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Mediation of Information and Communication Technology in Local Governments Administration in Nigeria: Challenges and Prospects

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Abstract

Information and communication technologies and related telecommunication and other digital networks are considered to be a major driving force in building information societies and economies and are increasingly recognized as a new factor in improving existing governance practices. The use of ICT in local government administration has set the stage for transparency, inclusive relationship and greater citizen participation. ICTs such as wireless Internet service, mobile phones, computers, and online tools for effective information and communication service delivery should be made available in the local government areas. ICTs are being adopted more widely by local governments in African countries. Often they have gone hand-in-hand with political decentralisation. Improving information management and availability is seen as a way of increasing accountability and the quality of decision-making. But are ICTs living up to their promise. The main aim of this text is to help citizens and local government administrators to make informed policy choices and understand the practical challenges and opportunities that introducing ICT applications in local government administration in Nigeria.

Keywords: *E-Government, ICT, Local Government, Democracy, Online*

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Introduction

Computer-based automation and communication devices have become a worldwide phenomenon. In the concept of globalisation, and sharing of information between organisations, individuals and groups, electronic automation has made distance a non-issue within the need to connect, contact and communicate. The speed of sharing this information and sourcing it reduces time and rigour, financial commitment and inefficiency. These advantages score it high as a desirable management tool for responding to both internal and external organizational tasks [1], [2].

The increasing impact of Information and Communication Technology (ICT) in all public and private Organizations through the internet to enhance interaction with the citizen had brought a new channel of communication between the people and government in the country. In Nigeria, the emergence of ICT has transformed socio-economic and democratic governance shortly after Nigeria's return to democratic rule in 1999 [3]. The Government at the centre introduced some policies that enhance the smooth adoption of e-government in the state's administration. In realizing this noble objective, the civilian regime of Chief Obasanjo mandated the then Ministry of Science and Technology to develop appropriate programmes that can facilitate the build-up of a reliable and cost-effective infrastructure that will encourage the efficient utilization of internet services in Nigeria through widespread ICT devices to leverage ICT to drive the effective and efficient public service delivery to the citizen in Nigeria. Because of this development, this paper aims to examine the acceptance of ICT as a strategic tool in democratic governance in Nigeria, to identify some key sectors of the governance that contributed to the socio-economic livelihood of Nigerians and, to use the paper to contribute to the existing literature by becoming a useful instrument for careful assessment of the effect of ICT as a means of human engagement under the democratic regime [4], [3], [5].

Technological advances have changed the way people go about their daily activities. Whether we are checking our e-mails or texting or sending messages with our phones, mobile communication is growing, and our ability to navigate the World Wide Web is improving dramatically. We use the internet to shop online, do banking transactions, book our flight tickets and make payments online, check the weather, do research on any subject and connect with the network. You may wonder what this has to do with public administration. As Internet usage grows, and the use of technology in general grows, so too does the use of technology and the Internet by the government. E-governance is the general term used to describe the government's use of

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technology in performing its multiple responsibilities (Holzer and Schwester, 2011) cited in [2]. This chapter is meant to develop students' knowledge and understanding of how government services are performed through modern technology [2], [5].

Advances in Information and Communication Technologies (ICT) have turned the world into a global village and are transforming the world economy presenting challenges that were hitherto unthought-of. Nigeria aspires to attain sustainable development and enhance global competitiveness, a status that requires innovations, especially in the development of human capital. There is no gainsaying the fact that ICT has become a sine qua non in bringing these about [6], [1], [4].

Information and Communication Technology (ICT) has been, in a relatively limited period, one of the fundamental foundation blocks of contemporary society. Many countries already see ICT learning and mastering essential ICT skills and principles as part of core schooling, including reading, writing, and numeracy [7], [8]. ICT is a computer device used for retrieval and recovery. Design is partially defined by the potential to create a synergistic relationship between scientific advances and human values. With the accelerated pace at which ICT has developed since the mid-twentieth century, the proliferation and pervasiveness of ICT, have provided them with a significant position in growth and globalization. LCTs have a major effect on all fields of human life in the 21st century [9], [10], [11], [12], [5].

