ICT Deployment in Governance: A Potent Enabler of Accountability, Reliability and Transparency (ART) of Government Business

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Abstract: The main business of any governments irrespective of the tier or arm in focus should be to provide a stable political and economic environment. Government policies throughout the world should aim to promote fiscal responsibility, remove barriers to competition, ensure a framework for good governance, and ensure accountability, reliability, and transparency of functions. Where the required framework to support the attainability and sustainability of a "good" governance is lacking, the result is system plagued with numerous corrupt practices resulting in lawlessness, intense poverty, high unemployment rate, inequalities and lack of justice, etc. This paper unveils the role of ICT in driving accountability, reliability and transparency of government business in an electronic environment (e-government) by investigating the presence of indexes of good governance, the role of e-government for the overall reform and transformation of government business, and the long run impact on stimulating a knowledge-based society. The paper investigates the benefits accrued from ICT and e-government implementation. Further, the research adopts quantitative (hypothetic deductive) methodology, which design administered a survey instrument in the form of a questionnaire. The results of the quantitative analysis were discussed and interpreted in relation to the key issues of the research. Result validates that ICT or e-Government as a major pillar of the governance in driving accountability, reliability and transparency among public servants and institutions in Nigeria. The outcome of this study will be a useful guide to the government of Nigeria on some relevant implementation strategies and policy or regulatory needs, as well as the general public on how e-Governance can play a critical role in the sustainable growth and development of the Nigerian economy, as well as fight against anti-corruption war.

Keywords: Information and Communication Technology, E-Government, Accountability, Reliability, Transparency, Advantages of E-Government, E-Government Models

1. Introduction

Over the years, the goal of many governments which had defined their efforts has been to increase accountability, reliability and transparency in their actions and businesses. Information and communication technologies (ICTs) are seen and adopted in most developed and developing countries as a cost-effective and convenient means to promote accountability, reliability and transparency, and to reduce corruption. This is evident in a number of nations where E-government, in particular, has been used in many conspicuous, comprehensive transparency efforts some of which have received considerable attention. The role of ICT in driving accountability, reliability and transparency of government business has been widely elucidated within the benefits of ICT and e-Government implementation.

The United Nations has considered "good" governance as an essential component of the Millennium Development Goals [MDGs], because "good" governance establishes a framework for fighting corruption, alleviating poverty, inequality, and many of humanities' other shortcomings. It further advocates for intense use of ICTs as a measure to

foster the realization of the SMART government and knowledge economy. Electronic Government or e-government as broadly defined is the use of ICT to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens. E-government emerged as not just a platform for electronic service delivery but as a part of the ongoing reform and transformation of government enabling participatory governance, accountability, reliability or trustworthiness, transparency and partnerships to improve efficiency and effectiveness of government business.

This paper explores the potential impacts of information and ICTs – especially e-government– on driving accountability, reliability and transparency among various stakeholders on e-government models in the execution of government businesses.

The resultant outcome of such government openness is its ripple effects to invite citizen participation, fosters e-governance, facilitates e-democracy, alleviate poverty, check gender inequality, and a variety of other of humanities' shortcomings.

1.1. Statement of the Problem

It is submitted that an effective and efficient ICT platform driven by integrated and coordinated e-Governance [1], that provide unified information exchange platform for the members of the society has the potency of closing the information circulation gap that creates misgivings across the social strata. Presently, Nigeria is plagued with too many social problems ranging from corruption, governance problems, lack of public trust to name a few. There is no gainsaying that lack of effective ICT is a major contributor in the scheme of the present chaotic situation as the governed and the government appear to be on different sides of the divide and often on different pages leading to the evident erosion of public confidence and trust and subsequent failures in the implementation of supposedly public policies and programmes particularly influenced by corruption. Government policies throughout the world should aim to promote fiscal responsibility, remove barriers to competition, ensure a framework for good governance, and ensure accountability, reliability, and transparency of functions. Where the required framework to support the attainability and sustainability of a "good" governance is lacking, the result is system plagued with numerous corrupt practices resulting in lawlessness, intense poverty, high unemployment rate, inequalities and lack of justice, etc.

1.2. Research Objectives

The specific objectives of the study include to:
(1) explore the nature and impact of ICT on the Nigeria consumer market,
(2) justify the Nigerian public policies' and agencies' need of Information in a modern society
(3) evaluate the potency of ICT in enabling accountability,

reliability and transparency of Government Business;
(4) examine how useful ICT is as a tool to combat hindrance to national economic growth and development;
(5) explore the presence of indexes of good governance; and
(6) examine the role of e-government for the overall reform and transformation of government business.

