

CHALLENGES OF E-GOVERNANCE IMPLEMENTATION ON SERVICE DELIVERY IN SELECTED PUBLIC SECTOR OF ADAMAWA STATE, NIGERIA

Lori O. Innocent¹, Ahmed Basiru², Nayu Luwahya³ and Ngozi Obilom Obilom⁴

^{1,2&3}Adamawa State University, Mubi, Faculty of Administration and Management Sciences,
Department of Public Administration

⁴Federal Polytechnic Mubi, Adamawa State-Nigeria

loriinnocent7@gmail.com¹bashreal954@gmail.com², nayuluwahya@gmail.com³,
ngoziobilom@gmail.com⁴

ABSTRACT

This study examines the challenges of e-governance implementation in selected public sector of Adamawa State, Nigeria. A survey research design was used and the sample population was drawn using the simple random sampling technique from three Local Government Areas of Adamawa State drawn from each of the three (3) senatorial zones of the state. The data obtained from primary source were analyzed using both descriptive and inferential statistical tools. The result from both the primary and secondary sources showed that: there is a relationship between the use of ICT and effective e-governance implementation. The study concludes that inadequate Information Technology (IT) infrastructure, inadequate power supply, the cost of Information Technology (IT) equipment and poor maintenance culture, the lack of awareness on e-governance to both staff and citizen as well as resistance to change and lack of qualified Information Technology (IT) staff are challenges to e-government implementation. The study recommends that e-governance consultant with adequate Information Technology (IT) skills should be appointed at all levels, enacts ICT laws that will make practical computer literacy a mandatory aspect for every public or civil servant both at the local, state and federal levels. This will ensure that they can at least perform basic operations like emailing, Microsoft Word and Excel at their work places.

Keywords: Challenges, E-Governance, Information Technology, Implementation, Service Delivery, Public Sector

Introduction

This study focus on challenges to e-governance implementation on service delivery in selected public sector of Adamawa State; particularly, in Mubi North, Numan and Girei Local Government Areas of Adamawa State. E-governance has emerged as a vital tool for enhancing the efficiency, transparency, and accountability of public service delivery. The integration of digital technologies into governance processes has transformed the way governments interact with citizens, provide services, and make decisions. However, the implementation of e-governance initiatives in public sector organizations has faced numerous challenges, hindering effective service delivery to citizens. Despite the potential benefits of e-governance, such as increased

transparency, efficiency, and accountability, the adoption and utilization of digital technologies in public service delivery remain inadequate. The challenges range from inadequate infrastructure and limited digital literacy among citizens and public officials to concerns about data security, privacy, and the digital divide. As a result, the intended benefits of e-governance are not being fully realized, leading to dissatisfaction among citizens and undermining trust in government services.

Governments have invested heavily in e-governance initiatives, aiming to improve the delivery of public services, increase transparency, and enhance citizen engagement. Despite these efforts, the adoption and utilization of e-governance initiatives in public sector organizations remain inadequate.

The concept of e-governance has been flourished rapidly with the advancement of Information and Communication Technology (ICT). E-Governance would help to facilitate the government to manage resources, implement plans and policies along with efficient service delivery to the citizens. The world within the time has gone digital. Almost every aspect of life is digitalized (Obodo & Anigbata, 2018). Thus there are modern trends in all aspects of life endeavors such as medicine telemedicine, commerce-e-commerce, banking-e-banking, learning-e-learning, production-e-production, etc. These phenomena make transactions and interactions around the globe to be more effective and efficient. The world is now a global village and any nation that desires to hitch the comity of countries must adopt the worldwide trends and join the moving train or be left behind (Omar, 2020). The utilization of the latest technologies is vital to reduce the time required by processes to the minimum, aiming at improving the relationships with citizens by providing more effective and efficient services (Kuldeep,2017). Burroughs (2019) found that about 77.4% of people in search of government information or services first use online resources such as Google, Yahoo, or other commercial search engines. The birth of electronic governance in the country can be followed in accordance to the Nigeria National Information Technology (NNIT) policy in 2000. The designation of the policy was to ensure that Information Communication Technology is vested in Nigeria and in Africa at large.

