INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) DEVELOPMENTS AND POLICY IN GOVERNANCE

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Abstract

Information and Communications Technology (ICT) has been an enhancement for political, social, economic and any form of development that takes place in developed nations. Nearly all services being rendered by private and public sectors as role players in governance are used to deliver qualitative services through ICT and since these tools have undeniable proofs, they are being used to reinforce governance in most countries. Since the benefits are obvious and too visible to be ignored, developing nations have also plugged to its use for governance. Most developing nations aspire to realize their vision of joining the league of global economic giants in the year 2020. Good governance with ICT as a core pilot will pave the way for the accomplishment of such vision. Without mincing word, the paper maintained that ICT contributes to good governance. This paper presents ICT development and policy in governance. The taxonomy of ICT developments and policies in government, security, education, recruitment, etc., and ICT benefits in governance were also considered. It was therefore recommended in the paper that individuals or groups from different sectors especially in developing nations should strive to make Information and Communication technology a reality to individuals at reduced and convenient cost for easy accessibility.

Keywords: ICT, governance, development, policy

1. Introduction

ICT stands out among the factors that have impacted lives in this age. Its influence on human lives is like a city set on a hill which cannot be hidden. Its impact is visible almost in every area of human lives which indeed is indispensable. This impact is considered continuous as long as man wants to remain enjoying better lives and ways of living. ICT has made global communication a reality. Information and Communication Technology is almost becoming what we cannot do without. Man makes use of ICT either for personal use, helping others or being helped. Mbakwem & Okeke, (2007) posited that (ICT) has permeated all nooks and crannies of our society. They believed it has turned around society and, demands corresponding changes in the education sector in line with societal changes.

Wiki media project (2013) described ICTs as "diverse set of technological devices and resources used for communication, creation, dissemination, storage, and management of information." Lallana and Margaret (2003) posited that ICT field is a field which broadly comprising computers, communications equipment and the services the equipment perform. Nworgu (2007) viewed information technology as set of devices that helps one works with information and perform task-related processing. Adeoji (2005) also described ICT as a term that includes any communication device or application, encompassing: radio, television, cellular phones, computers and satellite, etc. Various components of ICT were identified by Ayeni (2004) which includes prints media, electronic media, telephone, telex, e-mail, fax and computers. In the view of Aboderin (2009), ICT as a field broadly involves various devices like computer and telecommunication. These tools are largely being used for organization information processing or individual information processing in various economic sectors. Without stress, we can collect like terms from various scholars on ICT. It centres on passing information from one or group of people to another through various devices say computer systems, radio, and television, among others. Prior the advents of ICT, to pass information, costs were higher, delay was inclusive, and feedbacks were not immediate if such information were finally received. With the introduction of ICT, many beneficiaries have surfaced as a result of its reduced cost and saved time. Individuals, groups, and government agencies are among these beneficiaries making governance supportive and easier. Without mincing words, ICT circle of influence has resulted in numerous benefits and offered tangible help with governance not exempted.

2. Defining Governance

The term "Governance" is not new but has been in existence since time immemorial even from Biblical allusion until recent times. Kettl (2002) described governance as the bridge that connects government with its very big environment, be it administrative, political, social, or economic environment. The World Bank's report of 1992 titled "Governance and Development", described governance as the means of exercising power and administration of a nation's social and economic resources purposely for development. It is also the utilization of institutions, structures of authority and even for resources allocations and coordination or controlling of societal and economic activity (Bell, 2002). In the same document, governance was viewed as exercise of administrative, political and economic authority to pilot a country's affairs at all levels of controlling. Agbala (2013) said governance is all about making the right decisions (policies, laws, programmes/projects).

Governance was viewed as administrative, political and economic exercise of authority to pilot a country's affairs at all levels. In United Nations' report (www.unescap.org/pdd), governance was expressed as a decision making process which leads to implementation (or not implementation as the case may be) of such decisions made. It posited that governance' use is multifaceted be it at local, corporate or international levels.

Since decision making is a 'core course' in governance to better the lot of the people being governed, it is being evaluated by the major actors from various quarters involved in the process whether formal or informal actors. When an average man especially in developing nations hear the word 'governance', it appears its meaning is limited to formal actors only but far more than that in reality. This implies informal actors are also involved in the act of governance.

In line with this view, Keohane and Nye (2000) posited that governance involves institutions either formal or informal in order to guide and checkmate their collective group activities. Governance is seen as an umbrella which shades various groups with the common factors of making decision expected to subsequently followed by implementation. It does not only take place at federal level, state level or local level but also among individuals, private organisations or association of firms and non-governmental associations. It is evident that governance involves government and other bodies and agencies that can be referred to as private. Landlord associations, farmers' associations, cooperative societies, research institutes, NGOs, leaders of different religions, among others, societies, are examples of other actors in governance beside government as listed by United Nations (www.unescap.org/pdd <http://www.unescap.org/pdd>). If there are peoples being led or governed with leaders directing or controlling to serve the people, governance is in place.

