Innovations

The Bane of ICT Adoption and Performance of Local Government Councils in Enugu State: An Empirical Investigation

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Abstract: *Local government officials, at the lowest level of government, are closest to the public; hence, their actions affect the public's overall well-beingdirectly. Information and communication technology (ICT) adoption has proven to be a powerful instrument used to improve organizational performance globally. ICT adoption in Nigerian local government authorities appears to be low, based on empirical evidence, which is why this study aims to explore the settings, conditions, and factors that contribute to low ICT adoption in Enugu State's 17 local government authorities.This study employed a survey research design and the snowball sampling approach to gather data from 94 local government employees throughout the state, using questionnaires. A thematic analysis was used to triangulate the data after structural equation modelling with the Statistical Package for Social Science (SPSS) Amos version 24 was used for data analysis.The results indicate that the primary cause of low ICT adoption in Enugu State's local government authorities is ICT policy, with a lack of political will appearing as a predictor of ICT policy across local governments. Therefore, the study suggests, among other things, that local government administrators should instill political will to formulate policies that will increase the adoption and deployment of ICT in local government administration.*

Keywords: *Information and Communication Technology, Performance, Local Government, Nigeria's Enugu State*

1.1 Introduction

The past decade has witnessed countries across the world dedicate efforts to embrace Information and Communication Technology (ICT) in running government activities owing to the many benefits that it provides (Cheazemi et al., 2016). ICT improves communication between the public and the government, bringing public governance closer to the people (Ahmed et. al. 2006). Many nations have attempted to reorientate their public services to provide effective and efficient delivery service in recent times, because public service is usually bureaucratic in nature (Kelvin-Iloafu, 2016). According to Galit et al. (2002), policymakers hope to use ICT to reduce major urban issues, including traffic, deteriorating environments, and poor communication between individuals and institutions. This anticipation underlies the acceptance of ICT as components of public policies. Consequently, governments of nations, especially in Nigeria and Enugu State,have decided to implement several reforms in the public sector by revamping the systems, procedures, and organizational structures to enhance the provision of services to residents (Adeyeye &Aladesanmi, 2010).

Kim and Kim (2020) assert that digital technologies are revolutionizing every facet of society and people's lives today. Additionally, the Organisation for Economic Co-operation and Development (OECD, 2014) defines digital technologies as "ICTs, including the Internet, mobile technologies and devices, as well as data analytics used to improve the generation, collection, exchange, aggregation, combination, analysis, access, searchability and presentation of digital content, including for the development of services and applications". Stated differently, there are several implementations, project management, and policy risks associated with the deployment of a sophisticated ICT infrastructure to restructure public sector organizations (Fountain, 2001). It is impossible to consider the use and spread of ICT without considering advancements in telecommunications technology (Ridwan, 2015). ICT-enabled reform implementation is a drawn-out process that takes several years to yield maximum benefits. Diverse stakeholder groups may gain to varying degrees from ICT-enabled improvements in service delivery and transparency (Bhatnagar, 2014). ICT refers to any kind of technology and software, which are utilized for the creation, acquisition, manipulation, interchange, presentation, and use of information in all its forms (Ryssel et al., 2004).Technology refers to the application of knowledge, skills, and ideas for the production or improvement of goods or services (Kelvin-Iloafu, 2018). Since ICT adoption happens in phases, it is possible to distinguish between various ICT adoption levels within local government units (Ewa, 2020).

Moreover, Klievink (2009) in Supardal et al.(2017) opines that thecapabilities needed fortechnology use is closely linked to changes in organizational design, service delivery culture, and government architecture.Information and Communication Technology (ICT) has the potential to contribute significantly to human, social, and economic growth, whilst closing the knowledge gap (Cortes & Navarro, 2011; Niebel, 2018). ICT can stimulate economic growth by fostering innovation, improving decision-making quality, raising demand and lowering costs, fostering regional development and job creation, and eliminating poverty(Juado-Gonzalez & Gomez-Barroso, 2016). ICT is also anticipated to have a significant impact on government responsiveness and transparency, educational and healthcare opportunities, cultural creativity, social integration of people from different cultural backgrounds, citizen participation in democracy, advancement of humanity, social welfare, and well-being(Cortes & Navarro, 2011; Palvia et al., 2018, in Ewa, 2020).Since many nations throughout the world have recognized ICT as a way forward, the adoption of ICT creates chances for its use to facilitate successful service delivery in Nigerian public services, notably in its local government system (Augustine et al., 2015).