However, the New Public Management laid more emphasis on evolution of e-governance. New Public Management (NPM) is an approach to running public service organizations that is used in government and public service institutions and agencies, at both sub-national and national levels. Although NPM had a dramatic impact in the 1990s on managing and policy making, many scholars believe that NPM has hit its prime. Scholars like Patrick Dunleavy believe New Public Management is phasing out because of disconnect with “customers” and their institutions (Hood, 1991). Scholars cite the Digital Era and the new importance of technology that kills the necessity of NPM. In countries that are less industrialized the NPM concept is still growing and spreading. This trend has much to do with a country's ability or inability to get their public sector in tune with the Digital Era. Omar (2020) challenged Digital Era Governance by integrating the governance approach with social media technology. The work on Brunei's Information Department titled "Digital Era Governance and Social Media: The Case of Information Department Brunei. In Employing Recent Technologies for Improved Digital Governance" works to provide the theoretical and practical basis to substantiate the claim (Chen, 2016). The work concludes that digital dividends can be secured through the effective application of Social Media in the

governance process. The New Public Service (NPS) is a newly developed theory for 21st-century citizen-focused on public administration. This work directly challenges the rationalist paradigm of the New Public Management. NPS focuses on democratic governance and re-imagining the accountability of public administrators toward citizens. NPS posits that administrators should be a broker between citizens and their government, focusing on citizen engagement in political and administrative issues through e-governance. Many governments around the world are introducing e-governance as a means of reducing cost of service delivery, improving services for citizens and increasing effectiveness and efficiency in the public sector. Successful e-government aims to improve service level relationships between government and its stakeholder groups such as citizens, businesses, and other government agencies (Kuldeep, 2017). E-government requires a fundamental change in the whole public sector structure, values, culture and the ways of conducting business by utilizing the potential of ICT as a tool in the government agencies. The introduction and implementation of e-governance is about a radical change and reengineering within the government and about the relationship between a government and its citizens. Hence, the implementation promotes important technological, cultural, social, citizen participation and organizational re-engineering which must be considered and handled carefully by any government considering its implementation especially in developing countries. However, despite its widespread acceptability, there are growing concerns about the failure rate of e-government projects across developing countries. Findings of several studies indicate that despite high costs of e-government projects, both tangible and intangible, many e-government efforts are failing or are slowly diffusing (Al-Shehry 2018). According to (Al-Shehry, 2018), the failure rate of e-government projects has been estimated to be high. For instance, according to a recent research regarding e-government projects in developing countries, almost 35% of projects are total failures, 50% are partial failures, and only 15% are successful. According to report by Gartner (2002), more than 60% of e-government initiatives around the world have failed or fallen short of their objectives. These statistics therefore confirm the belief that governments face enormous challenges when developing e-government, because there is still great uncertainty as to whether a large number of projects will be affected by major problems or result in total failure. The ultimate goal of e-governance is to be able to offer an increased portfolio of public services to citizens efficiently and cost-effectively. E-governance allows government transparency and accountability. Government transparency is very important because it allows the public to be informed about what the government is working on as well as the policies it is trying to implement (Obodo & Anigbata, 2018). This will also enhance the achievement of good governance in respect to accountability, transparency, effectiveness and efficiency in the public sector.

Statement of the Problem

The implementation of e-governance initiatives in selected public sector organizations has faced numerous challenges, hindering effective service delivery to citizens. Despite the benefits of e-governance, such as increased transparency, efficiency, and accountability, the adoption and utilization of digital technologies in public service delivery remain inadequate. The challenges range from inadequate infrastructure, inadequate digital skills of the public officials and citizens, and limited digital literacy among citizens and public officials to concerns about data security,

privacy, and the digital divide. This study aims to investigate the challenges of e-governance on service delivery in selected public sector organizations and identify potential solutions to address these challenges. (Burroughs, 2019) found that about 77.4% of people in search of government information or services first use online resources such as Google, Yahoo, or other commercial search engines. According to report by Gartner (2002), more than 60% of e-governance initiatives around the world have failed or fallen short of their objectives. This is why the researcher is motivated to assess the challenges of e-governance implementation for public service delivery considering Adamawa State and in particular Mubi North, Numan and Girei Local Government Areas of Adamawa State.