1.3. Research Questions

The following research questions shall be answered in this study:
(1) How useful is IT as a tool to combat hindrances to national development?
(2) How has ICT deployment to government services played a vital role in driving accountability, reliability and transparency of Government Business?

2. ICT and the Future Developments

Information and Communication Technology (ICT) is an umbrella term that covers all technical means for processing and communicating information. The convergence of information technology (IT) and telecom technology gave birth to ICT. In a paper, Akunyili [2] elucidated that ICT practically finds expression in digital technology and all its uses and variants, including the computer, the internet, mobile telephony, the different electronic applications (e-banking, e-governance, e-commerce, etc), digital media and broadband technology.

Information and Communications Technologies (ICT) has grown and developed over the years, impacting so greatly on new or modern businesses. This has really become a broad subject area expanding also into the growth and applications of e-commerce, potential of e-business, e-market places, e-customer relationship management, and the rise of online customer feedback, automation of business functions such as electronic payments/money transfers, high density data transfer and the impact on postal service.

ICT has been widely used to improve how goods are produced and services are delivered as a feature of everyday life in developed countries [3, 4].

In their paper, Dalvit, et al. [5] as cited in Chinedu [3], describe the development and deployment of an e-commerce platform in Dwesa, a rural area in the former homeland of Transkei in South Africa as a system designed to promote tourism and advertise local arts, crafts and music, and it entails a number of related projects. Ingham [6] and Chinedu [3] concurs and further concludes that "e-mail has recently penetrated into organisations as a business communication tool and that the level of seniority in a company impacts on the number of e-mails sent and received".

Floridi [7] and Chinedu [3] looks at the future developments of ICT, and try to estimate what its impact on human lives will be. It was forecasted that, "in information societies, the threshold between online and offline will soon disappear, and that once there is no difference, humans shall

become not cyborgs but rather inforgs, that is, connected informational organisms" [3].

2.1. ICT and the Nigerian Society

Sustainability in a society may be expressed in terms of the potent factors that promote social cohesion in the society. Social cohesion may also be described in terms of how the members of a society (the governed and the government) relate on public matters from time to time. The said relationship is about information sharing.

The Nigerian society is not alien to the global drive of ICT. Nigeria has often been labeled as one of the largest consumers of technology [8]. Public policy is a vital element of governance in all modern societies. The spread of social media appears to be a potential vehicle for getting the people acquainted with current policies and what the people stand to gain from such policies. Recent studies have indicated that the information technology investments have improved the productivity of national economies and organizations [9, 10]. The growth of e-commerce businesses in Nigeria in the last decade and the use of Social Media or other forms of Social IT platforms to attract local and foreign clients is good evidence in support of the foregoing. Developing nations, such as Samoa, India, and New Zealand, have been able to leverage national development with advances in IT. Deployment of e-learning technologies as it relates to preserving and disseminating knowledge of the cultural heritage of the society. Justice delivery has also benefitted from trends in IT. Application for social information technology in the public justice delivery could foster the quick dispensation of justice by enabling interaction among the stakeholders i. e. courts, judges, and litigants. Court stakeholders, can adopt Social IT platforms to deal with emotional states, customs, workplace cultures, and the problems associated with solving private problems in public spaces.

One key area of growing importance in the use of ICT is education. There is an increasing emphasis on the integration of information and communication technology to enhance the teaching and learning process within education. On-line tutorials, interactive multi-media and virtual reality are helping students succeed in their learning.

These technologies focus on the way in which users interact with new technologies and how the technologies aid in reshaping the society in medium- and long-term use through flexible education and training. Information Technology is a sustained method in understanding educational and training issues in ways that do help improve the learning outcomes. Often the main drive for technology-enhanced education has resulted in national policies that are supported by the government, such as the recent e-learning strategy that has been proposed for the National Health Service in the United Kingdom (UK).

Unarguably, Social Media and other forms of Social IT has been used and misused. It is on this note of misuse that a Lagos Lawyer and Senior Advocate of Nigeria, Mr. Festus Kenyamo, in his recent remarks on the use of Social media on Channels Television regarded Nigeria as operating two Republics one of which he regarded as "Republic of Social Media" [11]. Notwithstanding the misuse and disuse Social Media has tremendous benefits and potentials to the Nigeria society many of which are yet untapped. These benefits are addressed below.

2.2. The Need for ICT among Anti-corruption Agencies, and Legislations in Nigeria

Nigeria boasts of several institutions, agencies, and legislations for combating corruption. The frontline anti-corruption agencies in Nigeria include: The Economic and Financial Crimes Commission (EFCC), Nigeria Police and other security agencies, Independent Corrupt Practices and other related Offences Commission (ICPC), Code of Conduct Bureau (CCB), Federal Character Commission, Public Complaints Commission, Judiciary, National Assembly, Code of Conduct Tribunal (CCT), Central Bank of Nigeria, etc.

