

**Title**

ICT4D: A case study of Jigawa State Government in Nigeria

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**Abstract**

Both Governments and people around the world have started appreciating the ability of Information and Communications Technology (ICT) to stimulate critical sectors of the economy. These technological innovations provide speedy, inexpensive and convenient means of communications. The adoption of these innovative technologies in many countries by different sectors of the economy has been found to have direct positive impact on the nation's efficiency, productivity and have led to a rapid development.

In Nigeria, specifically, Government at Federal, State and Local Government levels have invested a significant portion of their budget to aid the development of this critical sector. Equally, significant emergent strategies such as deregulation, liberalization, scholarship and privatisation were implemented to help in stimulating, and to enable rapid development of the sector.

This paper will evaluate the level of ICT integration in to Government operations. The paper will focus upon Jigawa State, a state in the Northern part of the country, which is rated as the 'pacesetter' of eGovernment in Nigeria. The paper will evaluate the eGovernment initiatives of the state, to evaluate the performance of Jigawa and provide possible recommendations that will enable the state initiatives in achieving sustainable development through ICT.

**Keywords:** ICT, Development, eGovernment, Sustainable development, Globalisation, Public sector reform, Ministries, Department, and Agency (MDA), Nigeria, Jigawa State, Freedom of Information Bill (FIB),

## **1. Introduction**

Information and Communications Technology are now inbuilt within human society. Within African community that existed before colonial domination, individuals communicated using various traditional communications instruments and codes such as talking drums flutes, gongs, and town crier and village square meetings. Many historical records are still recorded on the walls of caves, and through oral tradition. The use of writing and the invention of printing technology metamorphosed the type and content of recorded history. Communications on a universal scale became more common through the use of books, magazines newspapers, radio and Television. (Jide and Bankole, 2007).

Sequel to the recent technological innovations, many sophisticated ICT tools have invented and critically aid the dissemination, processing, integration and storing of data and information. These tools nowadays become critical success factor of communications, development process and central to contemporary societies. Information and Communication Technology (ICT) is the foundation for national survival and development in a rapidly changing global environment, and has challenged Government to devise bold and courageous initiatives to address a host of vital socio-economic issues such as reliable infrastructure, skilled human resources, open Government and other essential issues of capacity building (National Policy for, n.d., p. 2) In addition, an ICT policy built on reliable human resources and infrastructure constitutes the fundamental tool and means of assessing, planning, managing development, change and for achieving sustainable growth (National Policy for, n.d., p. 2).

Information and Communication Technology for Development ICT4D is one of the many UN frameworks on development, and is aimed at transforming the lesser developed countries and developing nations. ICT4D is also aimed at bridging the digital divide, eliminating poverty, and improving the living standard of people across the world especially less developing and under developing nations, like Nigeria (Jimson 2011).

The ability to access and use information is very critical in today's knowledge base economy. This offers opportunities for economic, political and socio-cultural growth and broad-based development. It also facilitates the creation of knowledge-based, science and technology-driven economy with ever-expanding opportunities. This paper will focus mainly on the Jigawa State ICT initiatives; a poorer state in the Northern part of the country

The rationale behind selecting Jigawa States is because of its competitiveness among States of the federation. Jigawa has achieved a 'lock-in' position in ICT, and positioned ICT as a key strategy in advocating its economic development. Jigawa state already acquired and deploys the entire necessary ICT infrastructure for effective eGovernment implementation (Jigawa State Comprehensive Development Framework, 2009, p 68).

## **2. Globalisation**

The former president of United States Bill Gates highlighted *"how you gather, manage, and use information will determine whether you win or lose"*. De Horowitz, former President of the International Federation of Library Associations also believes that...*developing countries of the future would be those who come late to the information revolution* (Bankole and Olubamise

2004). In association with this any state that fails to join the race, will find it self among the losers.