Objectives of the Study

This study aims to investigate the challenges of e-governance on service delivery in selected public sector organizations. The study seeks to identify the key challenges hindering the effective implementation of e-governance initiatives, analyze the impact of these challenges on service delivery, and propose potential solutions to address these challenges.

Significance of the Study

This study is significant because it provides insights into the challenges of e-governance for service delivery in public sector organizations. The findings of the study are useful to policymakers, public administrators, and stakeholders seeking to improve the delivery of public services through e-governance initiatives. The study also contributes to the existing body of knowledge on e-governance and public service delivery.

Scope of the Study

This study focuses on selected public sector organizations in Adamawa State, Nigeria and in particular Mubi North, Numan and Girei Local Government Areas. The study examines the challenges of e-governance on service delivery between 2020-2024, including the impact of inadequate infrastructure, limited digital literacy, data security and privacy concerns, and the digital divide. The study also analyzes the effects of these challenges on service delivery and proposes potential solutions to address them.

Methodology

The survey research design is used for this study. This is most appropriate because it enables the researcher to seek opinion from the sample population upon which conclusion and generalization are made as regard to the obstacles to e-governance implementation. According to Olamolaiye (1986) survey design is a convenient way of obtaining information about a given population by gathering data with the use of mainly interview and questionnaires on the sample drawn from the entire population under study. The survey design is an economical way of conducting research covering a large geographical area of study.

The population for this study consist of the local government Areas in Adamawa State using Mubi North in Northern senatorial zone, Numan in Southern senatorial zone and Girei in central senatorial zone. The target population consists of both staff and citizen in the local government areas. A total of 30 samples were drawn from each of the 3 local government areas using the simple random sampling technique. The researcher made use of both primary and secondary sources of data. Instrument used for data collection are questionnaires as primary data and textbooks, journals as well as internet material as secondary data.

Literature Review

Conceptual Review

E-governance (short for electronic government) is the use of technological communications devices, such as computers and the Internet, to provide public services to citizens and other persons in a country or region (Omar, 2020). E-governance offers new opportunities for more direct and convenient citizen access to government and for government provision of services directly to citizens. The term consists of the digital interactions between a citizen and their government (C2G), between governments and other government agencies (G2G), between government and citizens (G2C), between government and employees (G2E), and between government and businesses/commerce (G2B) (Kuldeep, 2017). E-governance delivery models can be broken down into the following categories: This interaction consists of citizens communicating with all levels of government (city, state/province, national, and international), facilitating citizen involvement in governance using information and communication technology (ICT) (such as computers and websites) and business process re-engineering (BPR). Worroll (2011) interviewed the third party designers of e-government tools in North America about the ideals of user interaction that they build into their technologies, which include progressive values, ubiquitous participation, geo-location, and education of the public. Other definitions stray from the idea that technology is an object and defines e-governance simply as facilitators or instruments and focus on specific changes in Public Administration issues. The internal transformation of a government is the definition that established the specialist technologist Mauro D. Ríos. In his paper "In Search of a Definition of Electronic Government", he says: "Digital government is a new way of organization and management of public affairs, introducing positive transformational processes in management and the structure itself of the organization chart, adding value to the procedures and services provided, all through the introduction and continued appropriation of information and communication technologies as a facilitator of these transformations (Burroughs, 2019).

E-governance is the employment of the internet and the World Wide Web for delivering government information and services to the citizen. It can also be seen as the utilization of Information and Communication Technologies (ICT) and other Web based telecommunication technologies to improve and enhance on the efficiency and effectiveness of service delivery in the public sector (Burroughs, 2019).