Information Technology means to use of modern technological devices such as computer hardware, data show, the internet, networks, and software for educational purposes. It's worth mentioning that the past few years have witnessed explosive development in modern technology and its various appliances in several fields that affect the lives of people and communities. Many technical devices and their applications have the biggest and the widest influence on them [8], [13], [14], [12], [5].

The term ICT is now also used to refer to the merging (convergence) of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the audio-visual, building management and telephone network with the computer network system using a single unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their

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specialization in the process of merging the different network systems [15], [16], [4]. ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning [17]. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries [13], [9], [4].

ICT for Development is concerned with applying information and communication technologies, including the internet and mobile phones, video and audio, to development goals and poverty reduction. The field is relatively new since the late 1990s when infrastructure began to expand telecommunications into poor and remote areas and development organizations invested in 'telecentres' to provide ICT enabled services to poor communities [17], [5], [8]. In the last few years, with the expansion of mobile networks, the field has expanded and evolved rapidly. Ever since new information and communication technologies (ICTs), such as the Internet and email, became indispensable tools in cities and offices around the world, people have been trying to work out how to extend their coverage and scope, and apply them to pressing development problems [13], [18], [19], [12], [4].

The role of ICT for increased efficiency in the different sectors such as governance, economy, social affairs, etc. is increasingly becoming a necessity in such a way that in the new millennium many activities will practically be impossible to cope with the development standard without its use. African countries thus have no choice but to do their best in implementing the usage of ICT tools for the activities in their economy and governance [20], [20], [12], [4].

Information and Communication Technology (ICT)

ICT refers to the art and applied sciences that deal with data and information. It encompasses all (equipment including computational machinery - computers, hardware, software, firmware etc., tools, methods, practices, processes, procedures, concepts, principles and the sciences) that come into play in the conduct of the information activities: acquisition, representation, processing, presentation, security, interchange, transfer, management, organization, storage and retrieval of data and information [6], [21], [22], [12], [3], [4].

According to Griffins (1997) cited in [22], Information Communication Technology refers to the resources used by an organization to manage information that it needs to carry out its mission.

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ICT may consist of computers, computer networks, and other pieces of hardware. In addition, ICT consists of software that facilitates the system's ability to manage information in a way that is useful to managers, administrators and employees in the organization. They are electronic hardware and software used for communications and information processing. Arokoyo (2008) cited in [22] views ICT as the technology used to exchange, process and communicate information and knowledge by electronics ranging from radio and television to telephones (fixed and mobile), computers and the internet. ICT can also be described as a new techno-economic paradigm that has experienced the most rapid development and taken the field of microelectronics, informatics, data processing and communication into areas of life that only a few years ago were an exclusive preserve of space and advanced manufacturing system (Kagbojola, 2004), [22].

ICT enabled systems offer the potential to eliminate opportunities for corrupt use of discretion by dis-intermediating services and allowing citizens to conduct transactions themselves. Such systems also extend the accessibility of information within the public sector by providing enhanced accounting, monitoring and auditing systems; such systems ensure that public business is more fully open to senior managerial and external scrutiny (Pathak, Naz, Singh and Smith, 2010). cited in [5], [4]. Enhanced communication means that citizens can be more fully involved in all aspects of government, including policy-making, thus reinforcing the creation of a culture of trust and mutual interest (Naz, et al., 2006) cited in [5].

ICT plays a strenuous role in the development & Economic growth of a nation. It can be defined as a term that includes any communication device or application such as television, mobile phone, radio, computer and network, hardware and software and satellite system which enable users to access, store, transmit and manipulate information. This system has certain benefits such as low cost, enhanced service delivery, and increased transparency and interaction between citizens and government (Sabri, Sabri, & Al-Shargabi, 2012) cited in [21].

Major Components of ICT

Information Communication Technology (ICT) according to Cole (2003) cited in [22] ICT is a combination of basic related technologies [22], [4]. These are;

i) Computers

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ii) Telecommunications and electronics

All these have application in industrial settings, where it is employed for process control, machine control, and monitoring. However, it is in the office settings that ICT truly comes into its own, for the very reason that offices are above all else, centres of information processing, storage and distribution [22].

