The Future of Nigeria E-Government

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Abstract

Nigeria is situated on the Gulf of Guinea in West Africa with a land mass of 923,768 square kilometres. Nigeria is divided into 36 states and the capital is Abuja with a federal system of Government. The Nigeria population is 167,912,561 and is seen as a source of strategic economic strength and competitiveness, which in combination with the vast natural resources, should define a productive powerhouse with an assured market that makes it even more attractive to investors. Oil is the major income of Nigeria and is the 4th biggest exporter of oil, exporting 2.1 million barrels of oil each day. Nigeria’s petroleum is classified as “light” and “sweet”, as the oil is largely free of sulphur. Nigeria is blessed with abundant oil and gas to commercial quantities. Nigeria is ranked 8th in the world in natural gas reserve with 5.246 trillion cubic metres. With the vast cultural and ethnic diversities in Nigeria, together with its huge population, and distributed land mass, it presents a high logistics challenge for the central and state government to render services that will be accessed nationwide without the full implementation of e-Government facilities. Therefore, e-Government is inevitable for smooth interaction between the government, its agencies and its citizens. This paper recommends a Unified Nigeria e-Government Framework to enhance its e-Government development and to bridge the digital divide between Nigeria and developed countries.

Keywords: e-Government, Portal, Model, Galaxy, NIGCOMSAT-1R and ICT

1. Introduction

Nigeria is situated on the Gulf of Guinea in West Africa with a land mass of 923, 768 square kilometres. Nigeria is divided into 36 states and the capital is Abuja with a federal system of Government. Nigeria is the biggest market in Africa, with a reputation for huge returns on successful investments despite the high costs of doing business. Nigeria has more than 250 ethnic groups and achieved independence from the United Kingdom on October 1, 1960, and the formal name is Federal Republic of Nigeria. The colonial era in Nigeria was relatively brief, lasting only six decades or so depending on the part of the country, but it unleashed such rapid change that the full impact is still in the contemporary period (Library of Congress – Federal
Research Division, [7]. The Chairman National Population Commission Sumaila Danko Makama said that Nigeria population is 167,912,561 and has annual population growth rate of 3.2 percent or 5.6 million people per annum. The Nigerian population is seen as a source of strategic economic strength and competitiveness, which in combination with the vast natural resources, should define a productive powerhouse with an assured market that makes it even more attractive to investors. But presently, the infrastructural development is very poor [9].

2. Nigeria as Oil and Gas Producing Country

Oil is the major income of Nigeria. Nigeria is an oil producing country, and in 2011 the country produced 2.2 million barrels of oil per day placing them 12th among producers. Nigeria is the 4th biggest exporter of oil, exporting 2.1 million barrels of oil each day. Nigeria’s petroleum is classified as “light” and “sweet”, as the oil is largely free of sulphur. Nigeria is the largest producer of sweet oil in OPEC. This sweet oil is similar in composition to oil extracted from the North Sea. This crude oil is known as “Bonny light”. Nigeria is blessed with abundant oil and gas to commercial quantities. Nigeria is ranked 8th in the world in natural gas reserve with 5.246 trillion cubic metres. There are 39 major natural resources in Nigeria such as gold, Iron ore, aluminium bauxites, uranium, and other solid minerals to commercial quantities.

3. The Development of ICT in Nigeria

The e-Government potential in Nigeria is high, but the actual implementation is yet to be realised. There are challenges particularly in respect to human capacity building - for both the users and administrators. Other challenges include change management, harmonization of government information, and citizen interaction. These are processes which have existed for many years, and can be difficult to change. It is difficult for users to buy into the new technology due to cultural change because they prefer manual systems that have been in place for many years. Nigeria is not among the UN 50 e-readiness nations, none of the African countries are among the e-readiness nations, United Nations e-Government Survey [11]. This could be due to our under-development in ICT. Nigeria is falling behind in digital divide compared to developed countries. According to Amalu [4], Nigeria did not make the list of 60 top countries with highest Internet penetration of over 50 percent. Nigeria did not also make the list of 57 intermediate Internet-penetrated countries with penetration between 23.8% and 49.9% percent, as of March 31, 2009 but, rather was among 120 low Internet penetration countries. Digital divide is a threat to
successful e-Government implementation in Nigeria.