The concept of e-governance has been broadly defined especially as its relates to the public sector. In fact, researchers vary in their definitions of the concepts, thereby presenting diverse definitions of what e-governance is all about. According to Shilubane (2001) defined e-governance as 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 (2003) sees e-governance as the application of Information Communication Technology to the process of government functioning in order to achieve a simple, moral, accountable, responsive and transparent (SMART) governance.

Ojo (2014) sees e-governance as the ‘application of Information Communication Technology (ICT) by the government to enhance accountability, create awareness and ensure transparency in the management of governmental business. He also stated that e-governance is a strategy of the government through which their activities can be show cased to the public. Ayo (2014) defined e-governance as ‘governing of a state/country using Information Communication Technology (ICT)’ Meaning that e-governance is the application of ICT in executing government business. One of the most modern initiatives to establish good government is e-governance. At present, the features of e-governance are observed in almost all developed or underdeveloped and developing countries for fostering their developmental process. So its importance in today’s world is immense.

A new paradigm shift has been developed in the field of governance by the application of ICT in the processes of governing called Electronic-Governance or E-Governance. E-governance raises the transparency, accountability, efficiency, and effectiveness and inclusiveness in the governing process in terms of reliable access to the information within government, between government, national, state, municipal, and local level governments, citizens, and businesses and empowers business through access and use of information (Dwivedi and Bharti: 2005).

The main focus of the E-Governance or electronic governance is to provide transparent, equitable, and accountable service delivery to the citizens. The aim of e-governance is to facilitate and improves the quality of governance and ensures people’s participation in the governing process through electronic means like e-mail, websites, SMS connectivity, and others.

E-governance is not just about government websites or e-mail or financial transactions. “It will change how citizens relate to government as much as it changes how citizens relate to each other” Katyal (2002). It also refers to the utilization of IT in the country’s democratic processes itself such as the election.

E-governance is about the use of ICT for steering the citizens and promoting the public service. It includes a pragmatic application and usage of ICT for delivering efficient and cost effective services and information and knowledge to the citizens being governed, thereby realizing the vast potential of the government to serve the citizens Prabhu (2015). It made correlations between state and society, government and people, people to people, governance and society.

However, from the definitions so far, it can be deduced that e-governance is simply the use of ICTs in the operations of government business. Put in another way, it is the shift from traditional method of carrying out government activities which is mainly hierarchical , linear, and one way to the use of internet which enable the public seek information at their convenience and not really having to visit the office in person or when government office is open.

Concept of Public Sector

The public sector, also called the state sector, is the part of the economy composed of both public services and public enterprises. Public sectors include the public goods and governmental

services such as the military, law enforcement, infrastructure, public transit, public education, along with health care and those working for the government itself, such as elected officials (Barlow, 2021). The public sector might provide services that a non-payer cannot be excluded from (such as street lighting), services which benefit all of society rather than just the individual who uses the service. Public enterprises, or state-owned enterprises, are self-financing commercial enterprises that are under public ownership which provide various private goods and services for sale and usually operate on a commercial basis (Barlow, 2021). Organizations that are not part of the public sector are either part of the private sector or voluntary sector. The private sector is composed of the economic sectors that are intended to earn a profit for the owners of the enterprise. The voluntary, civic, or social sector concerns a diverse array of non-profit organizations emphasizing civil society (David, 2020).

The public sector is a part of the economy that comprises all organizations that are owned and operated by the government. This includes everything from schools and hospitals to roads and bridges. The main purpose of the public sector is to provide services that are considered essential for the well-being of society. These services are typically provided free of charge or at a subsidized rate. Similar to the voluntary sector, organizations in the public sector do not seek to generate a profit (Llod 2017). Various ways can be used to define the public sector. Jan-Erik Lane explains in his book *The Public Sector: Concepts, Models and Approaches* that the public sector can be defined in a number of ways, some of which are and can be categorized as: “Government activity and its consequences” “State general decision-making and its outcomes” “Governmental consumption and investment” “Government production” (Ellickson, 2017). The public sector plays a vital role in ensuring the smooth functioning of our society. It provides essential services that are necessary for the well-being of our communities. Additionally, the public sector plays an important role in promoting economic growth and stability (Jan-Erik, 2015).

