



**ADOPTION AND DIFFUSION OF E-GOVERNANCE INNOVATION IN NIGERIA: A
SURVEY OF LITERATURE**

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Abstract

Information and Communication Technologies (ICTs) are becoming increasingly prevalent in peoples' daily lives due to the presence of e-governance. This study examines the adoption and diffusion of e-governance innovation in Nigeria. Specifically, this study examines the various factors (both internal and the external) influencing the process of e-governance adoption and diffusion in Nigeria. The study provides theoretical framework by explaining each element and supporting literature that contribute to the development of the conceptual model. The study adopts the qualitative research technique and conclusion was based solely on insights drawn from the analysis of the existing literature of different studies. The study shows how e-governance adoption by government positively affects service efficiency, management support, employees training, and negatively affects the level of corruption and service cost, and how these factors positively affect citizens trust in government and internet and their attitude towards adopting e-government innovation. The study recommends that governments need to take cautious steps to ensure better reach and access to ICTs by citizens otherwise disparities in access will only increase problems of corruption and social and economic injustice. Thus, investments in ICT need to be integrated into broader development agenda in Nigeria.

Keywords: Adoption, Diffusion, E-governance, Information and communication Technology, Nigeria

1. Introduction

Globally, information and communication technology (ICT) has grown rapidly in recent times. This growth has led to transformations in the method of delivering businesses and governments' services to customers and citizens. Following these developments, governments all around the world have tried to take the advantages that ICTs offer and implement and adopt their e-government systems and services. This increases the citizens' expectation for better service from their related governments (Silcock, 2001). Consequently, governments have embraced e-government as the most effective procedure for communicating with citizens and responding to their needs, which accordingly enhances the efficiency, effectiveness, and accountability of governments (Bannister & Connolly, 2015).

The liberalization of Nigeria's telecommunications sector in 2001 led to phenomenal diffusion of ICTs in several spheres and regions with diverse applications. It opened up the space for governments at all levels to adopt e-governance for better service delivery to its citizenry and increase the level of efficiency and accountability. Due to this, internet technology is penetrating at country levels and being used for the improvement of government projects, subsequently leading to the provision of a better communication platform (Northrop & Thorson, 2003). Therefore, from an e-government



perspective, adoption of electronic systems could lead to fewer employees, faster completion of transactions and fewer hard copy paper records to be filed and stored. In addition, e-government is expected to allow for less corruption, increased transparency, better delivery of government services to citizens, greater convenience, citizen empowerment through access to information, growth of revenues, cost reductions, and more efficient government management among others (Asianzu & Maiga, 2012). Due to the immense benefits of e-government there has been a tremendous increase in the use of ICTs in facilitating e-government. For instance, in a UN e-government development index report (2012) a survey of 193 global countries revealed that 190 of the examined countries had online services.

Despite the obvious benefits of e-government, its implementation is not that simple because it faces several restrictions from the end user, for instance it requires a certain level of technology competence that in some demographics may be problematic or more importantly the trust and value perception issue, the citizens must trust the providers and must believe that the services that they offer have the same value as non-online services in order to achieve the desired level of usage (Geci, Prenaj, Zeqiri & Sholla, 2017). Furthermore, Venkatesh and Bala (2008) stated that low adoption and use of Information Technology (IT) employees are still major barriers to successful IT implementations. Therefore, concerns of failure in e-government projects are not only related to implementation, but also to adoption and diffusion which this research will examine. However, the success of e-government services depends on government support in implementing the service and depends on citizens' willingness to accept and adopt these services (Carter & Bélanger, 2004). Governments and researchers need to understand that the diffusion of e-government services depends on two distinct but linked processes. The first is the adoption of e-government within the government organization itself and the second is the adoption of the e-government service by the citizenry.

Due to the potential of ICTs in promoting and seeking economic growth and development at government, business and citizens' levels, countries around the globe are striving to achieve e-government success (UN, 2012). Despite increased global efforts to obtain e-government, many developing countries are still below the United Nations (UN) global index for e-government development (World average e-government development index is 0.4882) (UN, 2012). With e-government development still being low in such countries, citizens are still reliant on traditional means of government products provisions and governments are still faced with large increasing costs in the form of printing, storing and filing paper costs, mailing the hard copies, or having large staff levels with outdated skills. In developing and transitional countries, an estimated 15 per cent of e-government projects are successful with the remaining 85 per cent being either total failures or considered as partial failures (Heeks, 2003). This is partly attributed to theories and policies designed in developed countries, being employed in developing countries (Schuppan, 2009).

