IMPROVING PRODUCTIVITY IN THE PUBLIC SECTOR THROUGH E-GOVERNANCE PROGRAMMES

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Abstract

In the recent times, governments all over the world have adopted the use Information and Communication Technologies (ICTs) to improve the quality of administration especially in the public sector. This is in line with the general advocacy to reform the public sector to serve the citizens better and to enhance public sector productivity. Thus, a combination of e-governance factors with democratic ideas will make governments more effective. In addition, it can promote cordial relationship with the citizens in order to achieve national development. This paper explores the emerging role of e-governance in promoting service delivery in the Nigerian public sector. It also takes a cursory look at the methodologies for using ICTs to improve the quality of service delivery in the public sector. The paper concludes that for governments to achieve success in service delivery, certain measure must be taken to ensure proper implementation of ICT policies in order to achieve the desired goals and to serve the citizens better. It therefore recommends that Nigerian government should embrace e-governance by promoting the use of ICT facilities among the citizens and government agencies and to make policies that would sustain ICT projects in order to achieve efficiency and effectiveness in the public sector.

Keywords: Governance, E-governance, Productivity, ICTs.

INTRODUCTION

Over the years, the federal government of Nigeria has adopted e-governance technologies to enhance service delivery in the public sector with the aim of improving service delivery for the benefits of the citizens. In support of this movement, many ministries have contributed by introducing policies in support of the technological movement. This is why the Nigerian government have developed impressive ICT programmes enhance the activities of the public sector and to further sensitize the citizens about the new technologies because it is believed that

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information communication technologies enhances the connectivity between the government and the people. This is in corroboration with the trend technological transformation in the world to promote efficiency, adapt a profitable government, and to facilitate a suitable government services in the public sector (Azemi, Romle & Udin, 2016: 499) However, many of these ICT applications could not be sustained as a result maintenance. E-governance is the general term used to describe the use of technology in perform government's multiple tasks (Holzer & Schwester, 2011 cited in Onuigbo (2015:28). The revolution in ICT has enhance the quality of governance at both the state and federal level. Evidences has shown that e-governance get citizens well -informed and participate in governance as it provides greater access to government's information and activities (Akinleke, 2015). Thus, this paper examines the emerging the role of e-governance in promoting service delivery in the Nigerian public sector. It provides a comprehensive review of the concept of electronic governance and its potentials for promoting accountability and service delivery in the Nigerian public sector. The study also assessed the methodologies for using ICT to promote good governance in Nigeria, benefits of e-governance and challenges of implementing e-governance. In conclusion, the paper provides some recommendations for a successful implementation of electronic governance in the Nigerian public sector.

The general objective of the study is to examine the perceptions and opinions of the local government workers on the implementation and practice of e-governance activities of the council. Specifically, the study examines the impact of e-governance on productivity of the public sector, and the level of effectiveness of e-governance practices in the public sector. In order to achieve the objectives of this study the following null hypotheses were tested;

Ho_1: E-governance has no significant impact on productivity of the public sector
Ho_2: E-governance practices are not effective in the public sector

CONCEPTUAL CLARIFICATION
The Concept of Governance
The definition of e-governance cannot be complete without understanding the meaning of governance. The term governance was derived from an ancient Greek word, kebernon, which means to steer (Youth I.N.C., 2005 cited in Savic, 2006). Fukuyama (2013:3) defines governance as "a government's ability to make and enforce rules, and to deliver services, regardless of whether that government is democratic or not". Hence, governance implies the exercise of power in order to steer the social systems and the process by which business or government agencies exercise control over the citizens. Also, governance is regarded as a system and process of ensuring the overall direction, effectiveness, supervision and accountability of organisations (Cornforth, 2003). Again, governance can be viewed as "The sound exercise of political, economic, and administrative authority to manage a country's resources for development. It involves the institutionalization of a system through which citizens, institutions, organizations, and groups in a

society articulate their interests, exercise their rights, and mediate their differences in pursuit of the collective good" (Country Governance Assessment 2005). However governance may be defined, the aim is to achieve the same objectives with that of good governance, because governance in the context of promoting sustainable economic development should comprise of efficiency and effectiveness and a successful public sector (Savic, 2006:19). Thus good governance can be viewed as an application of economic, political, and administrative authority to improve better the activities of a country at all levels (Basu, 2004 cited in Savic, (2006).