The role of the public sector has changed significantly over time. In recent years, there has been a shift towards privatization and outsourcing of public services. This has led to a decrease in the size of the public sector and an increase in the number of private sector organizations providing services that were previously considered to be part of the public domain (David, 2020).

Challenges to E-Governance Implementation

i: Inadequate IT Infrastructure

Despite the cost of IT going down, an adequate IT infrastructure still remain a key challenge for e-government adoption in Nigeria. The infrastructure is composed of hardware, software, Network, Intranet and extranet, Telecommunications and enterprise applications that will provide secure electronic services to citizens, businesses, and employees. It was observed that lack of technical infrastructure is a significant barrier to the development of government organizations’ capabilities to provide online services and transactions. Most government office still lacks adequate Internet connectivity. Galaxy Backbone have installed Internet connection to most federal government agencies, however, the Internet connection in most cases are limited to the top management officials and not to the other operational staff that deals with the citizens more often. In addition, most state and local government offices in Nigeria does not have the Internet connection from Galaxy backbone, as a result top government official use broadband modem on

their laptop for their work, and other staff including IT staff does not have access to the Internet not even official email account (Al-shehry, 2018)

ii: Poor Internetworking

Internetworking is required to enable appropriate sharing of information and open up new channels for communication and delivery of new services. Nigeria and in particular Mubi North, Girie and Numan suffers from the digital divide, and are not able to deploy the appropriate ICT infrastructure for e-government deployment (Budhiraja, 2003)

iii: Organizational Attitude

Some of the Ministries in the country shows nonchalant attitude towards implementing E-governance in their ministry. The decision is due mainly to some of the below identified problems and lack of proper orientation on what ICT has for the nation (David, 2020).

iv: Energy and Power Factors

During the study, it was clearly established that one of the major challenges to e-government implementation is epileptic and irregular power supply. Many government ministries at times doesn't have power for some days. In addition, due to the instability of power supply, some IT infrastructures have been reportedly damaged due to surges in the electricity distribution grid. A stable and regular power supply has been identified as a necessity for good implementation of e-government in Nigeria. Most government agencies operate on generators and sometimes the generators lack capacity to power adequately the ICT facilities (Budhiraja, 2003)

v: Cost of IT Equipment and Poor Maintenance Culture

The high cost of IT equipment is another identified threat for the implementation of e-government in Nigeria. Many government ministries do not have adequate budgetary allocation for ICT, and some top government management officials consider it unnecessary luxury to invest in IT equipment within their agency. More so, its maintenance culture is so bad that the few that are being procured are abandoned when they experience faults (Kuldeep, 2017)

vi: Poor Remuneration for IT Staff

The few skilled IT staff currently in the government agencies are not well paid to compare with their peers in the private sector, hence most IT skilled staff prefer to work in the private sector where their salary is two to three times more than those in the public sector (David, 2020).

vii: Inadequate training and Support for Staff

It is shocking to discover that staff welfare and training is at the lowest level in most government agencies, more especially to IT staff. Professional training for staff is considered as a waste of money in many government agencies. Top government officials prefer to outsource some of the services that requires professional skills which is also an avenue to inflate the price of those services and make more money. In some cases, they consider training their staff as a threat to the source of additional revenue (David, 2020).