The impacts and benefits of ICT is felt and enjoyed by everybody in the society either directly or indirectly. Since governance gives access to reaching utmost number of people at a time, ICT's use as a tool in governance seems wise as many individuals and groups of people can be easily reached and lot of lives be touched and imparted. The various ICT devices and tools are human personified in the act of governance to support and enhance governance activities. With ICT's use, qualitative delivery of services to the citizenry are ensured with the evidence of speed and cost reduction. The fact is that in using ICT for governance also being referred to as e-governance, the electronic is not a replacement for governance but an enhancement of governance activities for efficiency, effectiveness, transparency, accountability, productivity, qualitative service delivery, responsiveness, etc. It makes the citizens the focus as the recipients and good governance becomes a reality.

The UNESCO (www.unesco.org) in her reports on ICT posited that citizens are also carried along in government activities and feedback can be easily received from them. Kettl (2002) described it as "the application of electronic tools in governance and a cordial links like government-citizens interaction, government-businesses interaction, and government internal operations to ensure democracy, government, businesses as aspects of governance becomes better in their operations and imparts. ICT in governance sometimes being referred to as E-governance is seen as "a universal competing terms pertaining to use of new communications technologies. Computer, Internet, mobile phone, e-mail, applications etc. can be used for governance purposes. Other widely used terms that have overlapping meaning include: electronic democracy (e-democracy), online democracy, cyber-democracy, virtual democracy, online governance, tele-democracy, e-participation and e-deliberation" (Chen 2008). Managerial effectiveness can be guaranteed, democracy can be strengthened and its value can be promoted, good governance can be ensured, core values that foster knowledge and information which can enhance good governance can be boosted through the use of ICT in governance. Howard, 2001 & Bannister and Walsh, (2002) opined the use of ICT in governance is a broader concept which includes the government and civil society to ensure meaningful and large number of people are carried along in governance. They posited that ICT device like the Internet are used by political parties or politicians to source

for peoples' view especially people living within their constituency on their various programmes. The reality can also surface from the opposition to the ruling government or power on their programmes to the citizens. In this ICT age, many media are opened for anybody to hear their views and opinions. The use ICT in governance in this age is neither theoretical nor far-fetched. Sometimes, individuals or private bodies do conduct public opinion using ICT like internet through the use of Facebook, twitter, Instagram, among others to generate people opinion on any matter as deem fit to them.

In some developing nations like Nigeria for example, during the campaign for elections, some aspirants do make use of their Facebook (most times) or twitter for campaigning or generate people opinion on the most significant or needed aspect of services government should prioritize in their numerous government programme preference lists. Feedback can be received from the citizens about government programmes even suggestions for successful steering of the wheel of governance can be received from citizens. Gone were those days when it was believed that media stations can only give information without feedback but advent of technology has broken that jinx like these era when audience either through call or social media can respond to various programmes on air. The rationale for the use of ICT in governance is simply to enhance the flow of information and delivery of qualitative services to the citizens at reduced costs. Human lives are information-based. We are producers and products of information. ITU (2008) opined that government work is very information intensive while the production of most government services consists of creating and communicating information. Information like tax payment, license renewal, birth, death, marriage, land purchase, as cited by ITU (2008) is the basic ingredient for governments to govern, manage its resources, provide services, and account for its performance. ITU (2008) posited that such information generates data that is collected, processed, stored, communicated, and analyzed by most governments. OMB (2000) emphasized that the free flow of information between the government and the public is essential to a democratic society" The use of ICT in governance ensures timely availability of information to the citizenry since the importance of information cannot be overemphasized.

3. ICT Development and Policy in Governance

ICT's impact on the development of any countries cannot be under estimated or overemphasized. It is a core course in any nation's programmes. The developed countries progressively and prosperously regard scientific inquiry and innovations as daily routines and lifestyles. It seems the developing countries are yet to fully connect to this lifestyle. In recent times, the pertinent question behind the scientific innovation and advancement in the technological sectors always being asked is "How do we make or do things better and easier? It is no more news that the acceptance and the use of ICT in the developing nations have reinforced their governance activities in the service delivery to the citizenry. ICT's contribution is believed to be central to all round development of any nation be it social aspect, personnel aspect, political aspect and economic aspect. Annie (2011) described (ICT) policy as an official declaration which contains and shows the objectives, principles, methods and strategies, which is designed to control and regulate ICT's development, operation and application.

