The Behavioral Intention of Citizen of Nigeria on E-Government Service by Utilization of The Unified Theory of Acceptance and Use of Technology (UTAUT)

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Abstract

The government around the world is now using the electronic government as the modern way of providing service for their citizen. Hence, a number of studies have been investigated and explored the importance of information technology to transform delivery service by the government to their citizen, However, e-government implementation in Nigeria still lacking due to some reasons, such as inadequate of infrastructure and the participation of the citizen to use the e-government service. This is call for change and further study is needed to investigate the behavioral intention of a citizen to use e-government service in Nigeria. Furthermore, the Unified Theory of acceptance and Use of Technology (UTAUT) model is used in this paper as its best model to explore the behavioral intention and usage, and it is combined with eight theories and models of technology adoption or acceptance toward a unified view. Thus the current paper is conceptualized that citizens' behavioral intention to use e-government is expected to be influenced by the citizen. This paper contributes in two folds; practically and theoretically. Citizen is the main role of using e-government service, thus require attention. The social influence, facilitating condition, performance expectancy and Effort expectancy are expected to influence the behavioral intention to use the e-government service. Therefore, the findings will help the government to formulate policies that consider the citizen's intention to use e-government service. The conceptual paper compares only on the fundamental concepts and findings, thus calls for an empirical validation of the proposed framework.

Keywords: Behavioral intention; social influence; facilitating condition; performance expectancy; effort expectancy

■1.0 INTRODUCTION

The growth of information technology in the 20th century has changed the world and influenced the lifestyle of the people (Matavire, Chigona, Roode, Sewchurran, Davids, Mukudu, & Boamah 2010). Information technology (IT) has been improving the service quality in both developed and developing countries to use the advantage of information technology to interact with their citizen. Meanwhile, utilization of IT has lead government to used the electronic government or e-government as a fast way to deliver services to their citizen. According to the definition of e-government by Heeks (2008), the use of the Internet and World Wide Web for delivering governmental information and services to its citizens. It is regarded as an application of Information Communication and Technology (ICT) to governance processes and decision-making, in the way of provide opportunities for the citizens and communities to regularly receive information about government activities and to participate in decision-making by governments (Fonoudombeu & Rannyai, 2014).

The United Nations e-Government reports (2014) indicated that in regional ranking, Africa region was ranked lowest (0.2661) among the other regional that using e-government service around the world. United Nations e-Government reports (2014) found that the average score was 0.4712 reported as world median for a regional ranking score. Meanwhlie, Europe (0.6936) continues to lead with the highest regional United Nations e-Government reports, followed by the Americas (0.5074), Asia (0.4951), Oceania (0.4086) and finally Africa (0.2661). The report has revealed that e-Government service in Africa is lacking in term of implementation and the intention of the citizen to use the e-Government.

Heeks (2008) has been revealed that 35% of e-Government projects in developing countries are total failures, 50% are partial failures, while the remaining 15% are successes. In addition, Nkohkwo and Islam (2013) explained that African countries are lacking behind the implement and successful in e-government service. However, World Bank (2015) identified that most of Africa countries were categorized as developing countries, including Nigeria, which was ranked number 141 among 193 countries using the e - Government service in the world. The ranking shown that Nigeria is lacking to utilize the benefits of e-Government (Nkohkwo & Islam, 2013). Munyoka and Manzira (2013) stated that e-Government utility is low and failure rate is high, due to lack of good infrastructures, limited capacity, poorly trained personnel and various cultural factors that were made Africa countries behind the ranking index in world e-Government development.

Previous studies have been highlighted that there is limited study on e-government in Africa, including Nigeria. Nkohkwo and Islam (2013) investigated the challenges facing Africa on e-government by using published articles between 2001 to 2012. However, only 75 articles found that relevant to e-Government service in Africa while some countries were not adopted e-government rather than to have any article related to e-Government. Fonoudombeu and Rannyai (2014) carried out research on e-Government in Africa with the objective to enhance and improving the government delivery service to the citizens by using IT, the study used articles from 2002 to 2012. The both