The Concept of E-Governance
The rate at which government adopts e-governance in government operations is on the increase. This is as a result of the global call to reform the public sector for the purpose of improving service delivery. E-government became visible in Nigeria in the 1990s, at the arrival of democratic government when government websites were developed to facilitate communication (Choudrie, Umeoji, & Forson, 2012). Since then, more policies have been introduced by the federal government to encourage the use of ICT to create awareness among the citizens and to run government businesses. Many scholars have given various definitions to e-governance. For instance, "e-governnance involves the use of information technology programmes to support government operations and provide government services" (Fraga, 2002). "E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions." (World Bank, 2016). "E-government can be defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes" (Fang, 2002:4).

In agreement with the foregoing, Dawes, (2008:86) defined e-governance as "the use of Information and Communication Technologies (ICTs) to support public services, government administration, democratic processes, and relationships among citizens, civil society, the private sector, and the state". This implies that e-governance offers better opportunities to successfully meet the challenges of the citizens that governments represent. Another definition of e-governance was given by Fatile, according to him, "E-governance refers to the use of information technologies (such as the Internet, the World Wide Web, and mobile computing) by government agencies that

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can transform their relationship with citizens, businesses, different areas of government, and other governments"(Fatile, (2012:125).

The above definitions of e-governance has a central theme which remains that e-governance involves the use of information technology to improve service delivery to the citizens and government agencies by enhancing faster communication between government and the citizens. Therefore the characteristics of good governance can be summarised thus:

1. The ability of government to develop an efficient, effective, and accountable public management process that is open to citizens' participation and that strengthens rather than weakens a democratic system of government.
2. The ability of government to develop an efficient, effective, and accountable public management process that is open to citizen participation and strengthens the democratic system of government.
3. The process of promoting fairness, transparency and accountability.
4. a system by which business organizations are directed and controlled
5. The exercise of power in the management of a country's social-economic resources for national development.
6. The quality of institutions to make, implement and enforce sound policies in an efficient, effective, equitable and inclusive manner.
7. The traditions and institutions by which authority in a country is exercised" Kaufman et al
8. The sound exercise of political, economic, and administrative authority to manage a country's resources for development. It involves the institutionalization of a system through which citizens, institutions, organizations, and groups in a society articulate their interests, exercise their rights, and mediate their differences in pursuit of the collective good.
9. The exercise of economic, political and administrative authority to manage the nation's affairs at all levels. It comprises of mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and obligations and mediate their differences. Governance is not the sole domain of government but transcends government to encompass the business sector and the civil society.
10. The performance of agents in carrying out the wishes of principals, and not about the goals that principals set
11. The promotion of sustainable economic development through efficient governance, effective civil society and a successful private sector.

Benefits of E-governance in the Nigerian Public Sector
Recently, most governments have embarked on major projects with the use of modern technologies to improve and develop government activities. These technologies has improved government

services to the citizens. It has also facilitated the interactions within the public and private agencies by providing quick access to information transmission (Moon, 2002 cited in Fatile, 2012). Scholars have identified the relevance of e-governance in a developing nation. Gianluca (2007) observes that e-governance can impact transformation in the public sector in three major areas such as; economic dimension, social dimension and governance dimension. The economic dimension deals with the reduction of cost of operation to better the capacity for service delivery, increase coverage and quality of service, enhance response capacity to address poverty challenges and increase avenues for revenue generation. The social benefits include job creation, education and health enhancement, improving safety and security of lives and properties of citizens among others. To buttress these points, the following has been identified as the benefits of e- governance (World Bank, 2016, Transparency International, 2016):

1. Facilitate the circulation and implementation of government programmes
2. facilitating the flow of information from government to the citizens
3. Increase transparency and accountability which has resulted in a drastic reduction in corruption.
4. Improves efficiency by reducing bureaucratic bottlenecks experienced government operations.
5. Sustains the security of lives and properties of citizens to a large extent.
6. Improves service delivery especially through the interdepartmental exchange of information and the merging of related agencies and ministries,
7. Reduces the cost of transaction, manpower, time, and space needed for good governance.
8. Strengthens government ability to deliver services and expand citizens' participation in governance.
9. Helps in achieving development especially in relation to government operations by introducing new concepts of e-governance.

10. Reduces corruption by promoting transparency, opening government data to public scrutiny, and by automating government processes, restricting discretion of officials and limiting citizens' interaction with gatekeepers to access key services.