In a similar vein, there are obviously sufficient legislations that are structured towards conquering the gigantic demon called corruption. These legislations include:

(1) The Constitution of the Federal Republic of Nigeria 1999(as amended) Cap C23, Laws of the Federation of Nigeria 2004
(2) Criminal Code Act Cap C38, Laws of the Federation of Nigeria 2004
(3) Penal Code Act Cap P3, Laws of the Federation of Nigeria 2004
(4) Money Laundering (Prohibition)Act, 2011
(5) Economic and Financial Crimes Commission Act Cap E1, Laws of the Federation of Nigeria 2004
(6) Independent Corrupt Practices and other related offences Act
(7) Corrupt Practices and other Related Offences Act Cap C31, Laws of the Federation of Nigeria 2004
(8) Code of Conduct bureau and tribunal Act Cap C15, Laws of the Federation of Nigeria 2004
(9) Public Complaints Commission Act Cap P37, Laws of the Federation of Nigeria 2004
(10) Central Bank of Nigeria Act Cap C4, Laws of the Federation of Nigeria 2004

Notwithstanding the plethora of agencies and legislations, it is sad to note that the war against corruption has not achieved much over the last decade. Enforcement of the said laws remains a serious pitfall in the arrest of the ill situation.

Nevertheless, a critical look at the modus operandi of these agencies listed above reveals that each effort made towards fighting corruption is driven by the information made available to the agency in question. The EFCC, ICPC, CCB, all operate by "tip-offs", petitions, etc. made to it. For instance, the mandate of the ICPC is to receive and investigate reports of corruption and in appropriate cases prosecute the offender(s), to examine, review and enforce the correction of corruption prone systems and procedures of public bodies, with a view to eliminating corruption in public life, and to educate and enlighten the public on and against

corruption and related offences with a view to enlisting and fostering public support for the fight against corruption. The EFCC also has a similar mandate though in a different sphere, its operation being restricted economic crimes. One thing is common among the agencies, i. e. information. In other words, an agency may be handicapped if the information it requires to drive its operation is to be formalized, for instance via petitions, legal suits, etc. Such may cause a delay or even stall the investigation or prosecution. However, it is interesting to note that some agencies especially the security agencies, for instance, the Nigeria Police is currently operating social media channels (e. g. Whatsapp) dedicated to information exchange with the public, the essence of which is to enhance real-time reporting of unlawful events taking place even in the remote areas.

3. ICT and E-Governance

Information and Communication Technologies (ICTs) plays a critical role in sustainable human development and poverty eradication. ICT is a powerful enabler of development goals because of the way in which it improves communication and the exchange of knowledge and information necessary for development processes. The impact of ICT on the full range of human activity has remained undisputed due to the fact that it is pervasive and cross-cutting. ICT is becoming one of the main enablers in the pursuit of poverty alleviation and wealth creation in developed and developing countries. As accelerator, driver, multiplier and innovator, ICTs are powerful if not indispensable tools in the massive scaling up and interlinkage of development interventions and outcomes, government businesses [12].

ICTs also play a critical role in speeding up the flow of information and knowledge between government and citizens and transforming the way in which governments and citizens interact. According to the United Nations Development Programme (UNDP) as cited in Aramayo-Carega [12], the challenge for all countries is to create and develop a system of governance that supports and sustains human development. There has being reasonable ICT investments by Governments in many parts of the world targeted at improving governance processes or government business.

Electronic Government or e-government as defined by Aramayo-Carega [12], is the use of ICT to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens. The emergence of E-government has transcended that of electronic service delivery and is part of the ongoing reform and transformation of government enabling participatory governance and partnerships to improve efficiency and effectiveness [12].

E-government is about transforming government to be more citizen-centred. Technology is a tool in this effort. E-government successes require changing how government do businesses, how it deals with information, how officials view their jobs and interact with the public, or other stakeholders. E-government also cut across various sectoral areas such as e-health, e-education, SMEs (Small and Medium Enterprises) and local content. Achieving e-government success also requires active partnerships between government, citizens and the private sector. The e-government process needs continuous input and feedback from the "customers"— the public, businesses and officials who use ICT infrastructure or e-government services. Their voices and ideas are essential to making e-government work. A well implemented E-government represents a participatory process which implies an accountable, trustworthy and transparency e-governance. E-government and ICT are considered as essential elements of a huge government modernization program. It is obvious that simply introducing computers or interlinking them via modems will not improve government, nor will only automating the same old procedures and practices. Additionally, making unhelpful procedures more efficient is not productive. And also, focusing only on the computers will not make officials more service-oriented toward government's "customers" and partners. Therefore, this is a call for leaders to think about how to harness technology to achieve objectives for reform. ICT is an instrument to enable and empower government reform [12].