viii: Low Budgetary Allocations for ICT

Government allocations to the development of ICT in public offices in the country. This has therefore, has direct implication in e-government development in Nigeria (Budhiraja, 2003)

ix: Inadequate Government IT Regulatory Policy

The need for the government to come up with IT regulatory framework is very important. In developed countries like USA, UK, and Canada, their governments have IT regulatory frameworks

which assist in implementing of E-government. In Nigeria, the reverse is the case. There is no government position on implementation of ICT policies to assist the nation in developing her ICT framework, and most importantly, ICT in E-government in Nigerian (Budhiraja, 2003)

x: Corruption in Public Office

Corruption in public services in Nigeria is at very high level, and Nigeria ranked at 136/176 most corrupt country in the world (Transparency International Corruption index report, 2016). Corruption and bribery is integral part of Nigeria public office. Since e-government has been identified and proven to be one of the major solutions to reduce corruption in public office, it was identified that many top government officials strongly oppose to implementation of e-government which they consider as a threat to their corrupt practices. Majority of the public servants are thus, likely to use their positions to frustrate the effective application of e-governance in Nigeria. They will definitely dislike a system that will reduce to the minimum, face to face contact between citizens and government service providers (Budhiraja, 2003)

xi: High cost of Broadband

Some government ministries state that they cannot afford the monthly or yearly subscription of broadband service which is still at a high side. Most of the broadband services are either through VSAT or broadband modem which is limited in capacity and costly. There is very poor access to Fibre Optics broadband (Kuldeep, 2017)

xi: Inadequate Awareness

The awareness of e-government is very low for both the government staff and citizens. Many government staff have little knowledge about e-governance and the services it can provide. Many view e-governance as an avenue of making them redundant and therefore oppose every step within their capacity to implement e-governance (David, 2020).

xii: Web presence and Poor design

It was observed that many government parastatals do not have a website, few that has website have dummy website that is not interactive or transactional. Some of the website does not have any application form, contact details, feedback mechanism, or any form of two-way communication. Some state government and state ministries does not have website at all, few state governments that has website does not have their state ministries in their website (Kuldeep, 2017)

xiii: Resistance to Change

Many government officials view e-government as a complex system that will make them redundant because they are not expecting adequate training on the use and maintenance of the system if implemented; they oppose the implementation of e-government system within their capacity. Some other reasons observed are lack of computer literacy, unqualified staff, and many IT staff with little or no training in the installation, maintenance, designing and implementation of ICT infrastructure (David, 2020)

xiv: Inadequate Qualified IT Personnel

The lack of trained and qualified personnel to handle and operate its infrastructures in government agencies is another major challenges in implementing e-government and delivering eservices. In some cases, IT manager in government agencies does not have adequate IT skill, or does not have any practical IT skills, and in many cases does not have internet connection at his desk, and official

email address. It was observed that over 90% of IT staff in many government offices use their private email address for their work. In addition, many IT staff within government agencies cannot operate the IT equipment in their office due to lack of training and support (Budhiraja, 2003)

Theoretical Framework

Many theoretical views and models on the process of e-governance implementation have been proposed by organizational scientist. With regards to this study, in portraying the contribution of e-governance to an organization's growth, the socio-technical systems theory stands out.

The socio-technical systems theory can be traced back to the work of the Tavistock Institute in London during the 1950s and 1960s and as such, the theory states that, when designing an organizational system, both social and technical are important parts of a complex system that must be considered. The theory states that organization consists of interacting sub-systems with people with capabilities who work towards goals, follow processes, use technology, operate within a physical infrastructure, and share certain cultural assumptions and norms. Failing to consider both social and technological aspects hinders the ability to effectuate change within the organization.

The key elements of the STS approach include combining the human elements and the technical systems together to enable new possibilities for work and pave the way for technological change (Trist, 1981). The involvement of human elements in negotiations may cause a larger workload initially, but it is crucial that requirements can be determined and accommodated for prior to implementation as it is central to the systems success. Due to its mutual causality (Davis, 2017), the STS approach has become widely linked with autonomy, completeness and job satisfaction as both systems can work together to achieving a goal. Enid Mumford (2013) defines the socio-technical approach to recognize technology and people to ensure work systems are highly efficient and contain better characteristics which leads to higher job satisfaction for employees, resulting in a sense of fulfilment to improving quality of work and exceeding expectations as well as dissemination of information through the internet between citizen and the government.