Characteristics of Useful Information

What factors differentiate information that is useful from information that is not useful? Gryphons (1997) cited in [22] noted that, for information to be useful, it must be accurate, timely, complete and relevant.

Accurate: For information to be of real value to an administrator, manager etc., it must be accurate. Accuracy means that the information must provide a valid and reliable reflection of reality. Accuracy and reliability determine the quality of information. The greater the accuracy and reliability the higher the quality of information. For ICT to work well, the information that it provides must be of high quality. This may facilitate good decisions by Administrators/managers resulting in good governance [22], [4].

Timely: Information also needs to be timely. Timeliness does not necessarily mean speediness; it means only that information needs to be available in time for appropriate administrative/managerial action, not after the decision has been made. In today's rapidly changing world, the need for timely information often means that information must be available on a real-time basis. Real-time information is information that reflects current conditions. Real-time information may need to be updated frequently [22], [4].

Completeness: Information that is complete gives administrators/managers all the information they need to exercise control, achieve coordination, or make an effective decision.

Relevance: Relevant Information is useful and suits the administrator/manager's particular needs and circumstances. Irrelevant information is useless and may hurt the performance of a busy person who has to spend valuable time determining whether the information is relevant [22].

The Role of ICTs in a Governance System

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The next step toward better understanding electronic governance is to examine how information and communication technologies are related to governance. The following paragraph, therefore, focuses on the institutional use of ICTs in organizations [4]. The role of ICT in organizations is manifold. Enterprise resource planning applications such as SAP R/3 are chosen to mirror the existing reality. The software primarily describes the physical reality of the surrounding body (e.g., an enterprise, or a government agency) within an ICT-based system. The ICT system can be either web-based or stand-alone. The objective of such a mirroring process lies in describing and controlling material or monetary flows within an organization [4].

ICT and Bureaucracy in Nigeria

Since the 1990s, growth in awareness and knowledge of computer usage has increased tremendously and has forced, organisations and institutions to jettison, manual office automation devices for the faster and more acceptable vogue in bureaucratic electronic automation devices for official documentation and communication (Ferguson, Griffith, Howell and Wilding, 2006) cited in [1], [4]. In tertiary educational institutions, ICT has also become a focus, while computer skills and knowledge have become major criteria for job employment [1], [23], [3].

Bureaucracy emphasises the need for organisations to operate in a rational manner (Bartol and Martin, 1991) cited in [1]. Nigeria operates its officialdom with bureaucracy, applying the same principle of fixed and official jurisdictional areas, which are generally ordered by rules, that is, by-laws or administrative regulations [1], [23], [3]. This means that;

1. The regular activities required for the bureaucratically governed structure are distributed in a fixed way as official duties [1].

2. The authority to give the commands required for the discharge of these duties is distributed stably and is strictly delimited by rules concerning the coercive means, physical, sacerdotal, or otherwise, which may be placed at the disposal of officials [1].

3. Methodical provision is made for the regular and continuous fulfilment of these duties and the execution of the corresponding rights; only persons who have the generally regulated qualifications to serve are employed. (http://www2.pfeiffer.edu/~lridener/DSS/Weber/BUREAU .HTML [1].

Substitution of Government Bureaucracy

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For a more general organizational capacity of government, information systems have played a key role in replacing trenches of government bureaucracy. Government organizations can now process transactions more rapidly with less staff than they could before computers were introduced [3], [4].

ICT and Organisational Collaborations in Nigeria

ICT has transformed how people communicate with, and relate to, other individuals and institutions. GOs together with NGOs and community organisations (COs) who play a vital role in bringing people together, building skills, generating knowledge and providing a voice for individuals, groups and societies have been adopting this technological development to move fast to reach new audiences, engage with their existing audience and to make their voice heard in the public arena (Griffith, 2007) cited in [1].