Theoretical Perspective
The theoretical viewpoint of this study in the communications theory. The theory was proposed by Karl Deutsch and later expanded by other scholars such as Morton R. Davies, James Charlesworth, Vaughan A. Lewis, David H. Everson, and Joan Papard Paine. Communications theory is based on cybernetics, which is the science of communication as the major source of system control. Cybernetics are likened to information machines or tools like computers and other

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ICT gargets that controls the flow of information in a system. The key idea of communication theory as argued by Nwachukwu & Pepple (2015) is that communication is the basics of all the political activities. When communications flow from top to bottom in a political system would fast-track the implementation of government policies and improve the political life. Communication theory sees communication as the one of ingredients that makes a system effective. Some of the major aspects of the theory are:

1. Human beings play an important role in steering and coordinating information flow in a system by using several channels to transmit information. This implies that without the efforts of humans, information cannot be communicated in and out of a system.
2. Political goals can be achieved through co-ordination and co-operation among people of society which is effected by communication.
3. Deutsch is also of the opinion that human habits of the citizens determines the success of political decisions and habit is development through information gathered from communication. A good system maintains good communication and relationship among the agencies.
4. Another aspect of the communication theory is the feedback mechanism, Deutsch believes that feedback in a crucial stage in communication. Information is originated and transmitted to other systems or environment and then converted into decisions which are them disseminated around the system. These decisions are implemented and transmitted back through the feedback mechanism.

The relevance of communication theory to the study lies in its contributions to idea of e-governance. Theory explains how information delivery in a political system determine its success. This is essential because information is the major component of any system network. Making decisions in any system is a function of the quality of information available to the leaders. The Nigerian public sector is cybernetic in nature with regards to its relationship to its environment. This implies that it is self-steering since it has the ability the develop mechanisms to collect, interpret and apply feedback in its decision making process. The theory also advocates the use of communication variables to enhance service delivery. Therefore communication process in vital in any organisation as it provides the avenues for transmitting vital information on organizational activities. To achieve productivity in the public sector, employees should be able to communicate effectively among themselves and to the citizens and this can be achieved through effective e-governance system.

The Concept of Productivity
Every organisation operate with the intention to be productive. In order words, productivity is the main thrust for the existence of any organisation. But unfortunately, the attainment of this goal has remained a mirage for many organisation in Nigerian including the public sector. That is why Ananti & Umeifekwem (2012) affirms that the various policies and reforms being carries out in

the public sector is to make them efficient. Productivity in the public sector or organisations involves realizing a set goal with minimum cost of resources. And so one can comfortably liken productivity to maximum efficiency. The reason is not farfetched as efficiency implies deploying cost effective means towards achieving desired goals or in other words is the ration of the output of goods and services to the input of resources. Productivity is also considered as a primary source of economic and national development. Therefore governments should strive to improve productivity by introducing policies such as e-governance that will boost and promote the activities of government institutions.

The place of ICT in the world cannot be underestimated. It is a fact that most nations of the world have embraced ICT in the running or conducting the affairs of government. It is believed that ICT bridges the gap between the government and the people by way of connectivity, thereby bringing the government closer to the masses. Through this means, the service delivery to the masses has been much faster and a lot easier unlike the traditional way which was characterized with time wasting and bureaucratic bottleneck in the public sector. The modern ICT application has largely given rise to a hitch free and effective governance with overall improved service delivery to the masses. These days, the government has made huge capital investments in introducing ICTs in the public organisations. Accordingly, this has helped to promote more efficient and cost-effective governance, making government to offer service in less time than usual, allow free access in information by the general public, thereby making the government more transparent and accountable to its citizens.

In another light, information technology has brought about innovation in the public sector, creating e-citizen and e-government interface in a friendlier environment. This means that new business opportunities are created through the use of information communications in the public sector as well as collaborative provision of services. By taking this noble steps to adopt ICT in the government activities, a good number of government organisations have no doubt improved their service delivery in terms of efficiency and effectiveness, to the satisfaction of their stakeholders (Azemi et.al, 2016). Beyond these measures, other initiatives on e-governance are still in process in order to improve productivity in the public sector.