In most countries across the world, especially in Nigeria and in Enugu State, it is becoming increasingly difficult to energize the public sector to make it effective, efficient, and citizen-centered by using information and communication technology (ICT) to offer services to the populace quickly.There are seventeen local government areas (LGAs) in Enugu State. Each LGA has a chairperson who serves as the LGA's chief executive officer and who works with elected councillors, secretaries, supervisors, legislators and other staff(Kelvin-Iloafu et al., 2020). Information and communication technology has been acknowledged as a useful instrument that could help local government undergo a quicker transformation, inexpensively, whilst producing enhanced and greater results (Olaleka et al., 2017). The adoption of information communication technology (ICT) bylocal government authorities offers opportunities for its application to support efficient service delivery (Cheazemi et al., 2016), as many LGAs have accepted it as a means of progress (Ewuim et al., 2016).Local governments use a variety of technology to increase efficiency and their ability to respond to community needs. However, depending on the kind of technology being utilized, different factors may influence its adoption (Wang & Feeney, 2016). Because of the importance of accountability in government institutions, some studies have constructed the role of information flow in the digital era to improve accountability in the public sector environment, which was proxied by the development of electronic-based government (eGovernment) system implementation (Amegavi et al., 2018, in Irwansyah&Hudayah, 2022).Information and communication technology (ICT) is viewed as a tool to assist government agencies and organizations to provide information and services to the

public in a way that is more efficient, cost-effective, and beneficial for citizens. According to Niebel (2018), ICT investments do not benefit underdeveloped and emerging nations more than they do developed ones. Hence, in Nigeria's government, especially in local government authorities, ICT can be a useful instrument to provide better value for money, access to government services, productivity gains, transparency, and enhanced service delivery (Achimugu, 2011).

Under the administration of President Olusegun Obasanjo, an e-governance policy was included in Nigeria's administrative lexicon in 2000. By doing so, the public sector was able to plan, develop, and encourage the use of information technology in their never-ending quest to improve the challenging services that they provide (Olatokun& Adebayo, 2012). In 2001, the Nigeria government launched the national information technology policy and, subsequently, the National Information Technology Development Agency (NITDA) was established to implementthe policy. In 2001, the Nigerian federal government declared that the country's ICT policy was vital (Olatokun& Adebayo, 2012). To keep up with global advancements in information technology, some Nigerian state governments have made significant strides to integrate ICT into their public sectors. These efforts aim to increase public access to information, enhance government efficiency and cost-effectiveness, and make government more transparent and accountable to the people (Cheazemi et al., 2016). But the problem with ICT implementation is a lack of infrastructure, ICT government policy and the literacy level of staff in charge of handling ICT implementations in LGA. It is against this backdrop that the current study became necessary.

1.2 Statement of the problem

Governments globally have become more rational because of the current technological revolution. Nigerians view the mechanization of public service through electronic channels as a way to improve public service. Hence, the degree of implementation and submission of the e-governance principle was impacted by the underutilization of ICT resources in public service, particularly in LGA, which relates directly to the unavailability of some infrastructure resources such as power generation failure, internet service unavailability, and technological know-how. These and numerous other factors have adversely slowed down Nigeria's adoption of e-governance and, subsequently, ICT in LGA in Enugu State.

The government and its agencies have faced increased criticism in recent years, particularly those in Nigeria and other developing nations, for not being imaginative and sufficiently cost-conscious to adjust to the new changes.Furthermore, Nigeria's

public service delivery has been characterized as inadequate, ineffectual, and variable, based on citizen choices. Because of its inflexibility, it is frequently ridiculed. Also, authorities in local government in Enugu Stateface capacity challenges to provide the public with effective and efficient services. The primary causes of these issues include a lack of commitment to ensuring that services are effective for citizens, high administrative costs, waste, and a lack of accountability (World Bank, 2012). The quality of ICT education at local government level is yet another issue that the adoption of ICT in LGA faces.In an interview with a representative of the Nigerian Communication Commission (NCC), he provided a thorough evaluation of the shortcomings of the personnel handling ICT in numerous Nigerian local government areas; he stated that the few skilled staff is overloaded (Nchuchuwe& Ojo, 2015).
Also, the internal IT department lacks knowledge management and there exists no proper infrastructure. Moreover, the users have a low level skill that should enable them to handle the ICT properly.This study was deemed important owing to the aforementioned issuesto access the level of ICT adoption and performance of local government councils in Enugu State,Nigeria.

1.3 Objectives: The research studyexamined levels of ICT adoption, whilst assessing the performance of local government councils in Enugu State, using an empirical investigation. The study's objectives are outlined below.

i.To ascertain the extent to which poor technological infrastructure affects ICT implementation in LGAs.

ii.. To determine the effect of staff's literacy levels on ICT adoption in LGAsinEnugu State.

iii.To highlight the extent to which low level user skills affect ICT usage in LGAs in Enugu State, Nigeria.

1.4 Research questions
The current study's research questions are presented below.
i.To what extent does poor technological infrastructure affect ICT implementation in LGAs in Enugu State, Nigeria?
ii. What is the effect of staff's literacy levels on ICT adoption in LGAsin Enugu State?

iii. To what extent does low level skills affect ICT usage in LGAs in Enugu State, Nigeria?

