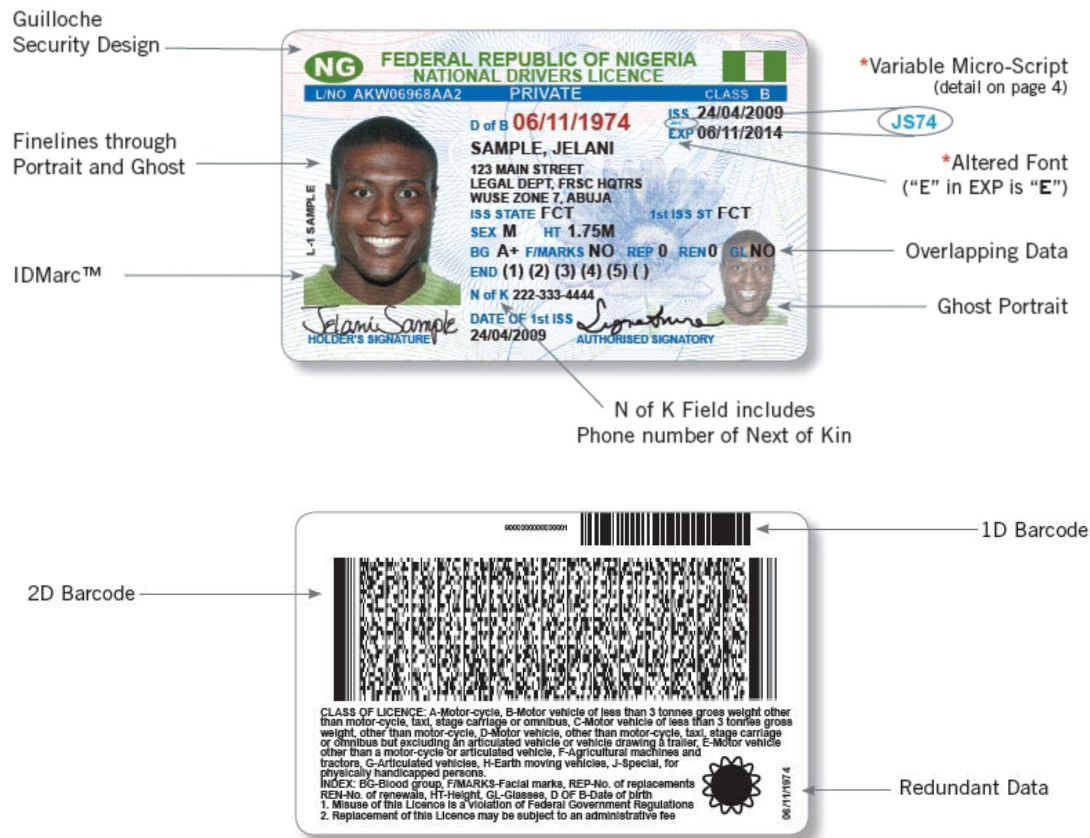


Fig 2.2 Application Process of the New Licensing Scheme



NOTE: A Level 3 forensic feature (confidential) is included on card samples.

Fig 2.3 Features of the New Driver License

2.2.11.1 Obtaining a License for the First Time

Step 1: Attend training at an accredited driving school.

Step 2: The driving school will then present you to the Vehicle Inspection Officer (VIO) for a driving test.

Step 3: Pass the driving test and obtain a certificate of proficiency from the VIO.

Step 4: Complete the driver's license application form at the Driver's License Centre (DLC).

Step 5: Pay the license fee online or at the Bank.

Step 6: Present your application form to the Board of Internal Revenue (BIR) Officer and VIO at the DLC for endorsement.

Step 7: Proceed to the FRSC Officer at the DLC for biometric data capture.

Step 8: Obtain a temporary drivers license valid for 60 days.

Step 9: Pick up original drivers license at the BIR Office after 60 days.

2.2.11.2 Renewing a License

Step 1: Apply online at www.nigeriadriverslicence.org or in person at a Driver's License Centre (DLC).

Step 2: Pay the license fee online or at the Bank.

Step 3: Present your application form to the Board of Internal Revenue (BIR) Officer and Vehicle Inspection Officer (VIO) at the DLC for endorsement.

Step 4: Proceed to the Federal Road Safety Corps Officer at the DLC for biometric data capture.

Step 5: Obtain a temporary drivers license valid for 60 days.

Step 6: Pick up original drivers license at the BIR Office after 60 days.

2.2.11.3 The Manual and Automated Driving License Scheme Compared

2.2.11.3.1 Manual Applications

The license holder will obtain an application form from the VIO/BIR representative at the licensing office. The applicant will complete the form and submit it to one of the FRSC officers who will capture the information on the form into the Drivers License application.

The Applicant will then need to make payment for the application at a bank using an application id number which will be issued by the FRSC officer. Once payment has been made, the applicant will take the acknowledgement slip to the BIR officer in the licensing office for registration. The applicant will then proceed to the VIO officer in the licensing office for screening and approval. After this, an FRSC officer at the licensing office will capture the applicant's biometric information and issue a temporary drivers license which will be valid for 60 days. The driver's license will be available for collection within the 60 day period.

2.2.11.3.2 Electronic Applications

The Applicant will access and complete the online application form <https://www.nigeriadriverslicence.org/dlApplication/renew>. The Applicant will then need to make payment for the application either at a bank or online. Once payment has been made, the applicant will take the acknowledgement slip to the BIR representative in the licensing office for registration. The applicant will then proceed to the VIO officer within the licensing office for screening and approval. After this, an FRSC officer at the Information Processing Center will capture the applicant's biometric information and issue a temporary drivers license which will be valid for 60 days. The driver's license will be available for collection within the 60 day period.