The world's digital divide is a clear evidence of assisting rewarding poverty in under developing countries. The total of computers and telecommunications infrastructure in Africa do not even amount to 50% of those of New York City in the USA. This significant gap in application and usage of ICT between developed and under developing countries is boosting the pauperization of the poor and increasing the gap between the rich and the poor part of the world (Bankole and Olubamise 2004). This is largely caused due to improper and efficient ICT policy or poor implementation and management strategies in many under-developed nations.

In focusing upon Nigeria's situation, the ICT policy passed by the National Assembly (National Information...2007) is completely out of date, and requires a critical review to meet up with the rapid changes of such technology. However, over the past years the current Democratic Government has made a significant improvement in the sector by deregulating and privatisation of the sector. This economic shift has given a room for the arrival of GSM technologies; which provide access to telephony, data and internet services in a rural and semi rural communities.

It is in light of the Government ICT4D strategies, the Government in 2001 set up National Information Technology Development agency (NITDA) to implement and manage ICT for present and future development. Moreover, the current Government made a courageous and bold decision in 2011 by setting up Federal Ministry of Communication Technology, the Ministry's mandate is to serve as a backbone of governments' ICT policy, and strategy. Equally the Ministry is to manage ICT4D strategic Action Plan which becomes a building block for policy implementation and strategies in the next coming years.

This strategic action plan will cover the critical sectors such as: Agriculture; Education; Infrastructure Development Health, and Human resource development; Media; Commerce and Industry, amongst others. This integrated approach will help in achieving national economic development through the National Economic Empowerment Development Programme (NEEDS) and its counterpart in the state (SEEDS). Nigeria is Africa's most populous Nation with a population of about 140 million (NPC, 2006). Having achieved number six position among the world oil producing countries, the Nigerian Economy is still at a threshold level, with high domination of poverty, violence, illiteracy and corruption (Corruption and governance in Nigeria 2010).

### **3 Jigawa State Government ICT4D policy**

Jigawa State lies between latitudes 11°N and 13°N and longitudes 8°E and 10°35'E and covers a total land area of about 22,410 square kilometres. The state is bordered on the east by Bauchi and Yobe States, on the west by Kano and on the north by Katsina and Yobe States and by the Republic of Niger. Jigawa State was created on Tuesday August 27, 1991 (Jigawa, 2010, p. 6).

The Power to access and use information is crucial in today's globalized world. This power offers the potentials for economic, political and socio-cultural development and leverage development. It also facilitates and coordinates the development of knowledge-based, science and technology-driven economy with host of economic opportunities. Sequel to the above projected potentials, Jigawa State Government incorporated ICT as a component of state education policy (Jigawa State Comprehensive Development Framework 2009).

The rapid development of globalization of the world economic and social order that makes the world a “global village” lack of access to ICT could be considered as an components of poverty much as inadequate or insufficient nutrition or shelter are. Nowadays, ICT has become a central tool in the actualization to escape from extreme poverty dwindling underdeveloped Nations. For instance, ICT facilitates access to information that can yield income and improve accessibility to basic services such as education and health (Jigawa State Comprehensive Development Framework 2009, p.66). ICT promotes sustainable economic development; it does this by facilitating economic growth, effective delivery of human development services such as health, education, security, and advancement in the quality and improves of government services offerings (Jigawa State Comprehensive Development Framework 2009 p. 67).