2.0 Literature Review

2.1 Conceptual framework

Virtually every aspect of company operations in both developed and developing nations is impacted by information and communication technology (Akomea-Bonsu & Sampong, 2012). Gupta, Dasgupta and Gupta(2008) observed that the way in which local, state, and federal governments operate has been significantly impacted in recent years by the development of information and communication technology (ICT).Accordingly, studies on the adoption of information and communication technology (ICT) are frequently regarded as one of the most developed subfields within information systems (IS) research (Brown et al., 2010).Information and communication technology systems (ICTs) have been important instruments to improve the economic livelihood of the impoverished in developing nations like Nigeria and Ghana, according to Obayelu and Ogunlade (2006) and, more recently, Alao and Brink (2020). The 1980s and 1990s saw widespread adoption of advanced information and communication technologies (ICTs) in Nigeria across all corporate and public enterprises (Eneanya, 2021). However, since information and communication technology became commercial in the early 1990s, and while it has spread quickly in rich nations, it has traditionally done so slowly in developing ones (Oye, Aiahad& Abrahim, 2016).According to Golding et al. (2008), there is a digital gap that illustrates how ICT adoption differs across developed and developing nations, with developing nations adopting ICT slower owing to a number of obstacles. Many barriers contribute to the low rate of ICT adoption in poor nations (Asare et al., 2012; Bressler, Bressler, & Bressler, 2011; Mokaya, 2012). These include, but are not limited to, a lack of skills, financial limitations, inadequate infrastructure, a lack of funding, worries about confidentiality and security, a low degree of internet penetration and bandwidth, and improper ICT policies (Lawrence and Tar, 2010; Omary et al., 2010).These impeding factors have culminated in poor, inefficient and ineffective delivery of public services in Nigeria, where local government administration has been affected the worst.

2.1.1 Concept of Information and Communication Technology (ICT)

The term "information and communication technology" has several definitions, but the term refers to computer-based tools and techniques to gatherand use information. According to UNESCO, ‘‘ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters’’. Eneanya (2021) opines that Information and Communication Technologies (ICTs) are electronic devices utilized by governments for public service delivery. They comprise the following: Wide Area Networks, Twitter, Face-Book, E-mail, the internet, and mobile computing applications that can connect with citizens,

businesses and other arms of government (Sharma, 2010).ICTs also encompass technologies that can process different kinds of information (voice, video, audio, text and data) and facilitate different forms of communications among human agents, among humans and information systems, and among information systems (Imhonopi & Urim, 2012). ICT is an important and effective tool for both current and future users (Bas, Kubiatko & Sünbül, 2016). At local government level,information and communications technology (ICT) has been identified as a critical enabler of sustainable development (Kayisire and Wei, 2016).ICT is also a technology that can be used to facilitate contact between all stakeholders (Dixit et al., 2021). Butlack of meaningful socio-economic development at local government level,where genuine democracy has eluded grassroots levels in Nigeria (Etebom& Wijaya, 2022), has caused the most apparent challenges that affect the application of ICT in administration. These challenges include the lack of space, resources, maintenance, a lack of ICT skills with a lack of ICT training, and a lack of clear ICT policies (AbdulGafar et al., 2022). These challenges existwithout recourse to the fact that local government administration encapsulates adapting appropriate technologies in all grassroots administrative mandates (Agbodike, Igbokwe-Ibeto & Nkah, 2014).Agbodike, Igbokwe-Ibetoand Nkah (2014) stressthat these challenges were endemic because local government administration is heavily plagued by the cankerworm of bureaucratic and political corruption, which have eaten deep into the fabric of the entire society and into public service, in particular. The resultant effect on the unsustainable environment for ICT development is that the adoption rate of ICT as a management tool in local governments of developing nations to enhance performance,is considered to below (Kassongo, Tucker & Pather, 2018; Ziemba, 2022).

2.1.2 Local Government Administration in Nigeria and ICT

As a concept, local government has attracted several definitions (Agbodike, Igbokwe-Ibeto&Nkah, 2014). Consequently, the debate on the desirability of local government administration in Nigeria has had considerable impetus since the return to democracy in 1999(Ozohu-Suleiman & Chima, 2015). Local government can be defined as the substructure upon which the superstructures of state and federal governments are erected. It is that unit of administration with defined territory and powers, as well as administrative authority with relative autonomy (Akhakpe, 2011). According to the 1976 Local Government Reforms, local government could be defined as government at a local level through representative council, established by law to exercise specific powers within defined areas. Local government is the tier of government administration that coordinates the activities of citizens at local community levels (Etebom& Wijaya, 2022). Since the 1950s, when the federal system came into operation in Nigeria, local government administration has received

considerable scholarly attention (Oyediran, 2001; George, 2010; Bamidele, 2013).There is a consensus among scholars that local governments are created with the ultimate goal of bringing government closer to the people at grassroots level (Ozohu-Suleiman & Chima, 2015;Adeyeye, 2016). Specifically, local governments are created to bring about development in the rural areas. The development of Nigeria's local government system can be traced to the Native Authority Ordinance of 1916, which was passed by the British colonial government ostensibly to leverage the existing traditional administrative systems in the different regions of the area, now known as Nigeria. Today,several studies have established challenges that bedevilthe Nigerian local government system, including issues such as poor funding, paucity of human capital, corruption, poor service delivery, and so on. These challenges have impacted directly and negatively on the adoption rate and utilization of information and communication technology in public service delivery.