Furthermore, e-governance in developing countries has not been studied sufficiently. There are aspects of it that need to be studied more deeply, especially in the perspective of adoption or intention to continue using the online government services (Geci *et al.*, 2017). Many studies have investigated the adoption of e-government services in developed countries, whereas relatively little has been undertaken in developing countries (Suha & Morris, 2008) especially studies relating to the adoption process and the internal determinants influencing the diffusion of e-government (Akbar, 2015). Also, the problem of low-level of citizen adoption of e-government is still an issue in most developing countries (Alzahrani & Goodwin, 2012). The same pattern is observed among Nigerian citizens too. In general, there are very few studies (such as Azeez, Abidoye, Adesina, Agbele, Venta & Oyewole, 2012 and Amagoh, 2015) that deal with e-government adoption and diffusion in Nigeria using



Diffusion of Innovation model (DOI), Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM) but to the best of our knowledge no study has been done in Nigeria to theoretically investigate the internal and the external factors affecting the adoption and diffusion of e-government. Against this backdrop, the study represents an opportunity to make an important conceptual contribution. Also, it is important to take into account that most diffusion studies are rooted in the private sector (e.g. Rogers, 2003), while at the same time the diffusion of innovations in the public sector has not been extensively studied (Al-zaabi, 2013). Based on the foregoing, the purpose of this paper is to examine the adoption and diffusion of e-governance innovation in Nigeria.

The paper is organized as follows: First, some concepts and theories that are relevant to the study of innovation diffusion and adoption processes are discussed in order to understand the different kind of meanings that play a role in the diffusion and adoption of innovations. Second, the various factors influencing the adoption and diffusion of e-government is discussed. Next, inspired by several bodies of knowledge, a conceptual model for the diffusion and adoption of e-government in Nigeria is presented. Finally, some conclusions and recommendations were made.

2. Literature Review

2.1 Concept of Adoption and Diffusion of Innovation

Adoption is a decision of full use of an innovation as the best course of action available and rejection is a decision not to adopt an innovation (Rogers, 2003). Organizations can adopt an innovation in varying degrees, ranging from copying an innovation without making any changes, to using an innovation as an inspiration (Dolowitz & Marsh, 1998). On the other hand, Rogers (2003) defines diffusion as the process in which an innovation is communicated through certain channels over time among members of a social system. As expressed in this definition, the four main elements of diffusion are the innovation, communication channels, time, and the social system. Innovation is defined as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption.” (Rogers, 2003:12). Communication channels is the means by which messages get from one individual to another. It refers to the ways in which the information about the innovation flows from the source to the receiver (for example, social media, mass media and interpersonal communication). Time refers to the rate of adoption or the time taken by different individuals to adopt the innovation. The social system is a set of interrelated units engaged in joint problem solving to accomplish a common goal. The social system is influenced by the societal norms, tolerance of deviance and its integration.

Furthermore, the adoption/diffusion rate is the relative speed with which an innovation is adopted by members of a social system and is generally measured by the number of individuals who adopt the innovation in a specified period, such as each year. The rate of adoption also depends on the characteristics of the adopter, social characteristics and perceived need for the innovation (Rogers, 1995). Hence in this study, diffusion of innovation is taken to be the rate at which e-government have been adopted and the rate at which this adoption has spread throughout Nigeria.

2.2 Concept of E-Governance

The concept of e-governance is touted to have emerged against the backdrop of the global transition towards the Knowledge-Based Economy (KBE) (Huang, Yeo & Traut, 2006). Nevertheless, Curtin (2007) claims that, while the use of ICT in government can be traced to the 1950s, its diffusion to developing countries has been slow not until this 21st century.