authors Nkohkwo and Islam (2013) and Fonoudombeu and Rannyai (2014) conclude that e-Government in Africa is lacking and poorly on documented and the research, this lead to academia should look into e-government study in Africa continent for the future research. Therefore, Fonoudombeu and Rannyai (2014) shows that only 8% article related to e-government in Nigeria was found between 2002 to 2012. Therefore, this is show that more study is needed to investigate and explore on e-government in Nigeria. Numerous of studies have been done on e-government in Nigeria, where the research has identified issues of implementation, adoption, successful and others on e-government service in Nigeria (Adeyemo, 2011; Adeyeye & Aladesanmi, 2011; Ochara, 2012; Azeez, Abidoye, Adesina, Agbele, & Oyewole 2012). Thus, lacking of research to investigate and explore the intention to use e-government by citizens is missing in research in Nigeria as research is limited to study on citizen behavioral intention.

Studies are still needed on behavioral intention of the citizen on e-government as in practical level, there are many failed to develop citizen intention to use or acceptance of e-government service (Chatzoglou, Chatzoudes, & Symeonidis 2015). The aim of this paper is proposed to investigate the behavioral intention of the citizen through the utilization of e-government service in Nigeria to test the intention of the citizen. The researcher has been used different model and theory have been developed and tested to examine the user intention on a certain system or technology such as Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975); the Technology Acceptance Model (TAM) (Davis, 1989) and the Theory of Planned Behavior (TPB) (Ajzen, 1991). However, this study consider to use the Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) model to explain the behavior intention of the citizen of Nigeria on e-government service by adoptingvariables from the UTAUT model such as social influence, effort expectancy, facilitating condition and performance expectancy are utilized in this paper.

■2.0 BACKGROUND OF E-GOVERNMENT IN NIGERIA

World Bank (2015) defined developing countries as a countrywhich their national income per capita of less than US$11, 905, most of the Africa countries are categorized as developing countries, according to World Bank (2015), from the official government statistics released 6 April, 2014, indicated that Nigeria is the Lower-middle-income country which is categorized as developing country. World bank (2015) revealed that the total Population of Nigeria is 182,202,000, Million. The ethnic group in Nigeria, Africa's most populous country, is composed of more than 250 ethnic groups; the most populous and politically influential are: Hausa and the Fulani 29%, Yoruba 21%, Igbo (Ibo) 18%, Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5% (wordfactbook, 2016) languages English (official), Hausa, Yoruba, Igbo (Ibo), Fulani, over 500 additional indigenous languages. Only three Religion are practice in Nigeria including Muslim 50%, Christian 40%, indigenous beliefs 10%.

The introduction of e-government in Nigeria was aimed in 2000 during the third republic. The establishment and implementation came up in 2003 during the preceding olusegu obasajo (Asogwa, 2012). The activist was started by design the first government official website. The development of the website was strategies and only some agencies to participate and support build the website (Abdulkareem, 2015). The government continued to seek for strategies and policies on important infrastructure to make the continual usage by the government and the citizen of Nigeria. The main aim of the government is to implement the use of e-service among the government levels, department and agencies to communicate and interact with e-government. In 2003 government was set up the National information Technology Development Agency, (NITDA) under the Ministry of Science and Technology (MoST) to champion the advancement of the innovative technology in Nigeria and to implement the national IT policy. The NITDA was set up to manage the Nigerian e-government service with their responsibility to design the policy which could lead to successful implementation of e-government in Nigeria. The NITDA was introduced National e-Government Strategy Limited, (NeGSt), a Public-Private-Partnership (PPP) as a special purpose vehicle (Choudrie, Umeoji, &Forson 2012).

Adeyemo (2011) found that the essential point of utilization of e-government in the undertakings of the state is to advance great administration, which is defined as sharing in the vote based democracy, transparency, and responsibility in the different segment of the countries' economy. E-government developed on the premise of the upset in ICT which discovers expression in innovative technology, for example, mobile phone, computer, internet network and differences of electronic applications.in addition, Aneke (2013) watched that Nigeria government have tried and utilized many methods to support and improved the level of ICT in the country. The Nigeria's telecom and ICT are quickest developing and grow in Africa. The author facilitated that the nation needs to present e-government in all circles of the general public in order to ensure the productivity in government and the free stream of data from one department to another. Another stusy by Fatile (2012) stated that many countries have moved to utilize the technology to interact with the government departments, agencies, employees, citizens and business in order to improve the service delivery to the society.