2.1.3 ICT Adoption

ICT adoption is defined as ICT design, implementation, stabilization, and continuous improvement (Ross & Vitale; 2000). Faizura and Nazri (2018) contend that ICT adoption refers to the process through which an individual or other decision-making association passes from first knowledge of an innovation to forming an attitude towards innovation, to a decision to adopt or reject, to implementation of the new idea and to confirmation of this decision. This means that ICT adoption decisions are primarily determined by a trade-off between the additional profits expected from the adoption and the costs of technological change. The adoption and use of ICT represent an enabling mechanism by which organizational leaders improve the efficiency and effectiveness of their business processes, whilst transforming existing business models (Jones et al., 2014).These low levels of ICT adoption occur mostly in developing nations without recourse to whopping taxpayer's monies that are invested in bridging the digital divide between developing nations globally (Galperin & Fernanda, 2017; Ducan, 2015).

2.1.3 Barriers to adoption of ICT

The low rate of ICT implementation in developing countries is the result of several impeding factors (Asare et al., 2012; Mokaya, 2012). In most establishments, especially local government areas, factors that affect the low adoption rate of ICT include low ICT skill levels, the cost of implementing ICT, and the lack of infrastructure needed to support ICT adoption (Asare et al., 2012; Awiagah, Kang, & Lim, 2015; Mokaya, 2012). Bressler et al. (2011) positthat a major factor impeding ICT adoption is the prohibitive cost of ICT implementation, particularly costs associated with rapidly changing technology. Taylor (2013) states that other ICT adoption barriers and constraints identified in developing countries include a lack of

adequate infrastructure, poor education, financial limitations, political barriers, and sociocultural challenges. According to Rwangoga and Baryayetunga (2007), ICT has not been successful in local government areas owing to several such as those mentioned below.

i) Inadequate capacity of ICT skills at local government level to handle information systems.
ii) Limited ICT infrastructure.
iii) Inadequate logisticrollout and follow up by the parent ministry.
iv) Inadequate and erratic power supply.
v) Lack of ICT staff to support Information Systems and ICT equipment in local government.
vi) Staff turnover, coupled with staff restructuring,led to a loss of skilled and experienced staff in local governments.
vii) Attitude, resistance and fear of change.
viii) Inadequate funding for local government to use LoGICSto planand carryout their duties.

2.1.4 ICT infrastructure

ICT infrastructure includes hardware (mainly physical servers), software, networks, data centres, facilities, and related equipment, which are used to develop, test, operate, monitor, manage, and support ICT services. The rapid growth and embrace of ICT in all walks of life has led to the need for new infrastructural facilities to support it. This is because reliable infrastructure is the pillar of any developed and emerging economy (Dixit et al., 2021). Several researchers have found that insufficient ICT infrastructure, which includes personal devices, costly and weak internet connections, poor socio-economic conditions, inadequate ICT related resources, a lack of effective ICT governance, and poor policy are all hindrances of the expansion of ICT (Parvin, 2013; (Dawadi& Shakya, 2016; Rana & Rana, 2020). Several researchers recommendthat ICT infrastructure should be cost-effective and user-friendly, and that training programs should be arranged for stakeholders ((Bariu, 2020; Jana & Maiti, 2020; Phutela & Dwivedi, 2019; Teeroovengadum et al., 2017).

2.1.5 ICT policy

A policy is a set of principles and strategies, which guide a course of action to achievea given goal (Enakire, 2010). The role of government policies is well recognized in literature on ICT policy design and development (Wonglimpiyarat, 2014; Larson and Park, 2014; Mann and Schweiger, 2009). Essentially, local governments have unique characteristics in terms of organizational structure, power of authority, norms and culture, which require an ICT policy that is implementable.

According to Enakire(2010), policy is the foundation upon which operations are built. An ICT policy is an official statement that spells out the objectives, goals, principles, and strategies that are intended to guide and regulate the development, operation and application of information and communication technology (Adomi &Igun, 2008). ICT policy regulates and protects the application and operations of Information and Communication Technology (Obikaonu, 2020). ICT policies have come to be reasonably well-accepted as components of broader development policy initiatives over the past decade (Mansell, 2009).

According to NITDA (2018), the aim and objectives of ICT national policy is to provide a model that designs the ICT sector, enhancing the capacity for socio-economic development to be sustained and developed, which isvital to the country's vision of becoming a top20 economy by the year 2020. The Nigerian Federal Executive Council approved a national IT policy in March 2001 and implementation started in April with the establishment of the National Information Technology Development Agency (NITDA), charged with the implementation responsibility (Enakire, 2010). The adoption decisions of ICT policies are primarily determined by a trade-off between the additional profits expected from the adoption and the costs of technological change. Baro (2011) postulates that a successful policy implementation requires a great deal of political will or courage to challenge powerful elites and interest groups who may be stumbling blocks that prevent achieving the desired results for the general good. Palvia, Baqir and Nemati (2015) advance that developing policies alone is not enough; evaluation of the success and failure of these policies is also vital for a meaningful impact on ICT growth in a country.