Table 2.1 License Procurement Waiting Time in the Manual and E-license Scheme Compared in Enugu Metropolis from 2006 -2015

Year	Manual licensing procurement Waiting Time	Year	E-licensing procurement Waiting Time
2006	60 days	2011	60 days
2007	60 days	2012	60 days
2008	60 days	2013	60 days
2009	60 days	2014	60 days
2010	60 days	2015	60 days

Source: Research Data 2016

Table 2.2 No of Registered Driver License in the Manual and E-license Scheme Compared in Enugu Metropolis from 2006 - 2015

Year	No of Registered/Renewed Driver License	Year	No of Registered/Renewed Driver License
2006	253	2011	1021
2007	984	2012	1324
2008	964	2013	1123
2009	1087	2014	1411
2010	1321	2015	1273
Total	4609	Total	6152

Source: FRSC Statistical Digest 2015

Table 2.3 Record of Road Accidents in the Manual and E-license Scheme Compared in Enugu Metropolis from 2006 – 2015

Year	Road accidents reported in the manual scheme in Enugu metropolis	Year	Road accidents reported in the e-license scheme in Enugu metropolis
2006	115	2011	118
2007	117	2012	82
2008	127	2013	84
2009	134	2014	78
2010	132	2015	96
Total	625	Total	458

Source: FRSC Statistical Digest 2015

Table 2.4 Record of Road Traffic Offenders in the Manual and E-license Scheme Compared in Enugu Metropolis from 2006 - 2015

Year	Record of Road Traffic Offenders	Year	Record of Road Traffic Offenders
2006	1633	2011	1052
2007	1768	2012	929
2008	1619	2013	902
2009	2075	2014	702
2010	1570	2015	576
Total	8665	Total	4161

Source: FRSC Statistical Digest 2015

2.2.12 E-Governance Initiatives in Public Service Delivery in Nigeria

In Nigeria, there are several initiatives geared at accelerating development via the technological platform in the polity. E-Nigeria initiatives geared towards connecting communities, vital agencies, institutions of Government and educational institutions at all levels with ICT are currently being pursued by the government. From the National Rural Telephony projects to other laudable initiatives like the Nigerian telemedicine initiative, Public service network initiative, internet exchange point initiatives, State and local Government ICT facilities loan scheme initiative and wire Nigeria initiative.

According to Ekeh (2007), these initiatives are aimed at enabling the rapid development of the Nigerian nation. In addition, and as a matter of necessity, the only skill and tool a nation needs to actualize them (the initiatives) is by making computers affordable and flexible for Nigerians to acquire. Currently, one can access the local/states allocations over the Ministry of Finance website and compare with the estimated values locally (through the in-house package) within the local Government and reasons on how and where the expenditure has gone into can be deduced almost instantaneously (Muhammed, 2010). Some components of e-governance have already commenced in Nigeria.

2.2.12.1 The National E-Id Card

The new National e-ID Card issued by the National Identity Management Commission (NIMC) is primarily a National Identity Card with a Smartcard built-in, containing provision for up to 13 applets, of which 5 are activated when an applicant picks up his/her Card. The National Identity Database is not open to inspection by any party, home or abroad. There is absolutely no provision for any foreign Government or body to access the database.

2.2.12.2 Automated Accounting Transaction Recording and Reporting System (ATRRS)

It is an ICT based Accounting Software application which facilitates the input of Accounting Transactions, its reconciliation and the generation of Standard Accounting Reports that meet the required Standard of the Treasury. The software is developed by the Treasury (OAGF). It provides a

leverage solution to automate the manual recording of the accounting transactions in the Line Ministries, Agencies and Parastatals of government.

The solution helps in the prompt rendition of financial and accounting returns; accurate presentation of financial reports; enhanced capacity to generate complex analytical reports; enhanced ability to cope with large volume of transactions; automatic mode of processing transactions and ability to eventually operate on-line real time processing. With this package, solution is provided to most of the challenges posed by the manual accounting process. The implementation of the Accounting Transaction Recording and Reporting System (ATRRS) has opened the doors widely for the Treasury to appreciate the essence and benefits derivable from the computerization of Government Accounting System.

2.2.12.3 Integrated Payroll and Personnel Information System (IPPIS)

IPPIS stands for “*Integrated Payroll and Personnel Information System*”. The system covers the administration of FGN’s human resource i.e. recruitment, promotion, discipline, transfers, career movements, training and development, performance management, disengagement and all the financial transactions related to personnel emoluments. It aims to promote the effectiveness and efficiency in storage of personnel records and administration of monthly payroll in such a way to enhance confidence in staff emolument costs and budgeting.

IPPIS is a web-based Human Resources Management System (HRMS) that has Personnel records and Payroll administration modules. The HRMS runs on an internet that connects the data centres of the MDAs including Nigeria Police Formations to the main server at the Office of the Accountant General of the Federation (OAGF), who are the custodian of the system.

2.2.12.4 Government Integrated Financial Management Information System (GIFMIS)

The Government Integrated Financial Management Information System (GIFMIS) is an IT based system for budget management and accounting that is being implemented by the Federal Government of Nigeria to improve Public Expenditure Management processes, enhance greater accountability and transparency across Ministries and Agencies.

GIFMIS is designed to make use of modern information and communication technologies to help the Government of Nigeria to plan and use its financial resources more efficiently and effectively. The purpose of introducing GIFMIS is to assist the FGN in improving the management, performance and outcomes of Public Financial Management (PFM). The immediate purpose of this project is to enable an executable budget, i.e. a budget which can be implemented as planned by addressing the critical public financial management weaknesses.

As a matter of fact GIFMIS provides an opportunity to move to Treasury Single Account and to reduce the number of stages in transaction processing.