The development of ICT enhances the adoption of e-Government in any country of the world. Nigeria is a virgin land and much is needed to attain full development. To be fully developed the country need be an electronic society (e-Society) and this can be enhanced with Information and Communication Technology (ICT). With the vast cultural and ethnic diversities in Nigeria, together with its huge population, and distributed land mass, it presents a high logistics challenge for the central and state government to render services that will be accessed nationwide without the full implementation of e-Government facilities. Therefore, e-Government is inevitable for smooth interaction between the government, its agencies and its citizens.

On December 19, 2011 Nigeria successfully launched a broadcast satellite into orbit NIGCOMSAT-1R from a Chinese launch pad. The satellite is expected to provide ICT infrastructures such as telephone, broadband Internet and broadcasting services in Nigeria and other African countries [8]. According to Akunyili [2], Nigeria growth in hardware market has been 30 to 40 percent in years. Nigeria had 72 million mobile cellular active subscribers by the end of 2009. Nigeria is home to one quarter of the continent’s mobile cell phone subscribers. Nigeria telephone operators, Globackom and Main One landed submarine fibre cables from EUROPE to Africa. They are the first Nigerian companies to embark on such heavy investments apart from Sat-3 which is jointly owned by some African countries. Other Nigerian companies are active with strong bands in the ICT market, for examples Zinox, Omatek and Anabel.

The author further said that the government of Nigeria in 2006 established a public corporation known as Galaxy Backbone to provide the technological platform for e-Government, and is working on a comprehensive broadband policy vision document which will provide broadband definition, performance indicator, incentives for investment, macroeconomic targets, deployment guidelines and citizens charter. The use of Smart-phones now enables Nigerian to access Internet and also perform tasks that were hitherto the exclusive preserve of PC’s, delivery efficiencies and opportunities for innovation. The introduction of five submarine cables (Sat-3, WACS, GLO1, and MAIN ONE and ACE) in 2011, with an approximately 10 terabytes of data, and national fibre backbone networks, brightens the potential of e-Government in Nigeria with more opportunities for investments.

The author concludes that she realises the challenges faced in the implementation of e-Government in Nigeria which are human capacity building for both the users and administrators. Other challenges envisaged include change management, harmonisation of government information, and citizen interaction. Regardless of the development of sophistication in the development of ICTs in Nigeria, human beings remain the most critical factor. They are the users and creators of data. They are the managers of the technology. Quoting Azenabor et al. [5] there cannot
be absolute trust and security in electronic communication as far there are human interaction, therefore “absolute trust and security is unattainable anywhere in the world including the developed countries”. Attitudes and sincerity of the interrogators of the systems matter when dealing with people’s details in their custody.

Nigeria being an emerging economy has done its best in the development of ICT technology which facilitates the implementation of e-Government and other technologies such as the Internet, mobile telephone, the different electronic application (e-banking, e-Commerce, etc), digital media and broadband technology.

4. The E-Government Models in U.K and the U.S.A

The U.K and the U.S.A are among the most developed e-Government countries in the world. The word ‘e-Government’ was first coined by United States National Performance Review in 1993 [6]. According to Alasem [3], by early 2000s the term ‘e-Government’ became popular across the world including many developed countries for describing the reinvention and improvement of processes within government and interface with citizens through (ICT) in general and the Internet in particular. There are many definitions of e-Government, Sharif and Irani [10] said that the e-Government implementation provides additional access to service and procedural application forms (such as planning permission, health and other benefits), the ability to perform simple searches, and the ability to contact council administrative members and representatives directly.

The digital divide between Nigeria and developed countries is wide and much is still needed to be done to close these gaps and push Nigeria to be among the first twenty e-Government country in the world. Nigeria started towards e-Government development in 2006 when it established Galaxy Backbone and yet much remains to be achieved. Nigeria needs to integrate government ministries in both federal and states departments and agencies in a manner that promote their online interaction. In developing e-Government framework for Nigeria, we will take the U.K and the U.S.A e-Government models as case studies.

Affisco and Soliman [1] defined e-Government as the need for more efficiency in public sectors. Federal, state, and local governments worldwide are under pressure to deliver services more efficiently at lower cost and recognising e-Government as an attractive option both commercially and politically. The e-Government is a major project that can significantly reduce government expenses, increase cooperation among agencies, and enhance citizens’ satisfaction if it is well designed and implemented with a coherent strategic focus in mind. Whatever definition given by different authors, the e-Government is the means by which government and its agencies run services to its citizens using Information and Communication Technologies (ICTs) such as Wide Area Network (WAN), The Internet, and mobile communication. The e-Government has the ability to transform
relationships between government and its citizens, businesses, and other arms of government.