Peculiar to e-government is the fact that existing paper-based procedures are automation or computerization to enhance access to, and delivery of government services to the citizens, employees, private or public organisations and foreigners alike. Notable is the fact that E-government also aims at integrating government ministries, departments and agencies (MDAs) in a manner that promotes their on-line interaction. More significantly, it aims to help strengthen government's drive towards effective governance and increased transparency for better management of resources, for growth and development [2].

3.1. ICT Enabled Government

3.1.1. Various Definitions of E-Governance

Numerous definitions to the concept of electronic Government have been provided by Researchers over the years. The concept e-governance has been broadly defined especially as it relates to the public sector. As a matter of fact, diverse definitions have been present with researchers coming up with their varying definitions of the concept.

According to Abasilim and Edet [13] citing Shilubane [14], e-governance is simply the use of information communication technologies (ICTs) to carry out public services, that is to say, the use of the internet to ensure that services are delivered in a much more convenient, customer oriented and cost-effective manner.

Budhiraja [15], and Abasilim and Edet [13] defines e-governance as the application of Information Technology to the process of government functioning in order to achieve a Simple, Moral, Accountable, Responsive and Transparent (SMART) Governance.

In a similar vein, Ojo [16], Abasilim and Edet [13] also unveiled e-governance as "the application of information

communication technology (ICT) by the government to enhance accountability, create awareness and ensures transparency in the management of governmental business." He further states that e-governance can be seen as a political strategy of government through which their activities can be showcased to the public.

Concurring with Ojo [16], Abasilim and Edet [13], citing Ayo [17] defined e-governance as "the governing of a state/country using ICT." Meaning that, e-governance is the application of ICT in executing government businesses. From the definitions so far, it can be deduced that e-governance is simply the use of ICTs in the operations of government businesses. However, from a similar perspective, it is the shift from the traditional method of carrying out government activities which is mainly hierarchical, linear, and one-way to the use of internet which enables the public seeks information at their own convenience and not really having to visit the office in person or when government office is open.

The major objectives of e-governance appreciated in Abasilim and Edet [13] are to improve government processes (e-administration), connect citizens (e-citizens and e-services) and build external interactions (e-society). However, the research maintained the fact that there are numerous factors to be considered for a successful e-governance implementation. These include "making and implementing decisions, proper leadership, putting in place organizational arrangements, ensuring resources and funding, establishing accountability and measuring success, telecommunications network, internal agency systems, cross-government systems, service delivery network access points, internet access and skilled staff, better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information and more efficient government management" [13]. Notable also, is the fact that "e-governance is not only the computerization of a government system, but a belief in the ability of technology to achieve high levels of improvement in various areas of government, thus transforming the nature of politics and the relations between governments and citizens" [18, 13].

3.1.2. ICT Applications in Governance

There are important impacts ICT makes on national and global governance where required ICT infrastructure are in place. Firstly, ICT facilitates flows of international information across national state borders, thereby increasing and facilitating cooperation between governments. The reliability in the flow of such information system is evident in the fact that greater percentage of government business both nationally or across borders are transacted via the agency of email or online platforms to either capture individual, organisations or nations information. Secondly, traditional procedures of political governance, such as national governments, but additionally, international organisations are watching the balance of power shift. Next, ICT empowers civil society, which refers to the set of

institutions, organisations and behavior situated between the state, the business world, and the family [19].

Notable in the paper are the consideration of the enormous important impacts of ICT that are not just limited to governance alone, but spread across Business, Education, Environment, Health and Social Applications [19]. According to the research, increased information flow coupled with the easier access to information in civil society, including NGOs and the media, makes institutional actors, such as governments and international organizations, progressively transparent and accountable [19]. ICT allows civil society to organize, regroup and cooperate in ways that bring their opposition, demands and concerns more attention.

3.2. Model of E-Government

Regarding the use and application of information and communication technology, Sheridan and Riley [20] in a research argued that electronic-governance analyses the whole component of the inter-relationship and networks existing between the government and other institutions present in the state. By implication, e-governance is an approach which studies the processes involved in the administrative relations existing in an organization. As such, observation in Backus [21] reveals three main groups can be notable in e-governance concepts. These groups according to the report include: government, citizens, and business/interest groups; constituting the three major relationship models in e-governance, which are; Government to Government (G2G), Government to Citizens (G2C), and Government to Business (G2B). These are called e-Government primary delivery tracks.