According to "socio-technical systems" theory, organizations are composed of both social and technical elements. Moreover, if technical factors are viewed as artefacts of IT, an information system may also be seen as a socio-technical system. More than being a technical achievement, information-sharing initiatives encompass disparate social dimensions ranging from strategic issues to operational matters. Adopting a standard (technical) mindset, social issues have been repeatedly overshadowed by more pressing techno-rational matters that tend to regard information-sharing initiatives as a straightforward means to an end in a context where incentives to change are unproblematic (Kling & Lamb, 2019).

Socio-technical approach is embedded in this model to emphasize the importance of human and social components of an information technology (Heeks, 2003). This plainly balances those two crucial factors in evaluating and assessing the gaps without concentrating merely on the technology and technical part in e-governance.

The technical subsystem is the interplay of the devices, tools, and techniques needed to transform inputs into outputs in a way which enhances the economic performance of the organization. The social system comprises the workforce and the knowledge, skills, attitudes, values and needs they bring to the work environment as well as the organizational structure (such as reward system,

culture, and processes) that exist in the organization. Later some researchers broadened the definitions to encompass the wider reach of the organization by including customers, suppliers, and the rules and regulations, formal and informal, which govern the relations of the organization to society. Socio-technical theory is widely regarded as the key to information systems success (Bostrom and Heinen 1977). The high failure rate of many information systems (IS) is often due to considering information technology (IT) as a tool instead of as socio-technical system (Kling and Lamb 1999); with an objective of delivering a sound technical system without taking into considerations the necessary organizational and social environment in which the technical system must operate. In the context of e-government, several researchers assert the need for incorporating socio-technical approaches in designing and delivering e-government services (Damodaran et al. 2005; Dawes 2009). For example, Damodaran et al.(2005) stated that e-government service delivery according to the needs of the citizens “requires the development of socio-technical sub-systems, combining technology and communication processes which meet the task needs of citizens and the procedural and legal requirements of local government”. Dawes (2009), while presenting an e-government framework, asserted that in addition to tools and technologies, governments must take into account values and policies, and human, organizational, institutional, and societal factors; an infrastructure that suit future e-government. There-fore, we consider socio-technical theory as base for analyzing the e-government literature in developing countries; we want to analyze and frame the growth of e-government literature wearing the lens of socio-technical theory by looking into the social, technological, and organizational aspects of e-government literature in developing countries

However, going by the theory above, we can say that for an effective e-governance implementation to be actualized in the public sector, the use of Information Communication Technology must be considered through internet connectivity which in turn will enhance effective interaction between government and its citizens as well as within government ministries.

Summary of Findings

The reports gathered from the respondents were thoroughly analyzed on their view on the subject matter. The results analyzed revealed that Electronic Government increases efficiency in governance and as such, electronic governance increases the outreach of government services to the general public. Electronic Governance improves better service delivery and the rapid increase in internet usage around the world propel government to provide electronic services for citizen. Thus, the use of ICT in governance enhances transparency and accountability. Inadequate IT infrastructure is a barrier to electronic government implementation and as such, irregular power supply is one of the major challenges to electronic government implementation in Adamawa State, Nigeria. Also, the cost of IT equipment and poor maintenance culture is a threat to electronic government implementation. Finally, the lack of awareness on e-government to both staff and citizen affect its implementation as well as resistance to change and lack of qualified IT staff is a challenge to e-government implementation.

Recommendations

Based on the findings, the following are hereby recommended:

- i. Every government Ministries, Departments and Agencies should appoint an e-governance consultant/ staff with adequate IT skills.
- ii. The government at all level enacts ICT laws that will make practical computer literacy a compulsory aspect for every public or civil servant both at the local, state and federal levels.
- iii. There should be a special power line from the national grid to all the government offices federal, state and local governments in Nigeria.
- iv. Nigeria government should invest in adequate staff development and training of their staff to ensure that they can operate, respond to e-services requests, and maintain e-government equipment
- v. IT staff at government offices must be able to update the website of their ministry and ensure that their website is up to date and relevant information on their website is relevant.
- vi. Every staff especially those that attend to citizens must have functional official email account that is checked regularly.
- vii. Internet connection should not be limited to top government officials, all staff especially those that deals with public request should have unlimited access to the internet at work to be able to respond to e-serve requests.
- viii. The development of basic infrastructure to capture the advantages of new technologies and communications tools is essential for implementing e-governance.
- ix. Constant power supply should be made available in the local government council.
- x. The public sector should have a functional email address. This will make interaction easier between the government and the citizen.