2.2.12.5 The West African Examinations Council and National Examination Council Online Presence

The West African Examinations Council established an online presence as far back as 2003. This has enabled candidates for the West African Senior School Certificate Examination (WASSCE) to access information to address all queries concerning participation, registration and results. The same goes for the National Examination Council NECO examination, which is an equivalent to the WASSCE examination has an online presence as well making the process of participation easier for prospective candidates.

2.2.12.6 The Joint Admission and Matriculation Board (JAMB)

In 2010 there was another major improvement in the education system. The National Matriculation Examination for Admission to Nigerian higher institutions of learning -Joint Admission and Matriculation Board (JAMB) written by millions of candidates of which their scripts are now being computer-marked and the results are released and up-loaded to the website within seven working days. This complete turnaround can only be fully appreciated when contrasted with the previous time-line of 8weeks where candidates had to wait nervously for mails to be sent through the physical post office. This generated all kinds of muddles-up as some alerts got missing in transit, owing to the fact that some candidates might have changed addresses within that gap. More so this was a huge improvement in the sense that the manually marked scripts were more prone to mistakes and even examiner influences. In 2013, JAMB introduced CBT partially with a planned full implementation in 2015. As at the time of this study, prospective university students all over the country are doing their compulsory JAMB CBT test.

2.2.12.7 The Nigerian Petroleum Exchange (Nipex)

In the Oil and Gas sector, Nigeria's most important industry, it was imperative that there be some improvement to contract allocation phasing out favoritism. In 2006 there was a major reform in transacting with the government in the industry. The Nigerian National Petroleum Corporation (NNPC) through one of its division National Petroleum Investment Management Services (NAPIMS) created the Nigerian Petroleum Exchange (Nipex). Nipex is set up to improve the contracting processes in the oil and gas sector. It is the electronic contracting platform for NNPC and its operating partners to offer projects to pre-qualified contracts and suppliers for easy selection. This system has brought about fast, efficient and transparent transactions in the industry, reducing the contracting cycle timeline from almost 24 months to merely 12 months. It has created a platform for indigenous contractors and suppliers to be more visible for contract opportunities. Stakeholders in the industry can be rest assured that they would get the best-qualified vendors to work on their various projects.

2.2.12.8 E-Passport

Perhaps one of the most notable indicators of the evolution of e-governance in Nigeria is the Nigerian Immigration Service's e-passport system which came into effect fully in 2008. Considering the Service's mandate to regulate immigration, and combat trans-border crimes among others, ensuring the validity and integrity of issued passports becomes a critical national objective. For many years, the institution practically lost its credibility and reputation as a result of the increase in cases of poor services, fraudulent passport documents, forgery, theft and multiple passport issues.

Since it was very difficult to separate authentic issues from compromised ones, valid passport owners were often subjected to ridicule and embarrassment at many destinations. However, the introduction of the electronic passport has significantly reduced such incidences in recent times. Presently, rather than making a physical appearance to obtain a passport, the application process including forms and necessary payments are made online which reduces the possibility of human errors in data entry and recordkeeping, as well as fraudulent practices. In addition to the online applications, the passport also has an embedded memory chip containing the passport holder's data, allowing ease of transfer of information at designated locations.

The involvement of the private sector, commercial banks in particular, has also facilitated the successful implementation of the initiative. Thus, through citizen's demand, an essential public service which had for a long time been a weak link was transformed to an efficient service. One can see this as an instance where public service delivery is improved through citizen demand.

2.2.12.9 NYSC e-Registration Scheme

Next, we review the e-registration scheme by university graduates who are eligible for participation in a compulsory one-year National Youth Service Corps (NYSC) scheme. The intent of the scheme is to allow youths and graduates an opportunity to engage in community cum national service in a part of the country other than their domicile. Since the scheme became fully functional only about a year ago, it may be too early to undertake a more detailed analysis. However, it was public knowledge that Manual registration and "call-up" was so complex and disastrous that many young graduates often missed participation in the scheme, which further meant lagging behind their cohort for at least a year in the employment market. Intending corps members had to travel back to their schools to obtain confirmation of their participation before heading to whatever locations they had been assigned for service. The commutation risks and financial implications for such "needless" travel were expectedly enormous: fatal accidents claimed many lives. It seemed such an outrageous price to pay for the benefit of receiving information that could just so easily been made available on the Internet.

Presently, however, the organization has established an online solution which eliminates most of the costs associated with the former procedures. Applicants need only to purchase access cards with a numeric code that enables them to make the required registration via the Internet, and check their areas of posting - even from outside the country - before the commencement of their scheduled service. Similar solutions exist as well for public examinations bodies and most university admission processes, all of which also often involve significantly heavy travel costs.

2.2.12.10 Nigeria's 1-GOV.net

Recognizing the loss of potential synergies and the high cost of separate ICT systems across government entities, the government of Nigeria endorsed the creation of the common platform "1-GOV.net" to offer shared services to the whole of the Federal Government. The initiative has significantly reduced cost and improved the delivery of services.

The Federal Government was spending over 120 million USD on ICT infrastructure projects championed by different Ministries, Departments or Agencies (MDAs). Most of these projects were duplications. At the same time valuable information created in one MDA was not accessible to the next. Overall, there was lack of a coordinated approach to e-governance. The Federal Government was receiving little value for money while paying a high price for the connectivity services: about \$6.7m a year for what was no more than a total of 50 Mbps to different MDAs. On top, the security of information was at risk with Government data being hosted in several open access infrastructures offshore.

A common ICT platform for the Federal Government was proposed by an inter-ministerial committee on harmonization of ICT initiatives of all MDAs and approved by the President of Nigeria. This common platform called 1-GOV.net has now become a secure government cloud consisting of software, hardware and network infrastructure offering shared services to the whole of the Federal Government of Nigeria. Now, over 85% of the MDAs are integrated into a secure, exclusive network. For example, inter-agency voice and video conferencing is now available through 3,600 connected locations nationwide reducing the need to travel across and between the cities for meetings. This is illustrated in the diagram below.