These technologies can serve a variety of different purposes, better delivery of government services to its citizens, improved interactions with business industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits are: help to reduce corruption, increased transparency, greater convenience, revenue growth and reduce cost. The U.S.A and the U.K have developed and are enjoying the benefits of e-Government and these are some of the services they offered: applying for local government jobs, register for business with the government, transact business and other services with government online, paying tax to the government online, contact your elected officials online, apply for driver’s license using online facility, finding schools online, find your doctors, dentists and get travel health information online etc.

The U.K and U.S.A e-Government have some similarity in the services they run online, but they also have some differences in their e-Government portals. Below are the differences between U.K and U.S.A e-Government portals and models.
Table 1: A Table of Comparison between U.K and U.S.A e-Government Portal

<table>
<thead>
<tr>
<th>DIRECTGOV (U.K. PORTAL)</th>
<th>USA.GOV (U.S. PORTAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The website is crowded with too much information within and outside government cycle and the home page is overcrowded with much information vying for attention.</td>
<td>Information to the home page is direct and simple</td>
</tr>
<tr>
<td>The search engine works reasonably well but it routinely finds as many as 500 results, and, instead of working through the results, people tend to leave the site and go to Google where results are perceived to be better.</td>
<td>The search engine is very efficient and direct by searching for related information very quickly.</td>
</tr>
<tr>
<td>When looking for child care providers, the user is presented with search form for England only. There are links to websites for each of the devolved nations, but for Wales, this returns to the same England form.</td>
<td>It links to every federal agency and to state, local, and tribal governments, and is the most comprehensive site in – and – about U.S. Government. This portal allows visitors to find information on its site in several ways; through search engine; an index of links of organised audience, by topic, and organisation.</td>
</tr>
<tr>
<td>Directgov has no facilities such as interactive mail and web chat.</td>
<td>USA.gov has live chat available in English where service representative can answer website visitors’ questions about federal agencies, programme, benefits, or services. USA.gov new blog will give consumers a fresh and interactive perspective on how they can use government resources to make their lives better, easier and more fun. There is interactive e-mail for visitors to e-mail their questions and receive responses. There is also facility for government podcasts.</td>
</tr>
<tr>
<td>In directgov there is no facility to contact elected officials, the Prime Minister, Member of Parliaments, the Mayors or Chancellors.</td>
<td>In USA.gov you can contact elected officials: send questions, comments, concerns, or well-wishes to the President or his staff. Also you can search for U.S. Senators, U.S. representatives, and select your state Governors, by e-mail, telephone and postal contact and state legislators by names and other elected officials by your zip code.</td>
</tr>
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5. Nigeria E-Government Framework

The Proposed Unified Nigeria e-Government Framework is derived from the U.K and U.S.A e-Government models. The Information provided enables the public to have access to the government information online 24/7, starting with the federal ministries, federal departments and agencies, federal commissions, security agencies, education and learning and public safety. This also includes federal road safety commission (FRSC), motoring, grants and benefits, pensions and retirements as well as tourism. Others are home and community, disabled people, governments, citizens, and rights, crime and justice, national health insurance scheme (NHIS), travel and transport, defence and others. All the information you need to know about the government can be found online.

Government offers services to the public online and this will help to break the geographical barriers negating the need of travelling to government ministries, departments and government’s agencies for information and services. Therefore the public can have access to government services online and they can make use of these facilities wherever they are and anywhere in the world. The services available are vehicle registration, renew driver’s licence, check vehicle MOT, student aid and scholarship, tax bill and tax return, school, childcare and nutrition, and e-Health. There are services on how to contact your elected officials, apply for international passport, and apply for government jobs and others. The public make use of these facilities by online form submission, online payment by card, and other online payments including telephone transactions and payment.