The term e-governance has also other synonyms, including electronic government, e-government, e-Gov, online government and digital government (Gronlund & Horan, 2005). E-governance is defined as government's use of web-based technologies and applications, or e-services, that enhance the access and delivery of governmental services and information to the government's citizens, residents, business, governmental, and other relevant entities (Layne & Lee, 2001). It also refers to the use of information technologies (such as the internet, the World Wide Web, and mobile computing) by government agencies that can transform their relationship with citizens, businesses, different areas of government, and other governments (Moon, 2002). These technologies help deliver government services to citizens, improve interactions with businesses and industries, and provide access to information. E-government is also defined as the use of information technology to enable and improve the efficiency with which government services are provided to citizens, employees, businesses and government agencies (Carter & Belanger, 2005).

E-governance is an important innovation for enhancing good governance and strengthening the democratic process and can also facilitate access to information, freedom of expression, greater equity, efficiency, productivity, growth and social inclusion. Successful e-governance initiatives can have demonstrable and tangible impact on improving citizen participation and quality of life as a result of effective multi-stakeholder partnerships (African Development Forum, 2004 cited in Adejuwon, 2012).

2.3 Theoretical Review

Numerous studies were conducted and several models and theories were developed regarding the adoption and diffusion process that describe and identify variables or characteristics that affect it. This study focuses on five theories: Diffusion of Innovation (DOI). Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT) and Unified Theory of Acceptance and Use of Technology (UTAUT 1).

2.3.1 Diffusion of Innovation Theory (DOI)

The diffusion of Innovation (DOI) model has emphasized the attributes of new technology as key determinants of adoption (Lee, Kim & Ahn, 2011). Although there is a rich research literature related to the diffusion of innovation, the most prominent of them is the work of Rogers first published in 1962. Many researchers adopted Rogers's conceptual framework, which identifies the characteristics of an innovation that influence the acceptance of that innovation (Rogers, 2003). The DOI model by Rogers (2003) suggests that five attributes of innovations can affect the rate of adoption. These five attributes include relative advantage, compatibility, complexity, Triability and observability. Tornatzky and Klien (1982) reviewed the literature on studies made on innovation characteristics and its relation to adoption. They came to conclusion that three innovation characteristics (compatibility, relative advantage and complexity) had the most consistent significant relationships to innovation adoption. However, Tornatzky and Klien (1982) made a list of recommendation for future research such as; more studies about innovations characteristics are needed. Based on the aforementioned recommendation, Moore and Benbasat (1991) developed an instrument to measure perceptions of using an information technology innovation. Moore and Benbasat (1991) identified eight Perceived Characteristics of an Innovating (PCI) factors that influence the diffusion of an innovation: relative advantage, compatibility, ease of use, image, result demonstrability, visibility, trialability, and voluntariness of use. Image according to Moore and Benbasat (1991) is the degree to which use of an innovation is perceived to enhance one's image or status in one's social system. Voluntariness of use is defined as the degree to which use of the innovation is perceived as being voluntary or of free will. Moore and Benbasat (1991) argued that Roger's (2003) observability can be decomposed into two



different constructs, which are: result demonstrability and visibility. Result demonstrability is defined as tangibility of the results of using the innovation. On the other hand, visibility is meant by how the advantages of the innovation can be visible to users.

2.3.2 Theory of Reasoned Action (TRA)

TRA was developed by Ajzen and Fishbein in 1975 to examine the relationship between a person's attitudes and their behavioural intention to engage in an activity. TRA determines an individual's intention to perform the behaviour and is used to predict individuals' behaviour based on existing attitudes and behavioural intentions (Rogers, 2003). Furthermore, TRA is based on the assumption that human beings usually behave in a sensible manner; that they take account of available information and implicitly or explicitly consider the implications of their actions (Ajzen, 1985).

TRA models play a role in e-government diffusion's research and has been used in several studies related to e-services (including e-government services) acceptance to determine factors that influence the adoption of e-government by individuals (Carter & Bélanger, 2004). The TRA model promotes the decision making of the innovation-decision process outlined in Rogers diffusion model. Furthermore, there are some limitations with the TRA, Ajzen (1985) argued that time is an important factor and intentions to behaviour changes with time, therefore, prediction of behaviour at the current stage will be different in the future.