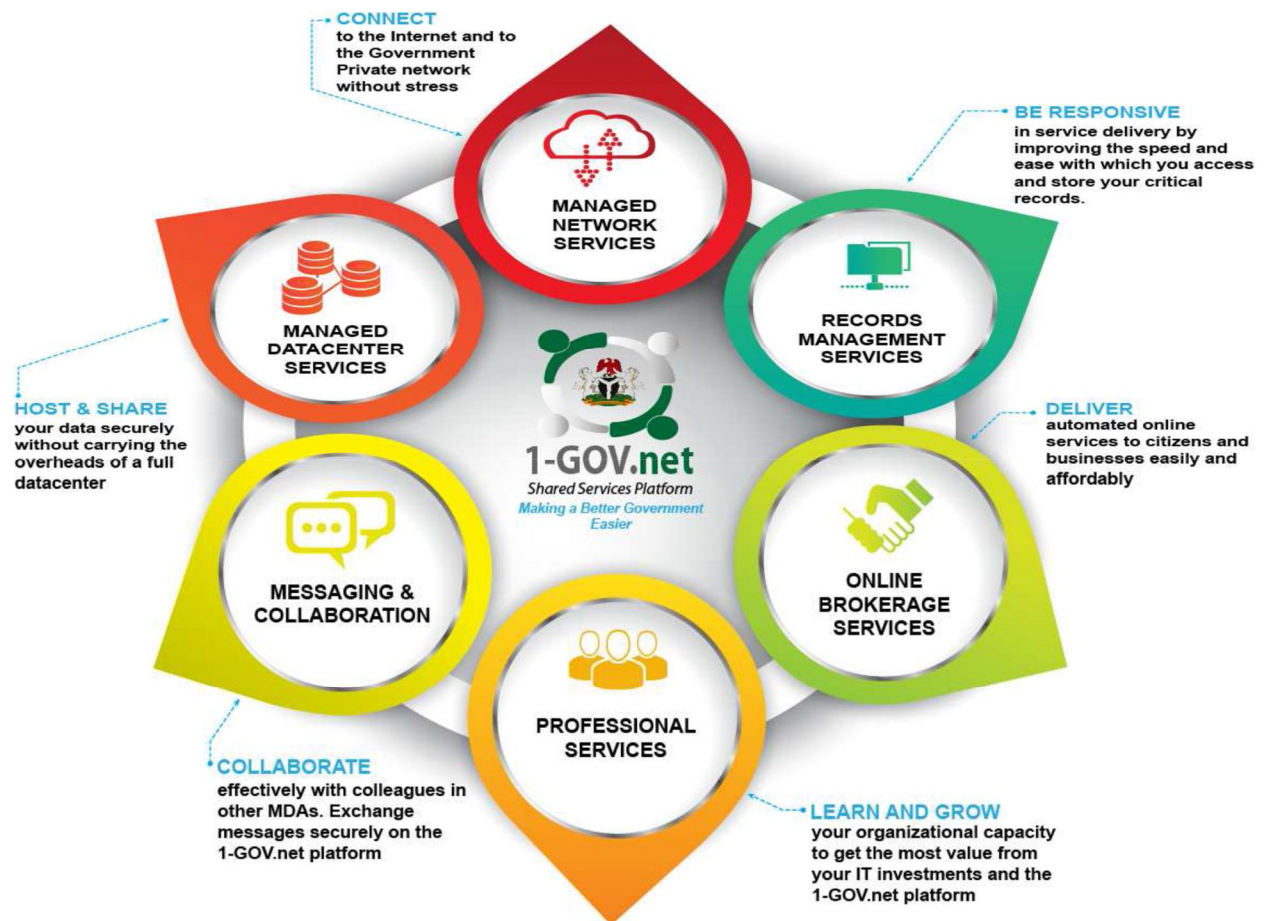


Fig 2.4 1gov.net

The initiative eliminated the duplication of ICT projects and infrastructure within government and reduced cost. The connection of MDAs through a common ICT infrastructure greatly facilitates process automation and contributes to overall improvements of service delivery. Examples are the automation of Government payroll and improvements in the process for the issuance of driver licenses by Federal Road Safety Commission.

2.2.12.11 Nigerian Custom Asycuda Programme: ASYCUDA is an integrated computer system for the management of Customs procedures and operations, developed and maintained by the United Nations Conference on Trade and Development (UNCTAD).

It is designed to harmonize and standardize Customs procedures in the Country, leading to better management and improved productivity in the Nigeria Customs Service. Founded in the early 80's to automate the operations of Customs Administrations, the UNCTAD ASYCUDA Programme has become the leading media of Customs modernization worldwide. The ASYCUDA software is today the core component of comprehensive, Integrated Customs Information Systems in more than 80 countries.

The main objective of the program is to assist countries to achieve a global aim - Facilitation of Trade, by strengthening the Customs Administrations' operational capacity to carry out their fiscal and control missions, through the implementation of modern and reliable systems.

Presently, the system is in operation in all the major sea and airports in the Country. Its major features include modules for the management of Manifests, Import and Export Licenses, Customs Declarations, Suspense Procedures, Selectivity, Accounting Functions, Control Files, Valuation, Examination, Tariff and Taxation, Statistics, Documentation, Utilities and Configuration. The system takes into account all International Standards, Codes and recommendations adopted by the International Standards Organisation (ISO), the World Customs Organisation (WCO) and the UNCTAD, in the field of trade facilitation.