Methodologies for Using ICTS to Promote Governance and Productivity in the Public Sector
A lot of projects have been launched by the federal government to promote e-governance and to facilitate service delivery in the public sector. These projects were designed to adopt the use of ICT and multimedia technologies to coordinate and transform the operations of government. However, e- governance adopts online engagement of various stakeholders in the course of shaping, eloquence and executing public policies. The dimensions of ICT to promote governance according to Sakowicz (2003) are;

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i. E-services: This dimension is the use of electronic delivery for government information, programs, strategies and services. E-services give emphasis to innovative forms of citizen participation and offer services that show serious valuation of citizens as customer of administration. The tactical challenge is to deliver services to members of public along with dimensions such as quality, convenience and cost. E-services available on-line always.

ii. E-management or E-Administration: refers to the behind –the –scene information system supporting the management and administrative functions of public organisations, including data and information management, electronic records maintenance and cross –department flow of information. In this domain, e –governance deal particularly with improving management of government, from streamlining business processes to improving cross – departmental flow of information.

iii. E-democracy: In the context of e-democracy ICT is used as an instrument to help set agendas, establish priorities, make important policies and participate in their implementation in a deliberative way. Actually, e-democracy involves activities that increase citizen involvement in cyber campaigns, feedback polls and public surveys.

iv. E-commerce: This dimension is linked to business side of government interaction. The exchange of money for goods and services is conducted over the internet in e-commerce. For instance, citizens paying taxes and utility bills, renewing vehicle registrations, or government buying offices supplies and auctioning surplus equipment through on-line purchasing or e-procurement.

These e-government policies were put in place to ensure accountable, efficiency and transparency in the delivery of government services in order to reposition Nigeria in the global economy.

E-governance and Productivity in the Public Sector

All over the world, governments adopt e-governance to ensure that efficiency, transparency, accountability and effectiveness are attained in the interactions between government and its citizens. The need to remain abreast with the ever changing environment of administration and communication is the main reason why government agencies at every strata has employed different approaches of ICT in their operations. In taking this initiative, a lot of investment have been made by many government to develop ICT infrastructures to improve stakeholder's efficiency and to minimize the cost of governance. (Kaliannan, et.al, 2009 cited in Azemi et.al, 2016). The adoption of e-governance can provide an outline for reducing the cost of communication, security, education and service to the citizens (Gant, 2008). The primary aim of e-governance is to facilitate interaction between government and the citizens, hence e-governance enhances the efficiency and flexibility of providing public goods and services (Nchuchuwe and Ojo, 2015).

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Challenges of e-governance in Nigeria

Conventionally, the use of e-governance suggests that it refers to all activities of government using electronics or digital means. This suggests that information technology is useful in government activities such as education, health, agriculture, security and governance. However, a number of challenges and barriers have been associated with e-governance in the developing countries. According to the World Bank report of 2016, about 30% of e-governance projects failed because they were abandoned before completion while less than 20% are successful. In cases where the projects are successfully the implementation may be done haphazardly leading to poor outcome. Sometimes, poor implementation and lack of adequate regulation may even result to greater opportunities for corrupt practices and fraud (World Bank 2016). In line with the above, Adejuwon (2012); Kamar & Ongo'ndo (2007); Abasilim (2015) have summarized the challenges of implementing e-governance in Nigeria as:

1. Insufficient allocation of financial resources due to financial constraints and mixed government policies which has slowed down the rate at which E-Government is introduced.
2. Inadequate planning and political instability;
3. Insecurity of facilities as a result of inadequate manpower to manage the ICT facilities.
4. A reluctance to share information which has resulted in policies that deny access to information and the creation of "empty" government ministries websites with information of little value.
5. Inability of government to manage and implement E-Government programmes to facilitate the activities of government and subsequent low quality and insufficient e-content information from the grassroots level.
6. Inadequate personnel to oversee ICT programmes.
7. Irregular circulation of internet services and high cost of connection
8. Inaccessibility of e-government sites by many citizens, especially those living in the rural communities with low literacy and income
9. Poor electricity supply;
10. The resistant to change attitude by the civil servants.

RESEARCH DESIGN AND METHODS

A cross- sectional survey research design was used for the study. To ensure that the sample is properly representative of the population, the sampling technique was based on random sampling. The use of questionnaire is the main research instrument utilized in gathering information from the subjects. The study used closed ended questionnaire which had a 5 level Likert scale: Strongly agree, Agree, Undecided, Disagree, and Strongly Disagree. The questionnaires were distributed to twenty five (25) personnel of Ado/Odo Ota Local Government Area. Data was analyzed using

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both descriptive and inferential statistics. Descriptive statistic (frequency and simple percentage) was used to analyze the demographic information. Similarly, Chi-square test was used to test the research hypotheses.

RESULTS AND ANALYSIS
Response Rate of Questionnaires
All the 25 copies of questionnaire administered to respondents at Ado/Odo Ota Local Government Area were retrieved, which represents 100% of the total copies of questionnaire administered.