Role of ICT in Local Government

Moemeka (1994), Shepherd (1998), the United Nations (2005) and Nassanga (2001) cited in [24] explore the power of ICT in development and empowerment. Information leads to self-actualization, especially when combined with other resources (Castels, 2003) cited in [24]. ICT speeds up the flow of information and its use in decision-making (Ahmed et al, 2006). Idowu (2003) cited in [24] identifies ICT facilities that we commonly have at our disposal. These include computers, telecommunication, and tools for banking [24], [22] cited in [22], [25], [4]. Some of the operational benefits and roles of ICT identified here were;

i) Computerization of internal accounting and payroll operations.

ii) Computers would also normally be used for word processing and budget planning (usually a spreadsheet, although some accounting systems would also have this functionality) [22].

iii) Other common internal functions that also often employ the use of ICTS would be [22], [25]:

- Job costing,
- Purchase orders,
- Avoid stock out,

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- Work orders,
- ICT enhances flexibility in the decision-making process of governance,
- Avoid delays in all manner of transactions.

Because of their importance in ensuring income generation and also because they can be built relatively easily onto the accounts payable system, the Information Communication Technology (ICT) application can be made valid in local governance in areas such as [22], [25]:

- Rates/tax administration
- Water and electricity billings
- Business licenses
- ICT would also assist operations such as:
  - Staff support (schedules, contract management, e-mail, web access).
  - Scanning documentation and mapping
  - Waste management.
  - Council property management.
  - Roads and pavement management.
  - Vehicle and fuel management.
  - Inspections
  - Urban planning-land titles, subdivisions and zoning applications
  - Building permit applications.
  - Local elections/voting.
  - Public transport information
  - Public health information.

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- Distance education/training and interaction with the public
- Decision-support
- Intergovernmental communications.
- Online publications.
- Information exchanges
- Training courses, workshops, and conferences in matters relating to government.

Government Policy on ICT Development in Nigeria

Information and communication technology (ICT) has taken a central position in all spheres of human development across the world. It serves as a backbone for social growth and development because it can be applied to all fields of human endeavours [3], [25].

ICT is a term with a different meaning. Some scholars see it as a term that encompasses a lot of activities involving the acquisition, storage, processing and dissemination of information through the use of appropriate software and hardware designed facilities for that purpose [3].

The Government policy on ICT can be traced to over two decades in Nigeria when the services rendered by the defunct Nigerian Telecommunication Company (NITEL) and other media organizations called for the review. This motivated the previous Governments in Nigeria to take some major decisions to reform and promote the development and sustainability of ICT in their daily engagements. Although, these reforms tend to yield little or minimal benefit to economic development when compared to some developed countries of the world [3], [25].

The major ICT policy according to Nworgu (2007) cited in [3] started in Nigeria in 1999 with a liberalization policy of the federal government which allowed for GSM operations and Internet Service Providers (ISPs) in the country. However, the formulation of the National Information Technology Policy (NITP) was approved in March 2001 by the Federal Executive Council with a mission statement of using ICT for service delivery on education, Wealth Creation, Poverty Alleviation, Job Creation and Global competitiveness. For realizing this vision and mission (Isoun, 2003) cited in [3], [25].

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The establishment of the Ministry of Communication and Technology by the Jonathan Administration in 2011 was also regarded as a positive test toward ICT development in Nigeria. Because the ministry according (Johnson, 2012) cited in [3] is to develop appropriate policy that will facilitate the build-up of a reliable and cost-effective infrastructure information Technologies (ICT)'s structure in Nigeria through widespread ownership of ICT devices, digital content production and provide efficient service delivery to the citizen in the country [3].

Benefits of ICT for Local Government

According to Bagozzi, et al. (1992) cited in [24], the benefits of ICT include accuracy, speed, enhanced communication, increased productivity, and acquisition of skills and knowledge [5], [25].

Problems of ICT for Local Government

There are also problems, including illiteracy, which is a serious problem in Africa, especially in rural areas. According to Hafkin (2002) cited in [24], ICT requires various kinds of literacy and the inability to read and write is a major barrier to local government administration. Idowu, et al. (2006) cited in [24] note the importance of funding for ICT implementation. Other challenges include unreliable Internet access and power supply, and rapidly-growing populations [24], [5], [25].

Challenges of ICT Applications in Local Government Organizations in Nigeria

Today, scholars have identified several problems militating against the adoption of Information Communication Technology (ICT) in Nigerian organizations. As observed by Oladejo & Adere (2010) cited in [22], the problems are;

i) Inadequate awareness about Information Communication Technology (ICT) and ineffective technical knowledge in manning ICT gadgets.

ii) The negative attitude of the government through inadequate funding. iii. Inadequate power supply: The government's inability to provide a stable power supply has hindered the effective functioning of the ICT system [22].