Ziemba et al. (2020) argue that the adoption of ICT by local governments is not straightforward as it requires complex technological, organizational, social, economic and cultural undertakings. These complex factors must be duly enveloped in a policy framework for the workability and sustainability of ICT in the local government area. This is on the backdrop that ICT policy is built on reliable human resources and infrastructure, which constitute the fundamental tool and means of assessing, planning, managing development change, and to achieve sustainable growth (Enakire, 2010). Today, ICT adoption embraces the whole spectrum of activities from the period when government units justify the need to adopt ICT until the period when government units experience the full potential of ICT and derive benefits from them (Ziemba, 2020). In Nigeria’s local government system, the lack of proper implementation of NITDA (2018) policy on ICT remains a potent factor that negates the full adoption of ICT in the local government system.

2.1.6 ICT literacy

Today, the word "literate" or "non-literate" means a lot more than ability or inability to write (DeeKor&Yaako, 2021). The term literacy does not only mean the physical ability to read, write, compute and speak in a language, but to do all these in an intelligible manner at various levels (Guven, 2021). This is because it is difficult to establish an acceptable level of literacy for everybody since various people have different uses of it. For example, public and private sector workers differ in their understanding of literacy. A local government employee in an urban locality and one in a rural area may vary in terms of their ICT literacy levels and hence use and perceive the usefulness of ICT differently. Also, a local government staff member and a bank staff member's efficiency and effectiveness in their professions and occupations depend on functional literacy. Functional literacy is the ability of an adult to function in his or her group or community, whilst affecting changes positively with all the necessary skills required. According to UNESCO (2017), functional literacy is when a person can engage in all those activities in which literacy is required for effective function of his or her group and community, whilst enabling him or her to continue to use reading, writing and calculation for his or her own and the community's development. Olatoye, Nekhwevha and Muchaonyerwa (2021) claim that the mastery of functional skills is a prerequisite for ICT literacy since these serve as problem-solving tools in digital environments. In developing nations' local government areas, there is no doubt that ICT has introduced changes in all forms and these changes face resistance. The resistances may be attributed to the ICT literacy factor.

ICT literacy is understood as a meta-competence that helps people to acquire important competencies and skills for work situations and to achieve private goals over their entire life span (Ferrari, 2012; Van Laar et al., 2017). The Educational Testing Service (ETS) describes ICT literacy as "using digital technologies, communication tools and/or networks to access, manage, integrate, evaluate and create information in order to function in a knowledge society" (p. 16; see also Siddiq et al., 2016). Emmanuel-Baro (2009) defines ICT literacy as the capacity to solve problems of information, communication and knowledge in digital environments, whilst further indicating that ICT literacy requires both functional skills and higher-order cognitive skills.Egoigwe et al. (2020) mention that ICT literacy is the ability to understand computer features, capabilities, applications, and abilities to put into practice the acquired knowledge in productive use of computer applications suitable to person roles in society. Emwata (2013) states that ICT literacy can be explained as the ability to navigate, assess and create information proficiently and analytically by using a wide range of digital technologies. Ukachi (2015) found out that ICT literacy necessitates the user "to

recognize and use that power, to manipulate and transform electronic media, to distribute pervasively, and to easily adapt them to new forms''. Ikolo and Okiy (2012) posit that mastering the use of ICT has become a core competency for competition and sustained development. However, Imani's (2017) research study revealed that ICT application in governmental administration processes is characterized by the fragmentation of initiatives and difficulty in horizontal coordination among various governmental agencies. Thus, the level of ICT literacy at local government level is still in doubt, posing a significant threat to full ICT adoption and implementation for service delivery in Nigeria's local government areas.

2.2. Theoretical framework

Information and communication technology literature is awash with studies that have examined theories to support claims on factors that influence ICT adoption within government institutions and private organizations. These theories include the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989), the Theory of Reasoned Action (TRA) (Azjen and Fishbein, 1980), the Theory of Planned Behavior (TPB) (Azjen, 1991), the Innovation and Diffusion Theory (IDT) (Rogers, 1995) and, recently, the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). All these theories tried to justify factors that affect an individual's intention to use ICT in the performance of a duty or a particular operation. Since the focus of this study is to assess negating factors towards the adoption of ICT in government establishments, the study is underpinned in the Unified Theory of Acceptance and Use of Technology (UTAUT) propounded by Venkatesh et al. in 2003.

2.2.1Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was propounded by Venkatesh et al. in 2003. The theory synthesized elements across eight well known technology acceptance models, namely the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behavior (TPB), the combined TAM and TPB, the Model of PC Utilization (MPTU), the Innovation Diffusion Theory (IDT) and the Social Cognitive Theory (SCT). The objective of the UTAUT was to achieve a unified view of user acceptance. The result of the theory is a unified model that consists of four core components or determinants of intention and usage. The model is claimed to be a useful tool for managers to assess the likelihood of acceptance of a new technology within an organization. It also helps to understandfactors that drive acceptance of a new technology so that appropriate features can be designed to facilitate acceptance of a new technology by users.According to the UTAUT, four factors

influence the use of ICT: performance expectancy; effort expectancy; social influence; and facilitating conditions. Venkatesh et al. (2003) definethe four factors as follows: performance expectancy is the degree to which an individual believes that using a system will help him/her attain gains in job performance; effort expectancy is the degree of ease associated with the use of the system; social influence is the degree to which an individual perceives that important others believe that he/she should use the new system; and facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. The UTAUT theory also helps to understand factors that drive acceptance of a new technology so that appropriate features can be designed to facilitate acceptance of a new technology by users. This study, therefore, adopted UTAUT as a model that is sufficiently appropriate to be used to explore the effect of factors such as the availability of infrastructural facilities, standard policy, and literacy level on the technological adoption/acceptance based on the perceived usefulness and perceived ease of using ICT, particularly among local government area employees.