3.2.1. Government to Government (G2G) Model of E-Governance

Government to Government (G2G) model focuses primarily to analyze tangibly the pattern of relationship which exist between government organizations and agencies to ensure that there is high level of cooperation among governments [22]. Also, the model emphasizes on the need for efficiency in providing adequate internet services for government transactions or businesses. However, four basic aspects of G2G model of e-governance were identified in a report. These includes:

(1) Establishing a safe and institutionalized interaction between government agencies

(2) Delivering government services through an interconnected network

(3) Adopting e-commerce in government transactions to ensure efficiency at all levels

(4) Ensuring an electronic transfer of information among democratic governments [23].

Further in an observation, is the fact that deploying e-governance in inter-governmental relationships produces new innovations in the governing and administrative process of a nation [24]. According to the report, the level of success of G2G model of e-governance depends greatly on the type of government in power and the size of the state or nation. The

strategic objective of employing e-governance in government to government model is to simplify and support the process of governance for the government, citizens and businesses. It also becomes the driving force to make government businesses or activities more transparent, speedy, trustworthy and accountable.

3.2.2. Government to Citizen (G2C) Model of E-Governance

According to Palvia and Sharma [22], Government to Citizens (G2C) revolves around the roles of governments her citizens with the opportunity to obtain information and services online. In Government to Citizens (G2C) model, citizens of a nation are granted the right to inquire about matters relating to government MDAs, keep records of income taxes, pay utility bills, renew driver's license, public procurements etc. Coupled with this, the government can also provide platform to avail information on the web, provide downloadable forms online, and assist citizens in online job recruitment and creation; and providing information about health and safety issues. Miller and Walling [25] maintained that, the goal of Government to Citizen (G2C) model is to provide various ICT services to citizens in a skilful and economic way. It is expected that relationship would grow stronger between government and citizen considering the technology employed in government to citizen model. Sunday [26] has however observed inequalities in the status of government to citizen model of e-governance in the global society, since not all citizens prove to be computer literate or have access to internet services.

3.2.3. Government to Business (G2B) Model of E-Governance

This model revolves around a two-way interaction and transaction between government and businesses [22]. Sunday [26] sees government to business model as an online interaction between the different arms or tiers of government with the commercial business sector. These relationship and interactions are not connected with commercial enterprise but has the sole objectives of giving out business information and advices on electronic-business operations. The specific purpose of government to business model of e-governance is to create an easy and conducive environment for business transactions, ensure the provision of vital information that will aid the growth of businesses and enable an internet-based communication by electronic-business [26]. The use of online transactions in every sphere of the society help to streamline government processes and ensure efficient and less human interfacing. Thus, interconnecting various ministries, governments, departments, businesses, and citizens electronically, will mean that the process of governance will be enhanced in the society.

3.3. Benefits of E-Government Implementation

The advantages of e-government implementation apply for both developed and developing countries alike. However, e-government applications have many benefits for citizens,

business and government entities. E-government applications allow people, businesses, and government sectors access to available government information 24 hours a day, 7 days a week, which improves the quality of these services [27]. Seifert [28] argued that implementing e-government will obviously reduce cost and improve the levels of organizational processes by streamlining and re- organizing operating procedures. Moreover, the using of e-government systems will improve the performance of government agencies and that it will deliver the public service effectively and efficiently for all customers [29]. Additionally, Cohen and William [30] declared that the benefits of e-government are obvious in regards to economizing and improving government's service operations, including efficiency, reduced transactional costs, increase the transparency and increased services for citizens. Furthermore, NOIE [31] highlights various e-government advantages, some of which were elucidated among the enormous benefits of e-government implementation identified in OECD [32], the following are noteworthy:

(1) Improves efficiency of government agencies in processing of data
(2) Improves services through better understanding of users' requirements, thus aiming for seamless online services
(3) Share information and ideas between all government agencies and department to build one mega data base.
(4) Assists a government's economic policy objectives by promoting productivity gains inherent in ICT and e-commerce
(5) Improving transparency, accuracy and facilitating information transforming between government and customers.
(6) Helps in building trust between governments and citizens, an essential factor in good governance by using internet-based strategies to involve citizens in the policy process, illustrating government transparency and accountability.

In conclusion, it is obvious that implementing e-government would not only saves resources, improve efficiency and effectiveness but it can also extensively drive accountable, reliable and transparent government business transactions.

3.4. E-Government: An ICT Route for Good Governance

E-governance is regarded as the ICT-enabled route to achieving good governance since it integrates people, processes, information, and technology in the service of governance initiatives or businesses. The expected benefits of such public sector reforms have been identified as an increase in the efficiency of government operations, strengthening democracy, enhancing transparency, and providing better services to citizens and other stakeholders [12].