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iii) The ineffective regulatory mechanism by the Nigeria Communication Commission (NCC) by not adopting established benchmarks resulted in epileptic symptoms and frustration in communication Networks.

iv) Unreliable telecommunication facilities. This is because of poor telecommunication networks in Nigeria. As a result of this transactions in information technology are greatly limited as compared to what exists in other countries.

v) Internet fraud and other cyber-crimes may discourage the full adoption of information communication technology concepts by society.

vi) Lack of technical competence – One area in which some work needs to be done in the country if we are to properly embrace information and communication technology is by training competent professionals in the various domains of technology. There is an acute dearth of specialists in LAN, WAN, internet, connectivity, VSAT, Radio, fibre-optics, package switching and wireless telephony technologist in the country.

vii) Acquisition of obsolete equipment – According to Sev (2000) cited in [22] purchase of wrong and obsolete equipment has also been identified as another factor constraining the rapid

Conclusion

This review is a logical purposive endeavour to notice and acclimatize the role of information and communication technology addressed by utilizing ICT devices for local area advancement exercises in our social orders. Community development is a fundamental instrument for the feasible advancement of our networks, particularly in developing countries like Nigeria. It is, nonetheless, that this text has completely featured the effects of ICT application in our provincial networks for the achievement of wanted mechanical targets.

The use of ICT in government has set the stage for greater transparency and the possibility of greater citizen participation. Despite the advantages, certain problems were identified. These problems represent barriers to progress. ICTs such as the Internet, GSM system, computer, and online tools for effective information and communication service delivery should be made available in the local government area.

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Local government administrators should also endeavour to supply medical computers to their Hospitals to facilitate scanning, x-rays, detection of diseases etc. This will go a long way in repositioning the health status of citizens leaving in rural areas. It is also important to note that for proper account recording, payroll preparations, and secretariat administration, amongst others, computers are to be acquired to enhance operations and proper staff training in their regard to enable them to embrace the benefits of globalization in the 21st century.

This paper examined the contributions of ICT to Democratic Governance in Nigeria. It showed that the application of ICT to governance has emerged as the most radical development of democratic governance in Nigeria. This is because, it has facilitated speedy information transmission, high-level decision-making, reduction in the cost of governance and contribution of speedy information gathering and sharing among individuals, organizations and governmental institutions in the country. However, there are still some challenges confronting the full compliance of Nigerians to the application of ICT in the country, These include inadequate power supply, poor network provision by service providers, low accessibility to a network device in some rural communities and misuse of ICT network for fraudulent acts by some Nigerians among others.

Recommendations

Therefore, the paper makes the following recommendations to put end to these challenges. The recommendations include:

1) The Local Government Administrators should have invested in Information and Communication Technology (ICT) as a top priority hence it is proven that it is a catalyst/accelerator for development in areas of education, health, secretariat administration, proper financial record keeping, politics, governance, culture, business and production.

2) Government should revive the power sector and provide a stable power supply to enable the ICT system/units in the local government areas viable to facilitate optimal functioning. Alternatively, Local government Administrators should make concerted efforts towards acquiring Heavy Power Generators to be installed at all their ICT centres to facilitate power generation while they wait for Federal government action in this regard.

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3) The telecommunication system in Nigeria needs to be completely overhauled or revived (revisited) hence its regulatory body Nigeria Communication Commission (NCC) has not adequately enforced its reforms on the operators. This will pave way for enhancing transparency and accountability.

4) Information and Communication Technology (ICT) should be adopted by all the 23 local governments of the state. On this note, increased training of employees in ICT utilization should be adequately carried out hence operational efficiency, quality service delivery, sustainable competitive advantage and improved performance will be the utmost benefits to be derived.

5) The Local government of the state should embrace the e-payment systems/transactions to enhance accuracy and reliability. Through this transparency and accountability will be derived in their accounting and financial systems of operations. Detection of irregularities and fraudulent acts can easily be made if this mechanism is adopted than the manual payment system in use presently.

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