Data presentation
Data collected on the demographic information of the respondents revealed that 48% of the respondents were male and 52% of them were female. Further, 28% of the respondents had OND/NCE, 32% had HND/Bsc Degrees. While, 20% had Master Degree, 20% had professional certificates. On the length of service, 20% of the respondents had served the local government between 1 -10years, 32% served between 11 -20years. While 16% served between 21 -30years, 32% of the respondents served between 31 and above. Finally, 60% of the respondents were senior staff and 40% were junior staff.

Hypothesis I:
Ho$_1$: E-governance has no significant impact on productivity of the public sector.
To address the hypothesis, the question below was raised;
 Question: E-governance application improved productivity of the public sector?

Table 1.Chi-square test of association between e-governance and productivity of the public sector

Responses	Frequency	Percentage (%)
Strongly Agree	21	84
Agree	04	16
Undecided	00	00
Disagree	00	00
Strongly Disagree	00	00
TOTAL	25	100

Source: Fieldwork (2017)

Table 1 indicates the responses to the question raised on e-governance application and productivity of the public sector. 84% of the respondents agreed that e-governance application improve productivity of the public sector, 16% of the respondents agreed. While 0% of the respondents undecided, 0% disagreed, 0% of them strongly disagreed.

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Table 2: Chi –square result

	E-governance has no significant impact on productivity of the public sector.
Chi-Square Df Asymp. Sig.	11.560[a] 1 .001

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 12.5.

Decision Rule:
We reject the hypothesis that e-governance has no significant impact on productivity of the public sector, χ^2 (1, N = 25) = 11.560, P < 0.05.

Interpretation:
The research result implies that e-governance has significant impact on productivity of the public sector. However, out of 25 respondents sampled in this study, 100% agree that e-governance has impact on productivity of the public sector.

Ho$_2$: E-governance practices are not effective in the public sector

The question raised to address the hypothesis is shown below.
Question 2: What is the level of effectiveness of e-governance practices in the public sector?

Table 3.Chi-square test of association between e-governance practices and effectiveness of the public sector

Responses	Frequency	Percentage (%)
Strongly Agree	12	48
Agree	10	40
Undecided	00	00
Disagree	03	12
Strongly Disagree	00	00
TOTAL	25	100

Source: Fieldwork (2017)

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Table 4: Chi-square test result

	E-governance practices are not effective in the public sector
Chi-Square	5.360[a]
Df	2
Asymp. Sig.	.069

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 8.3.

Decision Rule:
We accept the hypothesis that e-governance practices are not effective in the public sector, χ^2 (2, N = 25) = 5.360, P > 0.05.

Interpretation:
The research result means that e-governance practices are not effective in the public sector. However, out of 25 respondents sampled in this study, 88% agree that e-governance practices are effective in the public sector. Contrary, inadequate utilization of e-governance practices can reduce the level of effectiveness of public sector.

DISCUSSION AND RECOMMENDATIONS
In this study, two hypotheses stated were tested. The result of the first test indicates that e-governance has significant impact on productivity of the public sector. The second test shows that e-governance practices are not effective in the public sector. The outcome of the findings might be attributed to the challenges of e-governance in Nigeria.

In order to overcome the numerous challenges of e-governance in Nigeria, the study recommends that:

1. There should be a strict compliance to the use of ICT by government agencies.
2. The federal government should institute measures generate enough funds to sustain and improve on the ICT facilities available in the various government agencies.
3. There should be commitment and sincerity among government workers to strive toward acquisition of skills and knowledge required to sustain the available ICT programmes.
4. E-governance facilities require installation and regular maintenance, therefore training of personnel to manage these facilities would be very essential to sustain the programmes and to save cost.

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5. ICT should be an integral part of the curriculum at all level of education in order to achieve a high level of acceptance among the citizens. When, this is done, the citizens would be conversant with the use of ICT facilities and this will help to promote the adoption of ICTs in governance.
6. Implementation of cyber laws and in Nigeria to curb the insecurity of government websites will equally ensures compliance and cooperation of the citizens in the e-governance programmes.

CONCLUSIONS

In order to achieve a successful e-governance programme, government should embark on significant transformation in ICT, particularly in those aspects where good governance has not been noticed in the public sector. This could be achieved by facilitating an enabling environment that will ensure the availability and affordability of information technology across the nation. Also, government should enhance the infrastructural capacity of the public sector to support its services. On a final note, it necessary to institute a work culture that is responsive to change.

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