e-Health: This enables a patient to have a consultation with a participating medical doctor in the national health insurance scheme (NHIS) who may not be necessarily based in Nigeria but anywhere in the world. This will help to improve access to reliable medical care.
The public cloud by the central government enables citizens all over the country to have access to e-Government services deployed through the cloud. The central government through the cloud allows all the local government areas to deploy and operate a unified set of applications for all citizens across all local government areas in Nigeria. This unified set of operation must have clear boundaries because each local government area operates on its own. That is to say that the unification comes in order to have a regulatory standard across all the local government areas by the central government. Each local government entity cloud in Nigeria should have their custom application too. Therefore, the unified Nigeria e-Government framework is embedded with cloud computing model which helps the government to achieve unified applications across all local government entities with multi-tenancy. Each of these local government areas in Nigeria is to be treated as a tenant. The unified set of applications can be deployed into an application store, where they can be easily deployed across tenants, that is the local government areas. Each of the tenants is to become an e-Local government and the whole set up consist of the overall e-Government solutions.

Government centralised and regulated database collects biometrics information and records of citizens and they are stored in the database system at a single location and could be accessible from numerous government agencies. The database could be up-graded so that it can handle more information, servers can be added to the database sites in the database system. There is a constraint and security to prevent unauthorised access on the database system so that no one can alter the data except the interrogators of the system (Database administrators and system analysts). Government agencies can only call and access the data when they want to find out certain information about citizens but they cannot alter the record in the database. The database is connected through a network and there should be backups in case of attacks. The government interrogation circle enables various government departments and agencies to access information from the centralised and regulated database system.

e-Local governments have access to government facilities with good Internet connectivity through the cloud and there are availability of e-Kiosks for access to government information and services. The e-Kiosks are available for those who have no access to computers and those who are not computer literate and there are trained members of staff to help out.

Nigerians in diaspora are very important and useful for the economic development of Nigeria. This is because Nigeria as a nation has experienced brain drain over the last three decades which has had an adverse effect on the economy. Nigerian professionals are scattered all over the world especially in Europe, North America and Asia. The present administration actively recruits Nigerian professionals in the diaspora into its government and also encourages others to come back home and contributes to the growth of the country. In cases where Nigerians in the diaspora cannot relocate home, this medium will still be able to tap into their experience and knowledge by encouraging suggestions.
from such individuals. Therefore the system is open for them to register into the Nigerians in diaspora e-Government portal. They can also register to vote, register for census and register for record keeping.

The National Independent Electoral Commission (INEC) already has a database system but more is need to enhance its functions. Government spends billions of naira in updating electoral records every four years when the general election is about to take place. This should be discouraged rather every citizen should register to vote online by filling the application form and sending it to the commission. After the processing, the applicant should be invited by the commission to come for biometric voter’s card and if it is multipurpose Biometric National Identity Card (BNIDC) the citizens should be referred to government centralised and regulated database system for issuance of the card. Government also spends huge sums of money on electoral ballot paper during elections. We advise that there should be soft paper ballot on the electoral database system with all the political logos on it, and it should be printed by the commission in each state few days to the election, therefore this will help to save wastage and cost.

The government should be able to make use of the social networking technologies and give feedback to the public from frequently asked questions; such as interactive online services to enhance the convenience of citizens-sending messages to mobile phones, emails and other interaction with governments and its representatives. Nigeria has about thirty-nine major minerals for export, international business interest should be able to contact the government online for this transaction. The Proposed Unified Nigeria e-Government Framework is secured against vulnerability of cyber-attack with security features and authentication and encryption. Other links to the government for government updates; press release, latest government information, about Nigeria; tourism and e-Government events and government authorities; A-Z agency index, central governments and state governments are easily accessible.
6. Conclusion

We recommend that the Nigerian government should embrace electronic communication by investing more in e-Government in Nigeria at all levels of government; federal, states and local government areas. The federal government of Nigeria is eager on e-Government developments, lack of power supply, poverty, ICT infrastructures are major hindrances to its adoption. Government should commit more financial and infrastructural development as well as manpower if we are to meet our target of vision 2020 to be among the 20 most economically developed nations in the world. The security issues should not be treated with laxity, as far as we are embracing this technology much should be given to it with full protection so as to bring trust in the minds of the public. We will also recommend the Proposed Unified Nigeria e-Government Framework in (Figure 3) to the federal government, state government and local government in Nigeria so as to bridge the digital divide between Nigeria and developed countries.

7. References:


(Accessed date: 22/02/10 - 27/05/10)