2.3 Empirical review of ICT adoption

A study by Salahshour, Mehrbakhsh, and Dahlan (2017) reported that from 2006 to 2015, there has been a dramatic increase in the number of IT adoption studies. In the study conducted in 2012 to assess world leaders' adoption of ICTs, of the 20 countries that emerged as winners, none hailed from the African continent (Szopiński, Szopiński, Staniewski & Staniewski, 2017). Most of the ICT adoption studies aimed to understand, predict and explain factors that influenced the adoption of ICT innovations, which typically led to the development of an adoption model (Faizura& Nazri; 2018). Generally, ICT adoption by local governments is not straightforward; it requires complex technological, organizational, social, economic and cultural undertakings (Ziemba et al.,2020). Oliveira, Tiago and Martins (2011) conducted a review of theories used in ICT adoption models at an organizational level. The study revealed that the theory of the Technology-Organization-Environment (TOE) framework proposed by Tornatzky et al, (1990) was commonly used in IT adoption research. This is mainly because of the presumed solid theoretical basis, consistent empirical support, and the potential for application of IT adoption. However, this ICT adoption theory fell short in the area of specifics owing to non-categorization of the TOE variables to accommodate the overall influence of technology, organization and environment on the degree of ICT adoption. Ziemba (2020) explored levels of ICT adoption and sustainability by using selected local governments in Poland. The study employed a quantitative approach and descriptive statistics to evaluate the level of adoption and sustainability with ICT adoption shaped by ICT outlay, information culture, ICT management and ICT

quality, whereas sustainability in local government is shaped by ecological, economic, socio-cultural, and political sustainability. A total of 118 local government entities were surveyed and analysed and the research findings revealed that the adoption of electronic delivery boxes and security of back office systems were at the highest level, whereas the adoption of Electronic Document Management System (EDMS), Business Intelligence (BI) and Enterprise Resource Planning (ERP) were at the lowest level of adoption.Aleke et al. (2011) studied the adoption of ICT innovations (such as access to the internet, computers, and online portals) by small agribusinesses that operate in indigenous communities in Nigeria. They found that social imperatives play a crucial role among indigenous communities. The study recommended that the right balance must be maintained between the effort that is put in the design of ICT solutions, whilst addressing social factors such as language and traditional life to enhance the willingness to adopt ICT innovations.

3.Methodology

3.1 Sampling and data collection

The study adopted a descriptive research design to investigate the bane of low information communication technology adoption among local government administration in Enugu State. This design is considered appropriate as it is mostly used to studya natural phenomenon with limited knowledge and understanding. Data for the study was predominantly primary in nature, comprising of questionnaires and an interview guide. Questionnaires wereused to collect data from the operation level of local government's administration while an interview guide was used to elicit relevant managerial and leadership information, relevant to the study. The design used the observations method,providing the researchers with an opportunity to complement the survey data with physical realities in the local government authorities. The study's population comprisedall the staff members of the local government councils; however, there was no definite number owing to the absence of a comprehensive staff register across many of the local government authorities under study. A purposeful sampling method was adopted, which randomly selected a minimum of 25 staff members from each of the councils, giving the study a sample of 478, representing 392 administrative staff and 86 management staff. As an on-going study, a total of 107 copies of the questionnaire were collected and 94 were duly completed, thus providing data for this preliminary analysis.

3.2 Measures

The measures adopted in this study were adopted from extant literature. Thus, the bane of ICT adoption was conceptualized into three main constructs with their respective measurement variables quantified by a five-point Likert scale. While a broad list of factors are responsible for low ICT adoption in local government areas,

this study adopted the prevailing three factor-clusters, namely ICT infrastructure (Dixit et al., 2021), ICT policy (Adomi &Igun, 2008; Obikaonu, 2020), and ICT literacy level (Emwata, 2013; Ikolo &Okiy, 2012).

3.3. Data analysis

As a descriptive study, the mean and standard deviations were used to assess the weights of each of the contributing factors to low ICT adoption. Confirmatory factor analysis was further used to validate the adopted construct, namely ICTI, ICTP and ICTL, representing ICT infrastructure, ICT policy, and ICT literacy, respectively. Data analysis was conducted by utilizing the structural equation modelling on the Statistical Package of Social Science (SPSS) Amos version 28.