2.3.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is an extension of TRA which was developed by Davis, Bagozzi and Warshaw in 1989 to better predict, explain, and increase user acceptance in computers technologies. TAM was designed initially to be applied to an organizational setting. According to TAM, a technology acceptance behaviour is influenced by two main factors; perceived usefulness (PU) and perceived ease of use (PEOU). These factors influence an individual's intention to adopt and use the technology (Greenfield & Rohde, 2009). Perceived usefulness (PU) is the degree to which an individual believes that using a particular system would enhance his or her performance whereas perceived ease of use (PEOU) is the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis *et al.* 1989). Perceived usefulness (PU) is related to relative advantage and compatibility, and perceived ease of use (PEOU) is related to the complexity, trialability, and observability elements on Rogers' diffusion model. TAM predicts that higher perceptions of usefulness and ease of use will increase the intention to use a system. All other things being equal, perceived ease of use is predicted to influence perceived usefulness, in as much as the easier a system is to use, the more useful it could be (Davis *et al.* 1989).

Furthermore, it is argued that TAM explains usage intention more than other models such as TRA and Theory of Planned Behaviour (TPB) (Davis *et al.* 1989; Taylor & Todd, 1995b). TAM have a measurable indirect effect on behaviour and it also provides substantive indicators of the factors that influence behavioural intention, which is itself a key determinant of behaviour (Taylor & Todd, 1995b).

2.3.4 The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, Morris, Davis and Davis in 2003. The UTAUT, is based on eight technology acceptance theories or models. Especially, the UTAUT draws on 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 Personal Computer Utilization (MPCU), the Diffusion of Innovation Theory (DOI) and the Social Cognitive Theory (SCT) (Venkatesh *et al.*, 2003). The



UTAUT included four factors: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions.

Performance expectancy is the degree to which an individual believes that using the system will help him or her to attain gains in job performance; Effort expectancy is defined as the degree of ease associated with the use of the system; Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system; and Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh *et al.*, 2003).

2.3.5 The Unified Theory of Acceptance and Use of Technology (UTAUT 1)

The UTAUT 1 was developed by Venkatesh, Thong and Xu in 2012. UTAUT 1 was originally developed to explain employee technology acceptance and use. The UTAUT 1 extends the unified theory of acceptance and use of technology (UTAUT) to study acceptance and use of technology in a consumer context. The UTAUT 1 incorporates three constructs into UTAUT: hedonic motivation, price value, and habit.

Hedonic motivation is defined as the fun or pleasure derived from using a technology, and it has been shown to play an important role in determining technology acceptance and use (Brown & Venkatesh, 2005). In Information System (IS) research, such hedonic motivation (conceptualized as perceived enjoyment) has been found to influence technology acceptance and use directly (Thong, Hong & Tam, 2006). In the consumer context, hedonic motivation has also been found to be an important determinant of technology acceptance and use (Brown & Venkatesh, 2005). Price value is defined as consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them (Dodds, Monroe & Grewal, 1991). The price value is positive when the benefits of using a technology are perceived to be greater than the monetary cost and such price value has a positive impact on intention (Venkatesh *et al.*, 2012). Habit is defined as a perceptual construct that reflects the results of prior experiences (Ajzen & Fishbein, 2005). It is also defined as the extent to which people tend to perform behaviours automatically because of learning (Limayem, Hirt & Cheung, 2007), while Kim, Malhotra and Narasimhan (2005) equate habit with automaticity. Although conceptualized rather similarly, habit has been operationalized in two distinct ways: first, habit is viewed as prior behaviour (Kim & Malhotra, 2005); and second, habit is measured as the extent to which an individual believes the behaviour to be automatic (Limayem *et al.*, 2007).

2.4 Factors influencing the Adoption and Diffusion of E-Governance

E-government adoption is a multi-dimensional construct. Both willingness and intention of citizens could be considered as unidimensional measures of adoption; other dimensions that can hinder progress towards the adoption and diffusion of e-government are of economic, political and technical nature (Abdel-Fattah, 2014). Adoption and diffusion are considered as critical issues for evaluating e-government success (Zhang, Xu & Xiao, 2014). Many recent studies discussed the diffusion of e-government. According to Zhang *et al.* (2014), these studies of e-government diffusion are focusing on four aspects: (1) factors that affect e-government diffusion; (2) applications of e-government diffusion; (3) the effect of the diffusion of e-government on government agencies and employees; and (4) the effect of ICT infrastructures on the diffusion of e-government. Most of these studies mentioned DOI and TAM theory to support the causal arguments (Abdel-Fattah, 2014; Zhang *et al.*, 2014). However, Pilling and Boeltzig (2007) have argued that focus should not be on "individual characteristics of adopters", such as Diffusion of Innovation theory, but on 'systematic barriers' to the internet and e-government, e.g. unequal internet access, unequal access to e-government, and problems with website accessibility and usability.