2.2.12.12 E-Wallet Scheme

The removal of fuel subsidies in Nigeria made headlines in early 2012, but another halt to an expensive, inefficient state intervention took place in the agricultural sector. Fertilizer subsidies were the target of this reform and were replaced with the Growth Enhancement Support Scheme (GES). A first in Africa, the system helps ensure that farmers can access subsidies directly, using mobile phones as a platform to conduct basic transactions and make payments. As in the fuel markets, fertilizer distributors profited illegally as middlemen. The now-dismantled system featured the state as the sole procurer of fertilizers, which it then re-sold at subsidized prices to distributors on the expectation that they would sell them on to farmers on the same terms. However, higher retail prices by vendors were a common occurrence – which in turn helped to limit the overall usage of fertilizer by farmers. Just 11% of farmers in the 2011 growing season actually used fertilizers.

This method was replaced with the GES, in which the import of fertilizer and seeds was no longer the sole purview of the government. Now the market is open to all wishing to participate, and prices are set by supply and demand. The GES allows farmers to get a 50% subsidy on a maximum of two bags of fertilizer. That subsidy is to go from state to farmer directly, cutting out the middlemen. Farmers can pay either via a mobile phone platform called the “e-wallet” or by vouchers for those who cannot access the mobile phone platform. In order to monitor progress, the Federal Ministry of Agriculture and Rural Development created a database of 4.5m farmers that includes biometric information, and 1.2m farmers signed up for e-wallet accounts to buy fertilizer.. The goal now is to reach 20m farmers in the next four years. To reach that goal, the ministry has paired with the Federal Ministry of Communication Technology to distribute 10m mobile phones to farmers.

Methodology

The study is descriptive in nature. Data were collected from both primary and secondary sources. Data collected were statistically analysed. Essentially data got from the field complements the secondary data.

4.2 Test of Hypotheses

TEST OF HYPOTHESES

Hypotheses formulated for this study was tested using secondary data. Correlation coefficient was used to test the relationship between the dependent variable (public service delivery) and independent variable (e-governance). Data from Tables 2.1 - 2.4 were used to the relationship between the two variables. afterward the test of statistics was used to either to accept or reject the null hypotheses.

Hypothesis 1:

Null hypothesis: E-governance has led to a significant increase in the production of driver license in Enugu metropolis.

Alternate hypothesis: E-governance has not led to a significant increase in the production of driver license in Enugu metropolis.

$H_0: p \neq 0$

$H_A: p = 0$

Table 4. 11 Test of the relationship between e-governance and production of driver license

Source: Field Data 2016

To solve for correlation coefficient

X	Y	XY	X²	Y²
253	1021	258313	64009	1042441
984	1324	1302816	968256	1752976
964	1123	1082572	929296	1261129
1087	1411	1533757	1181569	1990921
1321	1273	1681633	1745041	1620529
4609	6152	5859091	4888171	7667996

$$\begin{aligned}
 r &= \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2] [N\sum Y^2 - (\sum Y)^2]}} \\
 &= \frac{5(1681633) - (1321)(1273)}{\sqrt{[5(1745041) - (1321)^2] [5(1620529) - (1273)^2]}} \\
 &= \frac{940887}{\sqrt{(3197974) (492876)}} \\
 &= \frac{940887}{\sqrt{1.5762}} \\
 &= \frac{940887}{1.25546804} = .2638 \quad r = .26
 \end{aligned}$$

The test statistic is $t = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}} =$

at 5% confidence level, the t table gives us ± 3.182 for the critical values.

$$t = \frac{.26 \sqrt{3}}{\sqrt{1-.26^2}} = 0.482982851$$

This is lesser than the positive critical value, so we accept the null hypothesis, ie, the correlation is +0.482. Thus, e-governance has led to an increase in the production of driver license in Enugu Metropolis.

Hypothesis 2:

Null hypothesis: E-governance has led to a significant reduction in the rate of road Traffic offenders in Enugu Metropolis.

Alternate hypothesis: E-governance has not led to a significant reduction in the rate of road Traffic offenders in Enugu Metropolis.

$H_0: p \neq 0$

$H_A: p = 0$

Table 4.12 on effect of e-governance on reduction of road traffic offenders

X	Y	xy	x ²	y ²
1633	1052	1717916	2666689	1106704
1768	629	1112072	3125824	395641
1619	721	1167299	2621161	519841
2075	601	1247075	4305625	361201
1570	456	715920	2464900	207936
8665	3459	5960282	15184199	2591323

Source: Research Data 2016

$$\begin{aligned}
 r &= \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum Y^2 - (\sum Y)^2]}} \\
 &= \frac{5(5960282) - (8665)(3459)}{\sqrt{[5(15184199) - (8665)^2][5(2591323) - (3459)^2]}} \\
 &= \frac{-170825}{\sqrt{(838770)(991934)}} \\
 &= \frac{-170825}{\sqrt{8.32004}} \\
 &= \frac{-170825}{2.884447954} \\
 &= .77078 \\
 r &= +.771
 \end{aligned}$$

The test statistic is $t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} =$

At 5% confidence level, the t table gives us ± 3.182 for the critical values.

$$t = \frac{.771\sqrt{3}}{\sqrt{1-.771^2}} = 10.951$$

This is greater than the positive critical value, so we accept the null hypothesis, and ie, the correlation is +10.951. Thus, e-governance has led to a significant reduction in the rate of road traffic offenders in Enugu metropolis.