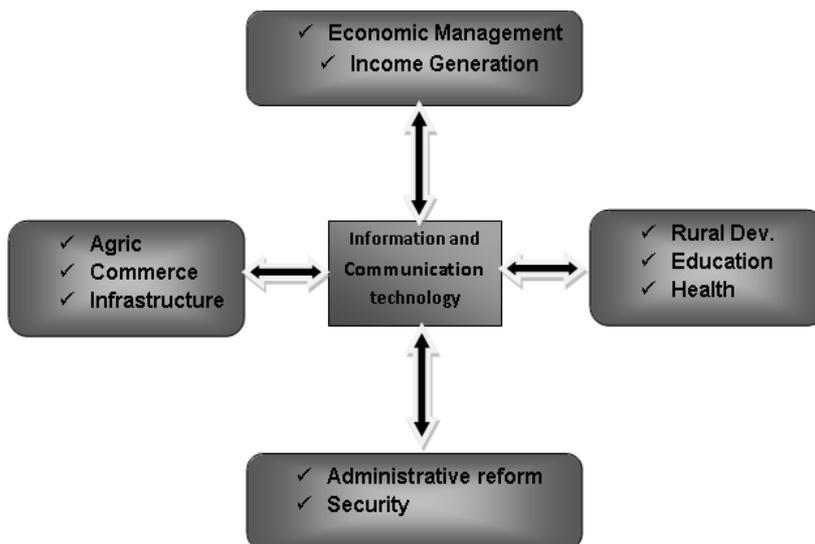
#### 4.1 Jigawa State ICT Targets

Jigawa State Comprehensive Development Framework (2009) highlighted two key ICT strategic targets primary and secondary, which are:

- ✓ To generate N2.0billion/annum through ICT beginning 2013 fiscal year
- ✓ To produce an average of five hundred ICT Professionals annually beginning from 2010 to 2012 through Local and Overseas Training.

While the secondary targets are:

- ✓ To achieve 100% and 25% computer literacy level in both state civil service and overall population respectively by 2012
- ✓ To Achieve 100% computerization of key Government operations such as payroll, and Integrated Financial Management Information Systems managing all aspects of public expenditure and financial management by the end of 2012.



**Fig 1.1** Jigawa State ICT frame work: source: Directorate of Budget and Economic Planning, 2009.

## **4.2 The Jigawa Key ICT Strategies**

To achieve both primary and secondary targets of the ICT sector, Jigawa has highlighted the following key implementation strategy:

- ✓ Establishment of computer assembly plant in collaboration with any interested partners by the year 2020.
- ✓ Sustaining long term partnership and collaboration with internationally renowned IT Institutions such as the Informatics Singapore, C-tech US and establishing new relationship.
- ✓ Improvement and expansion of the Jigawa Informatics now known as Jigawa State Institute of Information Technology (JIT).
- ✓ Establishing of a small pro-type ICT Village/Park for the development of ICT talents.
- ✓ Encourage the use of internet services; through the Jigawa own broadband company (Galaxy ITT).
- ✓ Improve all the state own computer training centres and establish more.

## **4.3 Is Jigawa State getting it right?**

eGovernment is an eCommerce model which enables government to buy, sales, or provides goods and services or information to business and citizens (Turban Et al, 2008, p 365).The Federal, State, and Local Government face a critical and pressing need to supply excellent and cute-edge citizen services in an efficient and transparent mode, couple with continues resource constraints. In order to meet these pressing challenges government at various level are adopting information communications technologies (ICT) to enhance their service offerings.

### **4.3.1 Benefits and important of ICT**

The work of Chen & Tsou, (2007) will be adopted, in which they indicated benefits that can be achieved by integrating Government operations with ICT, their work will also used to audit Jigawa State eGovernment initiatives.

*Effective and efficient communication channels among Government employee, citizens and other entities.* Chen & Tsou, (2007)

As part of Jigawa State Government strategy to improve effective and efficient communication channels, a state owned domain ([www.jigawastate.gov.ng](http://www.jigawastate.gov.ng)) was developed back in 2009, which incorporated all the three arms of government (The Executive, Judiciary and Legislature). The domain gives a site to all Jigawa State Ministries, Department and Agencies (MDA), the page contains all the necessary information a citizen or any other entity may need to now about the MDA aim and objectives, policies and any other relevant information. This initiative, as highlighted by Chen & Tsou, (2007), significantly improves the process government operates, as well as how it delivers services to the citizens. It also provides accessibility, convenience, and quality of interactions with citizens and other entities. At the same time; the domain improves information flow and processes within the government, improve the speed and quality of policy development, coordination and enforcement. The domain also helps Jigawa government to be more responsive to the needs and requirement of its citizens as email account of all MDA were

boldly stated. As argued by local community leader in Ringim Local Government of Jigawa state ...*Jigawa state website gives a clear picture of the government while the email facility gives us a good channels which we interact with Government* (S. Ringim, personal communication, March, 09, 2012).