In a report by UNDP, on Governance for Sustainable Human Development, as cited in Halachmi and Greiling [33], the following core characteristics were sufficiently identified

and highlighted as indicative of good governance:

(1) Participation
(2) Rule of law
(3) Transparency
(4) Responsiveness
(5) Consensus orientation
(6) Equity
(7) Effectiveness and efficiency
(8) Accountability
(9) Strategic vision

In a review, Abu-Shanab [34] provides a definition of e-government, which is a summary of numerous researches on e-government, as using ICT and the Internet capabilities to provide public service, improve government's performance, and open participation and empowerment channels to serve political or democratic reasons.

The concept of E-government has been unveiled to have expounded into various areas like improving government's performance and empowering citizens to participate in the democratic process. The role of e-government over the years, and in many developed countries had continually taken a holistic approach to governance towards sustainable development. This requiring strategic national planning to ensure efficacy, transparency, responsiveness, participation, and inclusion in the delivery of public services utilizes a notion of sustainable development for the people [34].

3.5. Accountability, Reliability and Transparency (ART) in E-Government

E-government has been argued to have become an umbrella term covering all use of information technology in government, and IT-based sharing of information and conducting transactions within the government (G2G), between government and businesses (G2B), and between government and citizen (G2C) [35]. In their analysis Mistry and Jalal [35] maintained that ICT enabled e-government can improve the transparency of the bureaucratic process and therefore, promote accountability. Also, E-government has been endorsed as a strategy of public sector reform based on its impact on improving the managerial process.

ICTs offer countries a new approach to creating accountability, transparency and promoting anti-corruption. Many nations with transparency laws have directly tied the implementation of these laws to the implementation of ICT-based initiatives, often through e-government. Bertot, Jaeger and Grimes [36] further argued that ICTs can reduce corruption by promoting good governance, strengthening reform-oriented initiatives, reducing potential for corrupt behaviors, enhancing relationships between government employees and citizens, allowing for citizen tracking of activities, and by monitoring and controlling behaviors of government employees. To successfully reduce corruption, however, ICT-enabled initiatives generally must move from increasing information access to ensuring rules are transparent, reliable and applied to building abilities to track the decisions and actions of government employees [36].

The vision of many governments in the use of ICTs is as a means to promote efficiency and transparency at the same time. ICTs in general show promise as an effective means of reducing corruption, but social attitudes can decrease the effectiveness of ICTs as an anti-corruption tool. Case studies and statistical analyses indicate that ICTs hold a great deal of potential for – and are already demonstrating benefits in – anti-corruption, particularly by enhancing the effectiveness of internal and managerial control over corrupt behaviors and by promoting government accountability and transparency [36]. In analyzing changes between 1996 and 2006 corruption data through ICT-enabled e-government initiatives Bertot, Jaeger and Grimes [36] further elaborated with conclusion from one study; "implementing e-government significantly reduces corruption, even after controlling for any propensity for corrupt governments to be more or less aggressive in adopting e-government initiatives".

Transparency deals with the open communication between citizens and governments. It refers to the effective knowledge with relevant information to citizens' needs. Laws like the right to information, as deployed across the world, open access of e-government information, or the use of ICT and the Internet to promote public information are related to transparency. Researches revealed that transparency has a major role in reducing uncertainties for governments. Transparency is not as easy to implement and adhere to as perceived; it requires training public officers to respond to information requirements [34].

4. Methodology

In respond to the research questions, a four-step research methodology was adopted and thus had been implemented. Firstly, the research objectives were established which guided the setting of the research questions. Secondly, an appropriate framework for the research was adopted following the previously researches on the subject areas. Thirdly, it includes a brief review of relevant and past literatures. Finally, the fourth step of the general methodology is the deployment of a quantitative approach involving survey design in the form of a questionnaire, distribution, collation and computational analysis using, frequency distribution and percentage method. The results of the quantitative analysis were discussed and interpreted in relation to the key issues of the research.

The total population in this research was 90 respondents. From the named population, 60 responses (82%) were obtained from the selected 73 persons (sample size) to constitute the required respondents. These constitute a fair representation of the Stakeholders from Transportation, Services, Finance and Hospitality sector.

5. Result and Discussion

5.1. Analysis Based on Research Questions

The following questionnaire statements were used in

answering research questions one and two of this study. The table below as extracted from the field survey data with

responses from the respondents, provides the required statistics.

Table 1. Responses on ICT as a combat tool and deployment to government services (Source: Field Survey, 2018).