References

- Al-shehry, A (2018). *E-Government Success and Failure Factors: Saudi Arabia Al-Maga* Priting Press.
- Ayo, K. (2014). *Information Communication Technology as a lever for Innovation in Leadership: Covenant University Press.*
- Barlow, J. (2021): *De facto privatization or a renewed role for thr EU. Paying for Europe's healthcare infrastructure in a recession. Journal of Royal Society of Medicine.*
- Budhiraja, R. (2003). *Electronic Government- A key Issue in the 21st Century,* Additional Director, Electronic Government Division, Ministry of Information Technology, Government of India.
- Burroughs, J. (2019). *What Users Wants: Assessing Government Information Preferences to drive Information Services. Government Information Quarterly, 26(1) 203-218.*
- Chen, Y. (2016). *E-Government Strategies in Applying ICT and Computer for International Development Computer.*
- David, G. (2020): *Organizational Development in the Public Sector, Westview Pr.*
- Dwivedi, S. and Bharti, A.(2005). *E-governance in India: problems and acceptability. Journal of Theoretical and Applied Information Technology, pp.37-43.*

- Ellickson, R. (2017): Model of Public Sector in Contemporary Society. The role of a State towards Societal development. New York.
- Gartner, F. (2002). Gartner EXP Says a majority of E-Government Initiatives Fail or Fall Short of Expectations. Gartner EXP, Stamford, CN.
- Hood C. (1991). New Public Management: Handbook of Globalization, Governance, and Public Administration. Armonk, New York.
- Jan-Erik, L. (2015): The Public Sector: Concepts, Models and Approaches, Sage Pubns.
- Katyal, N. (2002). E-Government Research: A Review Via the Lens of Structuration Theory. Proceedings of the Ninth Pacific Asia Conferences on Information System (PACS2005), Bangkok.
- Kuldeep, V. (2017). A Review of Cloud Computer and E-Governance, Advanced Research in Computer Science and Software Engineering.
- Kumar, M. (2011). *An E-governance Model using Cloud Computing Technology for Developing Countries*. Retrieved from www.weblidi.info.unlp.edu.ar
- Liu, J. (2015). Measuring Cost/Benefits of E-Business Application and Customer Satisfaction; Proceedings of the 2nd International Web Conference.
- Lloyd, G. (2017): Decision Making in the Public Sector, Marcel Dekker Inc.
- Ndou, V. (2004). E-Governance for Developing Countries: Opportunities and Challenges: The Electronic Journal of Information System in Developing Countries. Vol.18,No,1.PP.1-24
- Obodo N. and Anigbata (2018). Challenges and Implementation Electronic Governance in Public Sector Organization in Nigeria
- Ojo, S. (2014). Electronic Government: An Imperative for Sustainable Grassroots Development in Nigeria. Journal of Public Administration and policy Research Vol,6(2). PP.77-89.
- Olamolaiye, F. (1986). Research Methods and Statistics. Jos. Fab Aniel Ltd.
- Omar, A. (2020). Digital Era Governance and Social Media: The case Case of Information Department Brunei. In Employing Recent Technologies for Improved Digital Governace. IGI Global.
- Prabhu C. (2015). E- Governance: Concepts and Case Studies, PHL Learning Pvt. Ltd. New Delhi, PP.21-24
- Shilubane, J. (2001). Government: An Overview, Service Delivery Review. A Learning Journal of Public Services Managers.
- UN, (2008).E-Government Survey, from E-Government to Connected Government,<http://unpan/.un.org/intradoc/group/public/documents/UN/UNPAN028607>
- Woroll, D.(2011). Information Technology Security Training Requirement. A Role and Performance Based; Gaithersburg.