Hypothesis 3:

Null hypothesis: E-governance has led to a significant reduction in the rate of road traffic accident in Enugu metropolis

Alternate hypothesis: E-governance has not led to a significant reduction in the rate of road traffic accident in Enugu metropolis.

$$H_0: p \neq 0$$

$$H_A: p = 0$$

Table 4.13 on effect of e-governance on reduction of road traffic accidents

X	Y	xy	X ²	Y ²
118	115	13570	13924	13225
82	117	9594	6724	13689
84	127	10668	7056	16129
78	134	10452	6084	17956
96	132	12672	9216	17424
458	625	56956	43004	78423

Source: Research Data 2016

X= 458, Y= 625

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$= \frac{5(56956) - (458)(625)}{\sqrt{[5(43004) - (458)^2][5(78423) - (625)^2]}}$$

$$= \frac{-1470}{(5256)(1490)}$$

$$= \frac{-1470}{\sqrt{7831440}}$$

$$= \frac{-1470}{2798.471011}$$

$$= -0.525286842$$

$$r = -0.525$$

The test statistic is $t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} =$

At 5% confidence level, the t table gives us ± 3.182 for the critical values.

$$t = \frac{-0.525\sqrt{3}}{\sqrt{1-0.525^2}} = -3.301$$

This is greater than the positive critical value, so we accept the null hypothesis, and ie, the correlation is -3.301. Thus, e-governance has led to a significant reduction in the rate of road traffic accidents in Enugu metropolis.

5.1 Summary of Findings

1. E-licensing has not improved the driver license application system since inception.
2. The e- licensing scheme has not reduced the normal procurement waiting time.
3. The e-licensing scheme has reduced the rate of road traffic offenders and;
4. E-licensing has led to a significant improvement in the reduction of road traffic accidents
- 5 E-governance has led to an increase in the production of driver license in Enugu Metropolis.
E-governance has not reduced the normal waiting time for license procurement.
1. E-governance has led to a significant reduction in the rate of road traffic offenders in Enugu metropolis.
2. E-governance has led to a significant reduction in the rate of road traffic accidents in Enugu metropolis.

5.2 Conclusion

Based on the findings of this research work, we can conclude that while e-governance model has been adopted in public sector service delivery in Nigeria, it is still work in progress and yet to achieved the desired result.

5.3 Recommendations

In view of the findings of this research work, the following recommendations are hereby made:

1. **Promotion of ICT Education:** The government should promote ICT education in Nigeria which is a platform for citizens to access e-governance services. E-governance readiness strategies and programs will be able to be effective only if people at the very minimum, (had) functional literacy and education, which includes knowledge of computer and Internet use; all are connected to a computer; and all have access to the Internet. Government should review the current educational curricula to include ICT education at all levels. Government should establish a program to enhance local content, in this regard; government is urged to encourage all productive sectors of the economy to develop their websites and Government employees to obtain an e-Mail address.
2. **Planning:** The government should undertake strategic planning when developing their websites. The government agencies must critically evaluate their projects before they are undertaken with

the main mission of achieving their vision. An important aspect, therefore, is to collect input from the citizens concerning future needs and what they expect.

3. **Provision of user-friendly service:** A major consideration during implementation of e-governance application is to create a user interface that is friendly and easy to operate. The degree of sophistication may hamper effective usage of the sites; therefore, website developers must have the user in mind.
4. **Proper training and adequate staffing:** The public sector or agencies must hire and ensure proper staffing of their IT departments. In addition, they must implement staff training mechanisms to ensure they keep abreast of the ever-changing technology. Additionally, training leads to job satisfaction, which is an important ingredient in employee retention.
5. **Agency partnership and support from top leadership:** Agencies should consider pooling their resources together as a way of reaching their constituents in providing services. IT projects are cumbersome, controversial, and expensive. For this reason, for projects to survive and succeed, there must be political will and leadership support to ensure smooth implementation.
6. **Set up outreach programs to train citizens:** Not all citizens may have the expertise to use this technology. It is imperative for the government to ensure public places like libraries, schools, and any other points of computer contact have instruction manuals.

References

BOOKS:

- Adebayo, A. (2004). *Principle and Practice of Public Administration in Nigeria*. Ibadan: Spectrum Books.
- Budd L and Harris L. (2004). *E-Economy: Rhetoric or Business Reality*. London: Routledge.
- Chukwuemeka, .E.O. (2006). *Research Methods and Thesis Writing: A Multi-Disciplinary Approach*. Enugu: HRV publishers.
- Garnham, N. (1990). *Capitalism and Communication: Global Culture and the Economics of Information*. London: Sage.
- Lane, J. (1993). *The Public Sector: Concepts, Models and Approaches*. London: Sage.
- Lucas, H. C. (2002). *Strategies for Electronic Commerce and the Internet*. Cambridge: M.I.T. Press.
- Macome, E. (2003). *On the implementation of an information system in the Mozambican context: The EDM case. Organizational Information Systems in the Context of Globalization*. Norwell, MA: Kluwer Academic Publishers.
- Obasi, I.N. (1999). *Research Methodology in Political Science*. Enugu: Academic Publishing Company.
- Peters, B.G. (1996). *The Future of the Governing: Four Emerging Models*. Lawrence, Kansas: University Press of Kansas.
- Rogers, E. (2003). *Diffusion of Innovation*. New York: Free press Simon and Schuster.
- West, D. (2005). *Digital Government: Technology and Public Sector Performance*. Princeton NJ: Princeton University Press.
- West, D. (2007). *Global e-Government*. Providence, RI, Brown University: Center for Public Policy.

BOOK CHAPTERS:

- Adewumi, F. (2012). Victims as Sacrificial Lambs a Critique of Public Service Forms in Nigeria. In A.Funmi and I.William (Eds.), *Public Sector Reform in Africa: The Nigeria Perspectives* (6-9). Dakar: CODES RIA.
- Fiszbein, A. (2000). Public-Private Partnerships as a Strategy for Local Capacity Building: Some Suggestive Evidence from Latin America. In P.Collins (Ed.), *Applying Public Administration in Development: Guideposts to the Future* (10-12). Chichester: Wiley.
- Haque, S. (1994). The Emerging Challenges to Bureaucratic Accountability: A Critical Perspective. In A. Farazmand (Ed.), *Handbook of Bureaucracy* (18-22). New York: Marcel Dekker.
- Maikudi, A. S. (2012). Civil Service Reforms in Nigeria (1999-2007) Dimensions and Consequences. In A. Funmi and I. William (Eds.), *Public Sector Reform in Africa: The Nigeria Perspectives* (30-34). Dakar: CODES RIA.