ICT policy accommodates more forms of policies like monetary policy, trade policy, investment policy, foreign policy, transport policy, security policy, and educational policy. The age of Information Technology and Communication contributes to the healthy and steady growth of the economy. ICT is a staff that productivity leans on for all manners of development being social, financial, and economic among others. The industries' expansion and enhancement of numerous government activities does not only hang on available manpower but also on implementation of ICT policies effectively. The fundamental focus of National ICT Policies of different nation is creating a conducive environment that will result in expansion of ICT networks and services which at reasonable costs can be accessible to all and for a Nation transformation into economy that is knowledge conscious. ". This also helps to address some socio-economic and development challenges and maximize the uncommon potential of ICT for national development. The use and benefits derived from Information and Communication Technology might remain a mirage or only applicable to a set of citizens in developing countries if policy to maintain its operation is not put in place.

4. Taxonomy of ICT developments in Governance

The fact cannot be denied that world has become e-world where almost everything is **electrically (electronically)** done. ICT is applicable to aid numerous programmes and services in governance as in following areas:

4.1 E-government in Governance

E-governance is related to e-government but sometimes used interchangeably which is also called different names like internet government, connected government, digital government among others. Jeong (2007) summed up delivery models of e-government as [(G2G), (G2C), (G2E) and (G2B)] which imply governance from government to governments, governance from government to citizens, governance from government to employees, and governance from government to businesses. In e-government, people can connect with politicians or government officials over the internet to make theirs demands known and voices heard. Social networking services like Facebook, twitter, YouTube, among others can be employed to communicate to the citizens. People in the position of power can get feedback from their people through the utilization of ICT. Mobile messaging, numerous blogs, many social network sites, various micro-blogging services, RSS feeds abound as examples of ICT tool that can be employed in disseminating information to people.

Corruption has negatively affected the speed of achievements in developing countries. Oyedele and Aborisade (2014) cited examples of alteration of voting results or declaration of wrongful candidate after election by Independent National Electoral Commission (INEC) to declare a known candidate winner maybe due to financial blessing received from such candidates or directives from the higher authority. Wrongful detention of offenders (Adeyemi et al., 2007), and destruction or unexplainable disappearance of case files (Adetayo, 2007) in police force. Illegal forgiveness of customers by cancelling their debt of unpaid bills (Ameh et al., 2008) and illegal contracts' awards by (PHCN) that is Power Holding Company of Nigeria (Ameh, 2008). Specialized software for detecting fraud can be employed to trace and detect any fraud being perpetrated by group or individuals caught in the web of corruption. The subscription to the use of meters (pre-paid) also will help to attack the corruption attitude in the use of electricity.

4.2 E-security in Governance

E-security centres on ICT's usage to the security sector like other sectors to bring about growth and development. Every nation cannot hide the fact of being faced with challenge of securing people lives and properties. Advanced countries are not exempted from security challenge that is why they vote huge amount of money to always keep save their people lives and properties even when it looks like no security challenges exist. The security agents are saddled with this significant and sensitive task. The developing nations are more faced with security challenges like kidnapping, terrorism, ethnic, political and any form that crosses one's mind which seems to defy solutions. The issue of modern policing centres on the use of ICT to corroborate security agents' services as an extension of security strategies. Securing people's lives and properties is very pivotal need of the citizen.

The global state of insecurity especially in developing countries of the world has been headlines on every page of their national dailies. The success, long time accomplishments and safety of the citizen is challenged and threatened by insecurity. Security is not restricted to human lives but also covers financial, food, and health, among others. ICT development in governance to aid any nation's security system is too significant to be ignored. In fact, what a tool to address nation's security challenges and yardstick for measuring good governance. In a survey that was conducted in Nigeria it was discovered and confirmed from a law enforcement agency that "The Information and communication technology usage will definitely enhance command and control. Therefore the agency confessed that ICT is a very significant tool in tackling contemporary security challenges. Ndanusa (2014) gave some areas ICT can be used in governance for security like the use of Automated Fingerprinting Information Systems (AFIS); for example the use of fingerprinting during registration for examination and in election process, use of Geographic Information Systems and e-commerce. Since individual and group from either public and private sectors are involved in governance, mobile phone can also be used to call or send message or e-mail to security agencies for security alert in case of security threats experienced by the citizenry in any part of the state. The security agencies do have special lines to call in case on emergency. The advent of ICT makes security agencies efficient and effective and provides qualitative services to the citizenry. Emma (2013) corroborated the above facts with other means like the use of Public Security Communications System (PSCS), for example the installation of CCTV cameras to monitor crimes and address criminality to complement police efforts. For effectiveness and efficiency, Ndanusa (2014) emphasized that Knowledge Management Systems can be supported with ICT systems to manage the knowledge in organisations to support, create, capture, store and disseminate information. ICT's usage for security creates swift attention of the security agencies to security threats that spring up from any quarters.