Many studies have analyzed the factors affecting the adoption and diffusion of e-government. For instance, Ebrahim and Irani (2005) demonstrate that Information Technology (IT) infrastructure is the key barrier for e-government adoption. They recommended that e-government initiative must ensure that it has sufficient resources, adequate infrastructure, management support, capable IT staff, and effective IT training and support, as using technology only would not guarantee the success of e-government adoption. Bwalya (2009) states country's political will, the availability and strength of their human capital, the ICT infrastructure, and the presence of administrative priorities are factors affecting adoption and diffusion of e-government. Asianzu and Maiga (2012) identified awareness, accessibility, training, user support, local language, attitudes, education, compatibility, benefits and trust as factors affecting e-government adoption and diffusion. Abdel-Fattah (2014) identified seven factors that affect e-government adoption and diffusion in developing countries. According to her, these factors were group into three namely individual factors, governmental factors and service factors. The individual factors include compatibility, perceived ease of use, trustworthiness and awareness; the governmental factors include political issues and ICT infrastructure; and service factors include communication channels and service cost. Akbar (2015) found that the main factors that contribute to the diffusion of e-government include e- government implementation, trust issues, citizen attitude, employee training and corruption issues.

Based on the analysis of the literature, management support, employees' training, Implementation (service efficiency), trust Issues (trust in the internet and trust in government), citizens' attitude and belief, service cost and corruption issues are constructs that will be relied upon in this study.

2.4.1 Management Support

Alshehri and Drew (2010) explains management support as the dedication from top management to help provide a favourable environment that encourages accomplishment and use of e-government innovations. While Weng and Lin (2011) posits that management support can be measured by the degree at which an organization's management assist employees using a particular technology innovation or system. Weng and Lin (2011) further posits that the pivotal role played by the top management is to provide resources and formulate policies in a way that enhances the adoption of the new innovation and that the degree of resource allocation and effective management control affects the use of e government. Ahmer (2013) explains that new innovations should first try to change top management attitude and understanding of the system since they can influence others when they positively involve in the adoption process because they have control of the resources and can provide a favorable climate in order to implement a new technology.

2.4.2 Employee Training

Training is a strong element in the adoption of e government technology (Khanh, Trong & Gim, 2014). Training can positively affect the attitudes of employees toward adopting and using new technology for service delivery (Akbar, 2015). Talukder (2012) agrees with the idea by concluding that positive training creates positive change and transformation towards an innovation which increases adoption. He further explains that, if the right training and awareness are provided, it will reduce some of the obstacles that have the potential to slow down adoption and guarantees the necessary help to employees when they face difficulties in technology innovation use. He therefore concluded that, acceptance of innovation is highly influenced by the amount of training provided to employees since it promotes employees' attitude, awareness, skills and knowledge that increases better work performance (Talukder, 2012). Azeez *et al.* (2012) highlight that human capital development, which is employee's ability and training, is most central to the successful implementation of e-government in Nigeria.



2.4.3. E-government Implementation

Many studies have discussed the challenges for the successful implementation of e-government. Ndou (2004) discussed the challenges of e-government implementation including some factors related to the efficiency level. Basu (2004) argued that to achieve the level of efficiency and flexibility of the e-government was not going to be so easy for developing countries because building a strong infrastructure, providing a legal work and willingness of decentralizing responsibilities and processes would take time and may cost much more than expected. Ndou (2004) argues that more complexity means less efficiency. He found that e-government functions that are more complex present challenges to its implementation. Several studies discussed the challenges of implementing successful e-government generally. The argument in these studies is that e-government's successful implementation not only depends on government/management support, but citizens' readiness for accepting and adopting e-government services as also important for successful implementation (Rokhman, 2011).