The Executive Governor as part of his courageous and bold decision to carry along citizens in his lead management, he provide his direct mobile phone line in which he received short message service from citizens. Through this approach the Governor has done well, by improving the poor communication channels. Subsequently, his people can complain to him or advice directly on any aspect of service delivery as stated by (S. Ringim, personal communication, March, 22, 2012).

#### ***Achieved high end operational excellence, at a reduced overhead***

The Jigawa State Government eGovernment initiative has created an excellent operational environment, thereby reducing overhead cost. As argued by Chen & Tsou, (2007) effective application and usage of ICT at different Government Ministries, Department, and Agency will significantly improved service offerings, operation, at a reasonable budget.

*“The integrated biometric based payroll system adopted by Jigawa state government, has cleaned the civil service from ghost workers, and reduced the amount paid as salary and other benefits”* (I. Inuwa, personal communication, March, 03, 2012). As stated by Chief Accountant Jigawa State Ministry of Agriculture and Natural resources. He continued by stating that: *“We in Jigawa has achieved a lock-in position in Human resources, and financial Management, we are the first to adopt biometric-based Human resources system, and ePayment”* (I. Inuwa, personal communication, March, 03, 2012).

#### ***Promotion of economic development and bridge the digital divide***

In terms of Economic development, eGovernment provide significant potential to bridge the ‘digital divide’ that exists between citizens with access and those without (Chen & Tsou, 2007). The Jigawa State Government ICT initiatives have created efficient and effective policy that simplify and subsidize ICT accessibility. The State Government in 2005 established 30 computer training centre distributed among the 27 Local Governments, which provide free ICT education and computing/internet access to the host community.

#### **4.3.2 Jigawa - A Critical Evaluation of the ICT4D**

ICT is the hub and direction of modern development and any country that ignores this reality could be said to do so at its detriment. The battle for domination and global influence is mostly focused on the power of individual nations to bid attention in the area of ICT. ICT has become the hub of policy formulation for nations that have achieved rapid growth (Kabiru, May 2008).

The Asian nations have adopted these strategic challenges to the higher extent, despite their prominent populations and extreme poverty. African nations, including Nigeria, are still crawling in a marathon race of technological growth. Countries like China, Indonesia, India, Japan, Malaysia, Singapore, and Taiwan today command global attention because of their advancement in developing their emerging economy through the application and usage ICT (Kabiru, May 2008).

Every country has the potential to progress and develop and change its luck positively once it has demonstrated its determination to convey its destiny into its own hands. Despite their huge population and extreme poverty, the South Asian nation of India has become a competitive nation and a topic of discussions, after its fifty five years of independence. Ironically, Nigeria at fifty years of independence, remain a giant of Africa but still fighting to crawl while other nations are proceeding at furious speed to dictate and influence in the ICT race. (Kabiru, May 2008) Hence, can African Nations, including Nigeria, wait for a miracle to happen before they adopt the challenges of ICT? In this changing world, developed nations are already complaining about their heavy donation to Africa Nations as an ICT stimulating packages and the question is can this stimulus package remain forever? Yet it is arguable as to the effort Africa Nations are doing to be ICT independent? (Kabiru, May 2008).

The level of ICT4D in Jigawa state is still at threshold level, even though the availability of basic infrastructure is commensurable, however the primary objectives of Jigawa state ICT4D in generating 2 billion naira beginning from 2013 fiscal year is not feasible, considering that all the strategic action plan is not properly implemented. The second objective of producing about 500 ICT professional is commensurable considering the number of indigenous professional graduated from the Institute which are now major key stakeholders in the public sector reform.