4.3 E-employment in Governance

This is using ICT to aid employment process. Advertisement can be made using the internet for various vacant positions to be filled in by applicants. Advertisements are sometimes made through recruiting company sites or government sites to interested applicants. The unemployed can be recruited using ICT device particularly; the internet (Stone, 2006). Companies and recruitment agents make use of online process to get information and details of their applicants. Professional associations among others also make use of this. In recent times in developing nations, ICT is also being used for advertisement and recruitment even in local associations like Fashion Designers, Cobblers, etc. It could involve fingerprint capturing, face capturing, filling of needed information, teleworking to allow citizens, especially in the developing countries. ICT tools database technologies, and online job advertising boards and search engines are used in e-employment. E-mails are used at times as candidates hunting for employment can be asked to forward their CV to their employer. Maximum number of such applicants can be reached at a time and they can also receive immediate feedback from their prospective employer. The rate at which applicants can be matched with relevant vacancies applied for is to appreciable extent which is faster, time saving and cost reduced.

4.4 E-learning in Governance

ICT literacy and knowledge is very important in order to get the best in this age. ICT is relevant and significant to lend helping hand for people to get the best out of their education and training. The use of ICT in governance ensures learners access to necessary materials and instructors to guarantee the achievement of educational objectives and excellent performance. The beauty of ICT is that learners across boards either in formal school settings or informal settings can make use of it to achieve their goals. Government, agencies, private bodies, institutions can develop and train their members using ICT tools like interactive multi-media for distance learning and on-line tutorials. Various materials in form of documents, audio or video can be provided to individuals learners / group concern through internet via their mail or approved website for downloads.

E-books (downloadable in several formats like pdf or word document), sample examination papers, past examination papers can be hopefully retrieved while resource persons, academic and field professionals, experts from the field, seasoned researchers, worthy mentors, and peers from different areas can be globally connected through ICT. Also, training manuals and other relevant documents can be sent through mail to workers or ask to download from company's website. Training can as well be conducted for workers using ICT devices like internet for online training, or computer systems and projectors, among others for offline training (physical interaction). Stress of travelling is saved, training cost as presentation is made once for learners to download is reduced, speed on training delivery is increased, networks for learning is also created while learning becomes more accessible.

4.5 E-Health in Governance

ICT tentacles are also spread to health sector for governance. It is being said 'Health is Wealth'. ICT louds this pronouncement and make it more real. ICT's use for governance in the health sector involves the use of information communication and technology devices for healthcare maintenance of people. Patients' health data or records kept electronically makes possible communication between different healthcare professionals. Healthcare is enhanced through the use of ICT device like electronic and digital process, internet or healthcare applications on mobile phones.

Computerized Physician Order Entry is used for patient diagnosis test device, treatment with results electronically possible. E-prescribing gives access to prescriptions from doctors to pharmacists through electronic transmission. Clinical Decision Support as an ICT device provides information about healthcare professional guidelines and standards in diagnosis and treatment of patients electronically. mHealth is a mobile devices that make collection of patient health level data possible and make it available to various groups that may possibly be in need of such information. It can help to monitor patients' health care status.

4.6 E-agriculture in Governance

ICT's use in Agricultural sector of the economy in governance involves application of ICT to enhance the provision of food for human survival and provision of resources for industries like raw material for production. ICT makes viable agricultural practice a reality and enhances food security. ICT enhances exchange of knowledge and information like current methods, materials, and practice in agricultural world for governance among individuals, governments, higher institutions, Non-governmental organisations, research agencies, etc. and the society at large. It centres on the new

methods and strategies of carrying out agricultural activities, design development and evaluation through ICT's use. It helps to give efficient, effective, qualitative and productive service worthwhile to the society. Different ICT devices exists for use in agriculture which includes Global Positioning System which gives benefits of geo-fencing, map-making surveying. Animal milking can also be carried out using agricultural robot, herd management software with special computers (Deavoll, 2015). Mobile phone can be used as an intervention device to solve literacy challenge and make information available in most simple manner to the citizens particularly in the rural areas. Livestock tracking device which helps in documentation of animals' details like sex, origin, and location of animals' movement is a reality with the use of technology.

5. Conclusion

The fact has been established that Information and Communication technology benefits outweigh its cost in ICT Cost Benefit Analysis. Its application in governance is of great value for both leaders and the governed. Its usage in governance cannot be doubted with various undeniable proofs in both developed and developing nations. It is recommended that developing nations should prioritize funding on ICT in their budget to experience the full benefits of ICT indeed.

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