		Frequency	Percentage	Valid Percentage	Cumulative Percent
The use of ICT has remained a vital tool to combat major hindrances to national growth and development.					
Valid	STRONGLY AGREE (SA)	29	48.3%	48.3%	48.3%
	AGREE (A)	24	40%	40%	88.3%
	NEUTRAL (N)	2	3.3%	3.3%	91.6%
	DISAGREE (D)	2	3.3%	3.3%	94.9%
	STRONGLY DISAGREE (SD)	3	5%	5%	100.0%
	Total	60	100.0%	100.0%	
ICT deployment to government services has played a vital role in driving accountability, reliability and transparency among public servants and institutions in Nigeria.					
Valid	STRONGLY AGREE (SA)	13	21.67%	21.67%	22%
	AGREE (A)	33	55%	55%	76.67%
	NEUTRAL (N)	6	10%	10%	86.67%
	DISAGREE (D)	1	1.67%	1.67%	88.34%
	STRONGLY DISAGREE (SD)	7	11.67%	11.67%	100.01%
	Total	60	100.0%	100.0%	

Source: Field Survey, 2018

Based on "The use of ICT has remained a vital tool to combat major hindrances to national growth and development.", the bulk 48.3% of the respondents strongly agree, 40% of the respondents agree, while 3.3% of the respondents are neutral, the remaining 3.3% and 5% disagree and strongly disagree respectively to the notion. Thus, very significant majority of the respondents agree and strongly agree that ICT have been used as vital tool to combat major hinderances to national development.

Based on the notion "ICT deployment to government services has played a vital role in driving accountability, reliability and transparency among public servants and institutions in Nigeria.", (21.67%) of the respondents strongly agree, (55%) of the respondents agree, while (10%) of the respondents are neutral, the remaining 1.67% and 11.67% are on disagreement and strongly disagreement stands respectively. Thus, greater majority of respondents' stands of agreeing and strongly agreeing to the notion suggests that ICT deployment to government services has played a vital role in mitigating hinderances to national growth and development by driving accountability, reliability and transparency among public servants and institutions in

Nigeria.

5.2. Analysis Based on the Test of Hypothesis

The following Test of Hypothesis has been conducted on "ICT deployment to government services versus the use of ICT for national growth and development".

Hypothesis:

H_O: The ICT deployment to government services in driving accountability, reliability and transparency among public servants and institutions in Nigeria have not significantly played a vital role more than the use of ICT as a tool in combating major hindrances to national growth and development.

To test this hypothesis, Tables 2 will be used for ANOVA test. The responses in Table 1 on ICT deployment to government service in driving accountability, reliability and transparency among public servants and institutions in Nigeria represents X_1 column while the responses in Table 1 on the use of ICT in combating major hindrances to national growth and development represents the X_2 column.

Table 2. ANOVA table for test of the hypothesis.

Options (n)	ICT deployment to government (X_1)	Use of ICT as a combating tool (X_2)
STRONGLY AGREE (SA)	13	29
AGREE (A)	33	24
NEUTRAL (N)	6	2
DISAGREE (D)	1	2
STRONGLY DISAGREE (SD)	7	3
Total ($\sum X$)	60	60

The outcomes using Excel software for the analysis is represented in Table 3:

Table 3. ANOVA test results: Two-factor without replication.

SUMMARY & ANOVA:				
SUMMARY	Count	Sum	Average	Variance
Row 1	2	42	21	128
Row 2	2	57	28.5	40.5

SUMMARY & ANOVA:						
Row 3	2	8	4	8		
Row 4	2	3	1.5	0.5		
Row 5	2	10	5	8		
Column 1	5	60	12	156		
Column 2	5	60	12	178.5		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	1153	4	288.25	6.232432432	0.052065913	6.388232909
Columns	0	1	0	0	1	7.708647422
Error	185	4	46.25			
Total	1338	9				

Decision Rule:

F-value (f) = 6.2324 is less than the f critical value (f crit) = 6.388. Thus, there is no statistical significance to the results. The null hypothesis is hereby accepted, and the alternative hypothesis, rejected. Hence, the ICT deployment to government services in driving accountability, reliability and transparency among public servants and institutions in Nigeria have not significantly played a vital role more than the use of ICT as a tool in combating major hindrances to national growth and development. The graphical representation of the hypothesis has been shown in Figure 1:
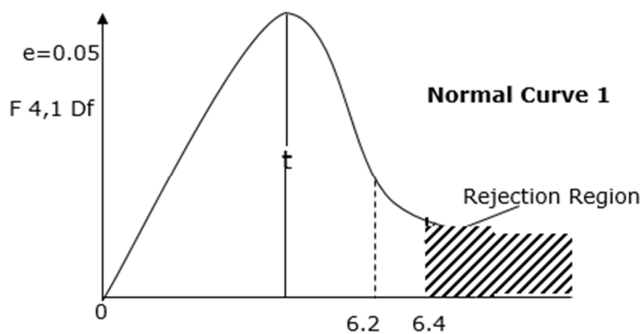

Figure 1. *Graph showing the table and the calculated value of ANOVA computation for hypothesis (H_O).*

This validates the submission that ICT is a potent enabler which does not only ensure accountability, reliability and transparency of Government business, but further, plays a vital role in its use as a tool in combating major hinderances to national growth and development.