Salisu, M. (2001). Incentives Structure, Civil Service Efficiency and The Hidden Economy In Nigeria. In K. Mugerwa (Ed.), *Reforming Africa's Institutions (14-18)*. Helsinki: UNU/WIDER Publication.

JOURNAL ARTICLES:

- Adeyemo, A. B., (2011), E-government Implementation in Nigeria: An assessment of Nigeria's Global e-gov Ranking. *Journal of Internet and Information System*, 2(1), 11-19.
- Akhter, M. S. (2007). E-Governance in a Developing Country: Citizen-Centric Approach for Success. *International Journal of Electronic Government (EJEG)*, 3(1), 11-19.
- Basu, S. (2004). E-governance and Developing Countries: An Overview. *International Review of Law Computers*, 18(1), 44-48.
- Bhatnagar, S. (2007). Implementing e-Government Services in East Africa: Assessing Status through Content Analysis of Government Website. *Electronic Journal of e-Government*, 2(1), 39-54.
- Brannen, A. (2001). E-governance in California: Providing Services to Citizens through the Internet. *Spectrum*, 74(2), 66-69.
- Chatfield, A.T. (2009). Public Service Reform through e-Government: A Case Study of e-Tax in Japan. *Electronic Journal of e-Government*, 7(2), 51-54.
- Fahy, J., Smithee, A. (1999). Strategic Marketing and the Resource Based View of the Firm. *Academy of Marketing Science Review*, 10(1), 1-20.
- Fang, Z. (2002). E-governance in Digital Era: Concept, Practice and Development. *International Journal of the Computer, the Internet and Management*, 10(2), 11-15.
- Gupta, M. P., & Jana, D. (2003). E-Government Evaluation: A Framework and Case Study. *Government Information Quarterly*, 20(4), 365-387.
- Haque, S. (2001). The Diminishing Publicness of Public Service under the Current Mode of Governance. *Public Administration Review*, 6(1), 65-82.
- Ho, A. T. K. (2002). Reinventing Local Governments and the E-Government Initiative. *Public Administration Review*, 62(4), 434-444.
- Hood, C. (1991). A public management for all seasons. *Public Administration*, 69(3), 3-19.
- Ifinedo, P. (2005). Measuring Africa's e-readiness in the global networked economy: A nine-country Data Analysis. *International Journal of Education and Development using ICT*, 1(1), 54-59.
- Ifinedo, P. (2006). Measuring Africa's e-readiness in the global Networked Economy: A Nine-country Data Analysis. *International Journal of Education and Development using ICT*, 1(1), 53-71.
- Mario, S. (2009). E-governance in Transition Economies. *World Academy of Science, Engineering and Technology*, 5(3), 11-15.
- Moon, M. J. (2002). The Evolution of E-governance Among Municipalities: Rhetoric or Reality? *Public Administration Review*, 62(4), 17-21.
- Olufemi, f. (2012). Electronic Governance: Myth or Opportunity for Nigerian Public Administration? *International Journal of Academic Research in Business and Social Sciences*, 2(9), 14-18.
- Peters, B.G. (1997). Policy Transfers Between Governments: The Case Of Administrative Reforms. *West European Politics*, 20(4), 71-88.
- Rizos, E.J. (2001) Country Development: The New Ethic of Public Administration. *International Review of Administrative Sciences*, 31(1), 279-288.
- Sagheb-Tehrani, M. (2010). A Model of Successful Factors Towards E-Government Implementation. *Electronic Government, an International Journal*, 7(1), 60-74.
- Sahu, G. P., & Gupta, M. P. (2007) User's acceptance of e-government: A study of Indian central excise. *International Journal of Electronic Government Research*, 3(3), 1-21.
- Schware, R., Deane, A. (2003). Deploying e-Government programs: the strategic importance of "I" before "E". *The Journal of Policy, Regulation and Strategy for Telecommunication*, 5(4), 10-19.
- Shatne, K. (2001). Constituent Relationship Management Systems: A Primer for Public Managers . *Government Finance Review*, 17(2), 46-49.
- Stanforth, C. (2007) Using Actor-Network to Analyze E-Government Implementation in Developing Countries. *Information Technologies and International Development*, 4(1), 11-17.
- Tan, M., & Teo, T. (2000) Factors Influencing the Adoption of Internet Banking. *Journal of the Association for Information Systems*, 1 (5), 1-5.
- Walsham, G., & Robey, D. (2007). Foreword: Special Issue on Information Systems in Developing Countries. *MIS Quarterly* 31(2), 317-326.

- Yildiz, M. (2004). E-governance Research: Reviewing the Literature, Limitations, and Ways Forward. *Government Information Quarterly*, 24(2), 20-24.
- Zaied, A. N., Khairalla N. F., & Al-Rashid, W. (2007). Assessing e-Readiness in the Arab Countries: Perceptions Towards ICT Environment in Public Organisations in the State of Kuwait. *The Electronic Journal of e-Government*, 5(1), 77 – 86

GOVERNMENT/ORGANIZATIONAL PUBLICATIONS:

- Australian Government Information Management Office. (2006). *Government Report on Australians' Use of and Satisfaction with e-Government Services*. Retrieved from <http://www.agimo.org/e-gov>
- African Development Bank. (2005). *Public Sector Management in Africa*. Oxford/New York: African Development Bank.
- Anakwe, U., Simmers, C., & Anandarajan, M. (2002). *Internet usage in an emerging economy: The role of skills, support and attitudes*. Retrieved from <http://www.pu.edu.org/publications/report/Working Paper No. 205>.
- Chidoka, O. (2010). FRSC: Data at the Speed of Light. Accessed 26th may 2016 from <http://www.frsc.gov.ng>
- Information Society and Media. (2006). *Breaking Barriers to E-Government: Overcoming obstacles to improving European public services*. Retrieved from <http://www.eu.org/e-governance>.
- European Commission. (2003). *The Role of e-governance for Europe's Future, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions*. Retrieved from <http://www.eu.org/e-governance>
- Baum and Di Maio. (2000). Gartner Four Stage E-governance Model. Gartner Research Institute, California U.S.A
- FRSC (2015). Statistical digest
- Heeks, R. (1998). *Information System for Public Sector Management; Information Systems and Public Sector Accountability* (IDPM Working Paper Series, Paper No.1). Manchester: University of Manchester
- Heeks, R. (2002). *E-governance in Africa: Promise and Practice*. Manchester: Institute for Development Policy and Management
- Heeks, R. (2001). *Understanding E-Governance for Development* (i-Government Working Paper Series, Paper No 11). Manchester: Institute of Development Policy and Management
- International Telecommunication Union. (2006). *World ICT Development Report*. Geneva: ITU
- National Information Technology Development Agency. (2001). *Nitda Begins Strategic Action Plan For the Implementation Of Nigeria It Policy*. Retrieved from <http://www.nitda.gov.ng>
- Organisation for Economic Co-operation and Development. (2005). *e-Government for Better Government*. Paris: OECD.
- Organisation for Economic Co-operation and Development. (1993). *Public Management Development Survey*. Paris: OECD.
- Organisation for Economic Co-operation and Development. (2003). *The e-Government imperative*. Paris: OECD.
- The Common Market for Eastern and Western Africa.(2001).*Relationship between e-government and e-governance*. Retrieved from <http://egov.comesa.int/index.php/fr/e-government-resouces/31-relationship-between-e-government-ict-and-e-governance>.
- UN. (2004). *Global E-Government Readiness Report: Towards Access for Opportunity*. New York: United Nations Department of Economic and Social Affairs/Division for Public Administration and Development Management
- UN. (2005). *Global E-Government Readiness Report: From E-Government to E-Inclusion*. New York: United Nations Department of Economic and Social Affairs/Division for Public Administration and Development Management
- UN. (2008). *United Nations e-governance Survey 2008 – From e-governance to Connected Governance*. New York: Department of Economic and Social Affairs, Division for Public Administration and Development Management
- UN. (2012).*E-Government Survey:From E-Government to Connected Governance*. Retrieved from <http://www.unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf>

- United Nation University. (2004). *Growth of Information Technology Nigeria*. Retrieved from <http://www.unu.edu/unupress/unupbooks/uu19ie/>.
- World Bank. (1997). *World Development Report*. Washington D.C: The World Bank
- World Bank. (2001). *Issue Note: E-Government and the World Bank*. Retrieved from <http://www.worldbankgroup/e-government>
- World Bank (2007a) *World Development Report, 2007: The State in a Changing World*. Washington, DC: The World Bank.
- World Bank. (1992). *Governance and Development*. Washington, DC: The World Bank

CONFERENCE PAPERS AND PUBLIC LECTURES

- Adegoroye, Goke (2006, February). *Public Service Reform for Sustainable Development: The Nigerian Experience*. Keynote Address presented at the Commonwealth Advanced Seminar. Wellington, New Zealand.
- Ayo, C.K., & Ekong, U. (2008, July). *E-Voting Implementation in Nigeria: Prospects and Challenges*. Paper presented at the 8th European Conference on e-Government. Lausanne, Switzerland.
- Ternenge, T. (2014, May). *Current Government Financial Reforms in Nigeria*. Paper presented at E-governance summit. Abuja, Nigeria.
- Ajayi, G. O. (2003, June). *E-governance in Nigeria's E-Strategy*. Paper presented at the 5th Annual African Computing and Telecommunications Summit. Abuja, Nigeria.
- Ifinedo, P. E. (2004). *E-government — precursors, problems, practices and prospects: A case of Nigeria*. In K. S. Soliman (Ed.), *Proceedings of the 2004 International Business Information Management (IBIM) Conference 2004(1-10)*, Amman, Jordan.
- Wimmer, M., & Traunmuller, R. (2001). *Trends in electronic government: managing distributed knowledge*. In *Proceedings of the 11th International Workshop on Database Expert Systems Applications*, Springer, New York.
- Muhammed, S. (2010, July). *E-governance In Nigeria: A Catalyst for National Development*. Paper presented at the fourth international conference on development studies, University of Abuja, Nigeria.
- Sarkar, P. K., & Cybulski, J. L. (2004, June). *Evaluation Of Phenomenological Findings In Is Research: A Study In Developing Web-Based IS*. Paper presented at the 12th European Conference in Information Systems. Turku, Finland.
- World Summit on the Information Society. (2005). *Tunis Agenda for the Information Society*. United Nations: ITU.
- World Economic Forum. (2013). *The Global information Technology Report 2013*. Geneva: World Economic Forum. Available at www.weforum.org/gcr.

INTERNET MATERIALS:

- CIA: World Factbook. (2004). *Country report: Nigeria*. Retrieved January 5, 2014, from <http://www.cia.gov>
- Electronic Government for Developing Countries*. www.itu.int/ITU-D/cyb/app/e-gov.html. Retrieved January 5, 2014, from <http://www.cia.gov>.
- Ekeh L.S. (2007, September) *e-Business*. *THISDAY newspaper*, Vol. 12 No. 45241. Retrieved June 15, 2015, from <http://www.cia.gov>.
- Nigerianetguru. (2004). *Nigerian Internet guru*. Retrieved March 6, 2015, from <http://www.nigerianetguru.com>.