2.4.4. Trust Issues (Trust in the internet and Trust in Government)

Trust in the internet (i.e. trust in the infrastructure) and the government agencies providing the service, are essential elements for e-government adoption (Belanger & Carter, 2008). Lee *et al* (2011) stated that e-government service adoption depends on business users' trust in internet technology. Suha and Morris (2008) argued that, faith in the internet is more likely to affect the adoption of e-government. Trust in e-government is define as the belief that governments will implement an e-government where issues of security and privacy are taken care of (Alomari Sandhu & Woods, 2010). They further argued that assurance of trust positively affects trust of internet and believes in e-government security and privacy which in turn influences intentions to use an e-government service. Some empirical studies have supported that relational characteristics such as trust in the institution who directly or indirectly provides new technology service positively influence users' adoption (Belanger & Carter, 2008; Lee *et al* 2011). Furthermore, it was also found that trust of internet, trust of e-government and its services are creating a barrier between using it or not (Al-Rashidi, 2010). Colesca (2009) also added that bad personal experiences, and news of large scale computerisation failures or inadequacies, may reinforce distrust or reduce a high level of trust in internet and in the agencies that use them. A study done by Nye (1997) shows that, low trust in government is associated with perceptions of inefficiency of the government, which means that as the e-government services increase efficiency, then citizens' trust of government increases.

Trust and risk perception are very strongly interrelated. Risk is an essential component of trust. Concern about the privacy aspects of personal information shared on the internet increases with the increasing level of internet experience. Government agencies must reassure citizens, through consistent and accurate service that their information is highly secured, as this is a significant predictor for e-government adoption (Carter & Berlanger, 2005).

2.4.5 Corruption

Many researchers study the corruption issue and its effect on e-government. One of the advantages of e-government is that it reduces the corruption level and it provides better services for the citizens. From the TAM model, corruption influences the perceived usefulness (PU) of an innovation because corruption degrades the effectiveness of government and hence the trust in government (Akbar, 2015). Sapanjeet and Kamalkant (2012) conducted a study about the impact of e-governance on corruption and argued that e-governance helps in reducing the corruption level and increasing the level of transparency, efficiency, and accountability for all services provided by government. Moreover, e-government helps in increasing transparency of the decision making process, since it



offers opportunities for citizens to provide their ideas and suggestions openly in online communities (Ndou, 2004).

2.4.6 Citizens' Attitude and Beliefs

Citizens' attitudes and beliefs toward e-government affect its diffusion (Amagoh, 2015). Negative attitude or dis-trust of government online services may affect citizens' intention to adopt the traditional method (face-to-face method) to interact with government rather than adopt e-government services, therefore affecting e-government diffusion negatively (Vassilakis, Lepouras, Fraser, Haston & Georgiadis, 2005). Persaud and Sehgal (2005) examined the attitudes and beliefs of citizens toward e-government in Canada. The study revealed that attitudes and beliefs are the most significant determinant of citizens' intention to use e-government. Moreover, Al-Hujran, Al-Debei, Chatfield and Migdadi (2015) examined the effect of citizens' attitude on using and adopting e-government through a survey conducted on 413 Jordanian citizens. The study improves and extends the Technology Acceptance Model through integrating some elements, such as political and cultural constructs. Results of the study showed that citizens attitude toward using e-government services significantly affect their intention to adopt and use e-government services. Citizens perceive the public value or usefulness and the ease of use, which influence their attitude toward using and adopting e-government.

2.4.7 Service Cost

To increase citizens' adoption for e-government, the cost of service should take a high priority, especially in developing countries (Abdel-Fattah, 2014). The cost and pricing structure may have a significant impact on consumers' technology use (Venkatesh, *et al.* 2012). For instance, there is evidence that the popularity of short messaging services (SMS) in China is due to the low service cost of SMS relative to other types of mobile internet applications (Chan, Gong, Xu & Thong, 2008). Therefore, low service cost of e-government services will lead to increase citizens' adoption of e-government whereas high cost of service of e-government will lead to decrease in citizens' adoption of e-government.

3. Conceptual Model

Based on the extensive theories and literature review, we developed a conceptual model that links diffusion of an innovation to individual adoption decisions. Our conceptual model also links the adoption decisions of an organization's employees to the adoption decision of that organization's customers. This is shown in Figure 1.