6. Conclusion

6.1. Concluding Statements

While Technology on its own does not solve human or social problems, yet the availability and deployment of e-government remain necessary pre-requisite for good governance, and economic and social development among nations of the world. Just as electricity is to the industrial era, so is ICT as the direct functional equivalent to information age, and the emerging knowledge society. The survey covered in this paper conveys ICT and its deployment within any tier or arm of government as key driver or potent enabler of accountable, reliable and transparent governance in an electronic business environment.

ICTs and e-government are enablers for economic growth and development because of their crosscutting nature thus impacting all sectors. Their ability to drive accountable, reliable and transparent government activities becomes the essential neuron to harnessing increased citizen participation, reduced gender inequality, strategic visioning, improved responsiveness and reduced corruption within the good governance; reflective of such society. E-Government initiatives caters for how government could innovatively interact with citizen (G2C), business (G2B) or other government (G2G) under the platform of intense ICT deployment to stimulate the overall impacts of accountability, reliability and transparency (ART) unto good governance.

6.2. Recommendations

Leveraging on the enormous benefits ICT deployments provision to ensure good governance; the recent adoption of the lingered e-Government Masterplan in Nigeria as a national agenda; as well as the need to promote accountability, reliability and transparency in the execution of government business, any anticipated challenges or setbacks to the technologies' implementations should not create a detour. Sequel to this, the following recommendations are advanced especially in the Nigeria contest:

(1) The drive to meet the set timelines in actualizing Economic Recovery and Growth Plan (ERGP) 2020, Vision 20:2020 and Sustainable Development Goal should be a national mandate and agenda in Nigeria. Thus, maximum commitment to foster the drive for National Enlightenment, Education and re-orientation on the role of e-Government and ICT for National development unto knowledge-based economy, are strongly advocated. To this end, factors such as human element should be properly considered. This is needful because no technology can drive itself; it is the human elements that usually drive the technology. So the will power of citizens and government officials are critical to whether e-governance implementation in Nigeria's public service would succeed or not. This is because they have the capacity to truncate whatever innovation and benefits e-governance promises to offer or to bring to bear.

(2) The collaboration of Federal Ministry of Information and Culture and any other media house with Federal Ministry of Communications to promote the publicity on the availability of the various e-Government services, and their enormous potentials, to ensure mass usage by citizens, businesses, and other government bodies are also recommended.

(3) To second the recently approved e-Government Master Plan, the follow recommendations would suffice: (1) A Presidential Council is required to advance all national implementation mandates in Nigeria. (2) In the light of this, is the need to keep the vision and passion alive for an unflinching drive unto full implementation of the set policies or strategies or objectives of the Masterplan via the flagging off of the Implementing Department of the supervising MDA as a separate Agency or Department under the Presidency. The proposed Agency should be saddled with the mandate to create a framework for the planning, research, development, standardization, application, coordination, monitoring, evaluation and regulation of e-Governance practices, activities and systems in Nigeria. (3) Further to this, relevant Government Ministries, Departments and Agencies should set up an e-Government Department and/or an e-governance implementation committee who will work out modalities for effective implementation of the concept, with performance evaluation units, establish to evaluate the successes and failures in its targets as well as feedback mechanism to report implementation effectiveness to the proposed Precedential Council in (1) above. They are also expected to oversee the enforcement of the adoption of e-Government programs by MDAs (Federal and State-wide) and encourage collaboration amongst them via the facilitation by the said Council. (4) Thus, the need to come up with a regulatory policy, especially on the recently approved e-government implementation framework, can never be more urgent than now.

(4) It is recommended that all MDAs across board (both federal and state wide) go paperless through digitization by furnishing all their relevant offices and computer rooms/laboratories with required infrastructures and connectivity to show a high level of e-readiness in their operations. To this end, future job recruitments should consider highly skilled personnel in ICT, provision of continuous training of the personnel to keep them informed on how best to utilize e-governance in engendering effective service delivery among others.

(5) To promote accountability, reliability, transparency and further engage maximum citizen participation across every people group, it is hereby recommended that sufficient local contents be built into the relevant online e-Government services portals which should be periodically upgraded and updated to promote ease of participation and knowledge sharing for all Nigerians (both in the rural or urban settings). Mobile platforms should be accessible and with options for services in the major Nigeria languages for all the G2C's services.

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