4 Results

Table 1 is a presentation of the descriptive statistics and inter-factor correlations. The descriptive analysis indicated that the proxies that measure ICT infrastructure have their means above the 3-point benchmark, suggesting that the local government authorities under study have sufficient infrastructure to adopt ICT in their operations. This indicator is further observed with a composite mean of 4.038, as seen in Table 2. ICT policies and literacy withcomposite means of 2.401 and 2.872, respectively, show that the two constructs are responsible for low studied local government authorities. Within these two impeding factors, only the minimum entry-level

Table 1: Descriptive Statistics, Inter-Item Correlations, Means, and Standard Deviations

	Mean	**S.D.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
ICTI1	3.979	0.950	1														
ICTI2	3.968	0.967	.866**	1													
ICTI3	4.021	0.939	.893**	.878**	1												
ICTI4	4.128	0.833	.710**	.833**	.767**	1											
ICTI5	4.096	0.817	.778**	.793**	.782**	.882**	1										
ICTP1	2.979	0.803	-0.029	-0.098	-0.028	-0.012	0.036	1									
ICTP2	2.064	0.902	0.025	-0.081	0.023	-0.076	0.023	.872**	1								
ICTP3	2.330	0.909	-0.067	-0.196	-0.134	-0.127	-0.043	.791**	.778**	1							
ICTP4	2.277	0.909	0.043	-0.062	0.030	-0.044	0.065	.771**	.751**	.774**	1						
ICTP5	2.351	0.991	-0.026	-0.112	-0.008	0.010	0.051	.806**	.782**	.801**	.738**	1					
ICTL1	3.277	0.795	0.093	0.054	0.136	0.125	0.190	.548**	.474**	.468**	.510**	.585**	1				
ICTL2	2.649	0.912	0.041	-0.013	0.109	0.102	0.161	.621**	.545**	.530**	.517**	.649**	.847**	1			
ICTL3	2.819	0.904	0.046	-0.007	0.106	0.088	0.155	.499**	.479**	.506**	.506**	.600**	.714**	.822**	1		
ICTL4	2.872	0.907	0.059	-0.017	0.066	0.065	0.104	.498**	.499**	.508**	.513**	.589**	.706**	.790**	.877**	1	
ICTL5	2.926	1.008	0.077	0.031	0.127	0.114	.205*	.583**	.561**	.532**	.584**	.661**	.818**	.848**	.835**	.825**	1

Note: SD=Standard Deviation; ICT=Information Communication Technology; ICTI=ICT Infrastructure; ICTP=ICT Policy; ICTL=ICT Literacy; *p<.05, ** p<.01.

of educational qualification for employment in the local government authorities showed an insignificant improvement of 3.277, however.The composite correlation of 0.109, 0.042 and 0.681 among the three studied constructs were found to be significant at 0.001 level. A close examination of the correlations shows that while the relationships between ICT infrastructure and ICT policy (0.109), and between ICT infrastructure and ICT literacy (0.042) are low (statistically unrelated), the relationship between ICT policy and ICT literacy (0.681) was found to be strong and directly proportional.

Table 2: Descriptive Statistics, Composite Correlations, Level of Significance

		Mean	SD	Composite Correlation			P-value
				1	2	3	
1	ICT Infrastructure	4.04	0.90	1			**
2	ICT Policy	2.40	0.95	0.109	1		**
3	ICT Literacy	2.87	0.94	0.042	0.681	1	**

Note: ICT=Information Communication Technology;* p<.05; ** *p*<.01.

To validate the constructs adopted for this study, confirmatory factor analysis was conducted using SPSS AMOS, version 24. The results of the confirmatory factor analysis were presented by using the path diagram, as shown in Figure 1 below. The factor loading ranging from 0.86 to 0.94 indicated that the proxies adopted to measure the three major constructs of the study, namely ICT infrastructure, ICT policy and ICT literacy, are statistically valid and served as good measures of the construct. The cross-loading among the constructs further validated the correlation between them, as indicated earlier. The model fit summary is presented below in Table 3 with their respective goodness of fit statistics.

Table 1: Model fit summary

Fit Indices	**Recommended Value**	**Goodness of fit Statistics**
CMIN/DF	≤ 3	2.393
P-value	≤ 0.05	0.000*
Goodness of fit Indices (GFI)	≥ 0.9	0.926
Incremental Fit Index	≥ 0.9	0.927
Tucker Lewis Index	≥ 0.9	0.911
Comparative Fit Index	≥ 0.9	0.926

Note:CMIN/DF = minimum discrepancy;** *p*<.01.