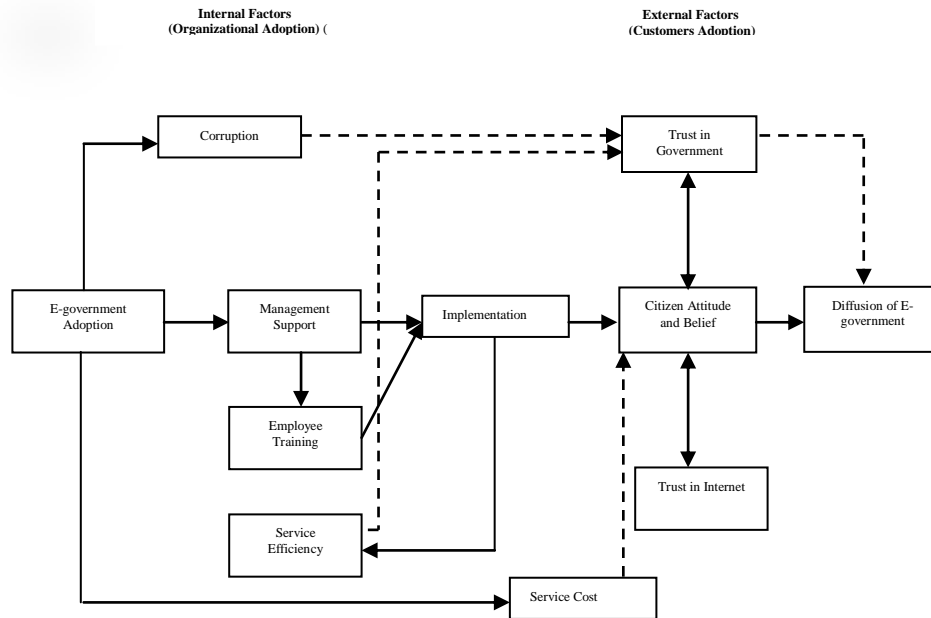


Figure 1: Conceptual Model

4. Methodology

This study utilizes qualitative research techniques in trying to critically examine the adoption and diffusion of e-governance innovation in Nigeria. The research is based solely on insights drawn from the analysis of the existing literature of different studies. The study will serve as a means to help acquire useful information or knowledge about the subject area. Conclusions and useful policy recommendations were made based on the extensive analysis of the literature.

5. Conclusion and Recommendations

The aim of this study is to examine the adoption and diffusion of e-government innovation in Nigeria. There are numerous theories and studies that seek to explain the factors that have profound effect on e-government adoption and diffusion. Particularly, most of these theories outline individual characteristics and behaviour for adopting new technology. Each study contributes to the substantial theoretical understanding of those influential factors. On the basis of the preceding analysis, it is evident that some factors, such as management support, service cost, and corruption issues, are not taken into consideration by earlier studies. Based on that a conceptual framework for the diffusion and adoption of e-governance innovations in Nigeria was developed.

Based on the analysis of the literature, the study recommends that e-governments should be citizen centric by prioritizing user needs and benchmarking of established marketing practices to create awareness of e-government services. The design of e-government services should be guided by technological developments and citizen's needs. In addition, in order to make the systems more attractive to the users, training should be given to employees as well as the users. The government should try to encourage the general public to utilize e-government services and attract their trust



through upgrading e-service providing systems, train and enhance citizens' awareness of such services, marketing and advertisement, so that citizens feel secure and at ease having access to useful services and user-friendly websites, which is followed by their increased satisfaction. E-government will only succeed when all who participate feel comfortable and develop mutual trust of using electronic means to carry out private and sensitive transactions. Finally, governments need to take cautious steps to ensure better reach and access to ICTs otherwise disparities in access will only increase problems of corruption and social and economic injustice. Thus, investments in ICT need to be integrated into broader development agendas in Nigeria.

Further to this research, the factors (both internal and external) that affect the adoption and diffusion of e-government have been proposed. They include management support, employees' training, Implementation (service efficiency), trust Issues (trust in the internet and trust in government), citizens' attitude and belief, service cost and corruption issues are constructs that was relied upon in this study. These factors need be empirically tested and validated in order to be of more use and value. It is for this reason that the next phase in this study should involve the testing of these factors by means of using appropriate data collection instruments that will be capable of investigating the constructs presented above.

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