## **5 The Major eGovernment Project in Jigawa State**

Many ICT strategic projects were implemented by various Jigawa State Government administrations the following session will explain key strategic projects.

### **5.1 Jigawa Informatics Institute**

In less than eight years of its establishment, the Institute has continued to prove that its introduction in the heydays of the ICT dream is the wisest and critical aspect of the much touted ICT revolution initiated by Dr Turaki's administration (Taiwo, Sept, 2008). Turaki had pursued ICT with unique commitment. He invested billions of Naira on his pronounced dream to convert Jigawa State into the number one ICT state in Nigeria. He was however criticised in that his administration pursuit of this ICT dream was greatly misplaced (Taiwo, Sept, 2008). His critiques believe that the investment is not worthwhile considering the poor state of infrastructure in the state, they claim the investment should be diverted to other sector like Agriculture and Health. Since its establishment (Informatics) in 2001, about 7,000 students graduated and many of them are today either part of the emerging eGovernment sector or part of entrepreneur's community setting up small ICT businesses outfit in the new Jigawa (Taiwo, Sept, 2008).

### **5.2 Galaxy ITT (the broadband company)**

The government invested heavily to establish Galaxy ITT to provide high speed broadband services to the Government, and Business. Galaxy has already acquired three licenses to provide internet services, GSM telephony, V-SAT installations (I. Umar, personal communication, March, 17, 2012). The Galaxy backbone is making greater effort in connecting remote communities, Schools, Government offices and even public sector with broadband internet connectivity.

### **5.3 Computer Training centres in Jigawa**

Jigawa state Government have strategically established over 30 computer training centre across the state. The centres are highly equipped with cutting-edge ICT training and learning

equipments, ranging from computer sets, networks, and other peripherals. All the centre's offer different computer trainings ranging from hardware maintenance and engineering, basic IT training, software development, ecommerce, system analysis and design and many more (Jigawa State Comprehensive Development Framework 2009). Many of the centres were able to train significant number of student, however other centres are yet to commence operations.

#### **5.4 International ICT scholarship**

Jigawa State government sponsor about 500 indigenous students to study ICT courses in foreign schools. (Jigawa State Comprehensive Development Framework 2009). Result indicated that quite number of beneficiary of the scholarship are among the key stakeholders of Jigawa State ICT sector, other have found a placement in public sector. However a larger number of beneficiary are stranded as they are yet to complete their studies considering the nature of the scholarship.

#### **6. Discussion and Conclusion**

This paper examined the significance of ICT towards development, relevance ICT projects targeted towards achieving public sector reform in Jigawa State where examined. The paper reviewed key ICT projects implemented by Jigawa state towards achieving public sector reform through eGovernment initiatives.

This paper will be concluded by citing the work of Robert 2007 who also cited Yusuf in which he identified four main phases in the development of eGovernment (publish, interact, transact and integrate). Considering the significant investment in ICT sector in the state (Jigawa), the benefit derived so far is not in tally with the massive investment, however the following recommendations if adopted will enable state achieved its ICT4D initiatives.

**PUBLISH:** The giant effort of Jigawa State Government to have a state domain ([www.jigawastate.gov.ng](http://www.jigawastate.gov.ng)) in 2009 has tremendously bridge the communication gap between government and citizen, coupled with the SMS service.

The domain has significantly publish most of the Government information such as budget, projects and policies, however the information are classified as out-update, the information need to be current and up-to-date, this will give a citizen a sense of belongings. The recent development of passing the Freedom of Information Bill (FIB), Nigeria National assembly, most of the document classified by government as top secret should be made available to citizens for comprehension and digestion, if this is in place cordial relationship, between government and citizen will be better achieved.

**INTERACT:** As argued by Robert 2007, the interaction phase involves the broadening of civic participation in Government; which can be achieved by two-ways communication between Government and citizens. The Jigawa state website is basically a static site with little or no interaction, the site provides email of all the MDAs; however no feedback form is available for user to provide more constructive opinion. The website needs to integrate dynamic contents like databases, forum, social networking and other necessary facilities. Equally the site is centrally managed, hence make it rigid to make update, each MDA should be provided with sub-domain and access to their own control panel for proper and regular update.