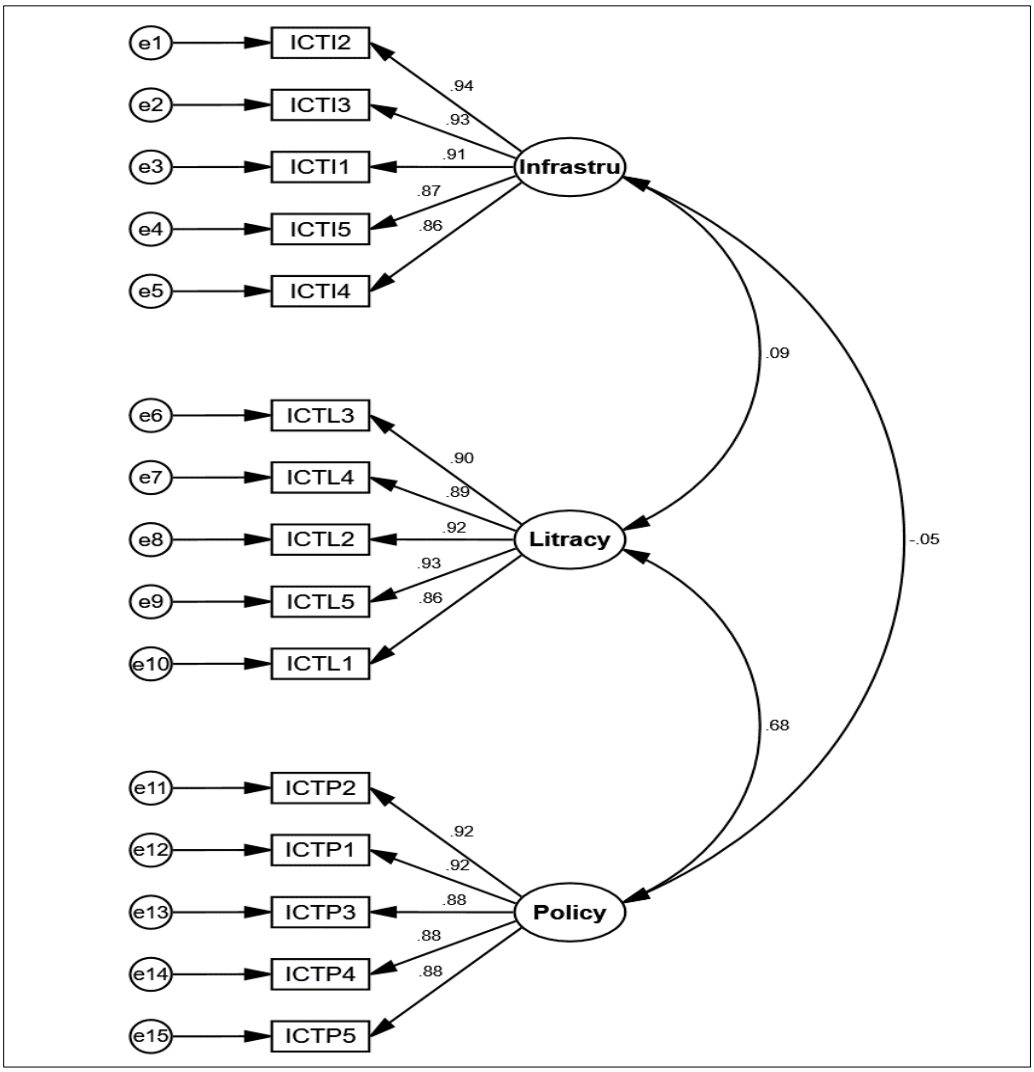

Figure 1: Path Diagram from SPSS AMOS v.24

5. Discussion of findings

The Nigerian Federal Executive Council approved a national IT policy in March 2001 and its implementation started in April with the establishment of the National Information Technology Development Agency (NITDA) charged with the implementation responsibility (Enakire, 2010). Adoption decisions of ICT policies are primarily determined by a trade-off between additional profits expected from the adoption, and the costs of technological change. Baro (2011) pointed out that a successful policy implementation requires a great deal of political will or courage to challenge powerful elites and interest groups who may be stumbling blocks towards achieving desired results for the general good. Palvia., Baqir and Nemati (2015) contend that developing policies alone is not enough; but rather that

evaluation of the success and failure of these policies is vital for a meaningful impact on a country's ICT growth.

In most establishments, especially in local government areas, factors that affect the low adoption rate of ICT include low ICT skills levels, the cost of implementing ICT, and a lack of infrastructure needed to support ICT adoption (Asare et al., 2012; Awiagah, Kang, & Lim, 2015; Mokaya, 2012). Bressler et al. (2011) argue that a major factor impeding ICT adoption is the prohibitive cost of ICT implementation, particularly costs associated with rapidly changing technology. Taylor (2013) mentions that other ICT adoption barriers and constraints identified in developing countries included a lack of adequate infrastructure, poor education, financial limitations, political barriers, and sociocultural challenges.

6. Conclusions

ICT infrastructure that exists presently in Enugu State is sufficient to support ICT adoption across the 17 local government authorities in the State. Among the prevailing cluster of barriers to ICT adoption in local government authorities in Enugu State, ICT policies and ICT literacy levels are the most pervasive. The measurement variables used to assess the bane of ICT adoption were validated as good constructs.

7. Implications

Local governmentauthorities in Enugu State could significantly improve their organizational effectiveness by adopting ICT; with similarity of service delivery in other local government authorities across the country, ICT adoption could potentially improve service delivery across the country.

8. Recommendations

The study recommends the following outlined below.

i. The Enugu State Government, as the political authority over the 17 local government authorities,should support that the state's local government authorities adopt ICT.

ii. The political leadership of the local government authorities should utilize their political will to formulate ICT policies that will foster ICT adoption in their local government authorities.

iii. Recruitment of computer-literate intakes and continuous training of employees on ICT are recommended for local government authorities. Thus, the authorities responsible for employing local government staff should select, train and retain staff that are graduates who studied computer-related courses at higher institutions such

as ICT staff, which will enhance easy maintenance and handling of ICT equipment with expertise and high skilled care.

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