**TRANSACTION:** As argued by Robert (2007), while citizens interact with Government, there is a need for them to carry out “transaction”. These transaction can include financial (paying tax or receiving fund) and non-financial (submitting a tax return).

The Jigawa state Government has been rated top in ICT personal, the Government should benefit from this competitive advantage by engaging its indigenous ICT expert to bring major Government transactions online, with advice from major service providers like Microsoft, oracle, Cisco and many more.

**INTEGRATE:** Robert (2007) indicated that, integration involves the organisation of government services around the “virtual organisation”, thus providing a single point of interaction. The Jigawa state over one decade ICT investment should be properly utilised in achieving eGovernment drives. The State has all the necessary basic ICT infrastructure, human resources expertise to transform the state operations and set a benchmark for other state in Nigeria and other developing/under-developing countries.

The government should try to encourage more companies to invest in Jigawa State ICT sector; this can be achieved by Tax incentive, provision of infrastructure, placing indigenous ICT professional as support labour, among others.

## Reference

1. Abdul-Hakeem B. (2005), ICT DEPLOYMENT FOR SUSTAINABLE DEVELOPMENT IN NIGERIAN RURAL AREAS (ICT4D PLANS: IMPLICATIONS IN RURAL COMMUNITIES) *e-Nigeria 2005, The Presidency, NIGERIA*
2. Chen, J.S. & Tsou, H.T. (2007). "Information technology adoption for service innovation practices and competitive advantage: the case of financial firms" *Information Research*, 12(3) paper 314. Access on 03/02/2012 from :<http://InformationR.net/ir/12-3/paper314.html>]
3. Corruption and governance in Nigeria (2010) Conference proceeding ISBN: 978-978-49789-0-3 access on April 20, 2012 from: <http://cleen.org/Corruption%20and%20Governance%20Challenges%20in%20Nigeria%20-%20Final%20Version.pdf>
4. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-34
5. Gary J., Kevan S., Richard W. (2006), *Exploring Cooperate Strategy, Text and cases*, 7 ed, ISBN 978-0-273-71017-2, Prentice hall.
6. Iyepeku, W. O. (1992). "Developing Information Technologies in Africa", Presentation to PAN/ NAN Monthly Forum, Lagos, Nigeria
7. Jigawa State Comprehensive Development Framework, (SEEDS II Technical Committee) 2009, Vol. 30, No. 4. Access on 18/03/2012 from Directorate of Budget and Economic Planning, Website: [http://jigawabudget.com/downloads/Microsoft\\_Word\\_-\\_FINAL\\_CDF\\_DRAFT\\_FOR\\_VALIDATION.pdf](http://jigawabudget.com/downloads/Microsoft_Word_-_FINAL_CDF_DRAFT_FOR_VALIDATION.pdf)
8. Kabiru M. H. (28 May 2008) Jigawa State and ICT, retrieved 14/02/2012 from: <http://allafrica.com/stories/200805280374.html>
9. NATIONAL INFORMATION TECHNOLOGY DEVELOPMENT AGENCY ACT (2007) retrieved April, 20, 2012 from:<http://www.nitda.gov.ng/images/stories/PDFs/national%20information%20technology%20development%20agency%20act%202007.pdf>
10. NPC (2006). Nigeria Population Commission: National Result. Retrieved April 04, 2012, from <http://www.population.gov.ng/files/nationafinal.pdf>
11. Robert O. Dode (2007) "Prospects of E-Government Implementation in Nigeria, ICEGOV 2007, December 10-03, 2007, Macao.
12. Turban E et al (2006), *Electronic Commerce 2006 - A Managerial Perspective*, Pearson Prentice Hall, ISBN 0-13-185461-5