Despite the effort of the government to implement the e-government service to their system, Nigeria still ranks as low among the other countries adopted the use of e-government in the world. As indicated by e-government development index ranking, Nigeria was ranked 141 out of 193 countries using e-government around the globe. Similarly, the Report from the Ministry of Communication Technology (2015) revealed that the use of mobile internet increase from 45 million to 72. Million between 2011 to 2014. Broadband and secretion as it 20011 was 95 million, while in 2014 was 134 million; Teledensity grew from 68 to 96 between 2011 to 2014. Internet participation from 26.5 to 52 percent between 2011 to 2014. The United Nations 2014 e-government development index reported that Nigeria human development was 152 out of 187 countries in Human development, the result show that the development of the human from the government to the citizen is very low compared to other countries while the Human Development Index at 0.381 which is below the requirement of human development index. (United Nations e-Government reports, 2014).

■3.0 LITERATURE REVIEW

This section has discussed about the behavioral intention as it is highlighted the factor that influence the intention of a citizen to use e-government service. The social influence, facilitating condition, performance expectancy and Effort expectancy are discussing as among of factor that influence the intention of a citizento use e-government service based on previous studies.

Behavioral Intention

Behavioral intention has gained interest in the research on e-government service as the way to examine and explore the citizen intention to use and the usage of the e-government service (Abubakar & Ahmad, 2013). Zhou (2008) stated that the factor affecting the user's intention to accept and use the technology is to test the users' behavior to use. Abubakar and Ahmad (2013) indicated that the use of behavior intention is popular in information technology research. "Extensions to the various models identified in previous research mostly enhance the predictive validity of the various models beyond the original specifications" (Venkatesh, et al., 2003).

Various studies have done and series of literature review have written on user intention and influential factors on behavioral intention. Lu, Cao, and Yang (2010) pointed out the Perceived risk and Perceived benefits as factors influence the user intention to use technology. The use of Service quality of model of e-government platform identify as factors attract user intention (Mardikyan, Beşiroğlu, & Uzmaya 2012). Du, Zhu, Zhao, and Lv (2012) came out with seven factors which are ease of use, enjoyment, price, security, income, gender and social factor as an effect on behavioral intention of users to using a system. All of those factors mention by previous studies has been explained as factors influence citizen to use egovernment serice which it has positive and negative effect totheir intention to use e-government service.

Finally, the UTAUT model has been shown different to other models that have been tested on information technology or information system in any area of study. UTAUT has been reported 70% of variance in usage intention measured than others original models which they have reported measured 40% of the variance of usage intention. This study used four direct and indirect variation or constructs from the UTAUT namely; Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. To investigate the intention of a citizen to use e-government in Nigeria.

Performance Expectancy

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 (Venkatesh, Morris, Davis, & Davis 2003). Taiwo and Downe (2013) stated that the use of the technology have highly advantage to the user as it will help them in their job. The systems enhance the user to get what they need quickly, which will motivate them to adopt the use of the system. However, Daniel (2015) explained that Performance expectancy is the level of the user sees the technology as usefulness to help their work and the user believe in the particular system will give a certain benefit when they utilized the system. The author revealed that performance expectancy increased the use of e-government as it has positively effect to get information and awareness which it will lead a benefit to citizens to use e-government service. In the conclusion stated that a citizen will use e-government when they perceived it as ease of use and influence their intention to use, learning and interact with the government website. In addition, AlKhatib (2013) point out that citizen has seen e-government help to interact and communicate with the government as the citizen believes online or government website is helpful and useful than a traditional system to provide service, as the e-government make the citizen access to what they need on time. This is ahows that Performance expectancy can influence the citizen to use the e-government service when the citizen seen that the use of the e-government will benefit them

EffortExpectancy

Effort expectancy refers to the degree of ease associated with the use of the system (Venkatesh *et al.* 2003). Taiwo and Downe (2013) explained that the effort of the use is to perceive the system as easy to use interact and get the benefit by using the system. Byun and Finnie (2011) argued that if the user perceived difficulties by using a system will lead to uninteresting to use the system or to adopt any kind of system which can give a problem to the user. This also related to the e-government service, when the citizen perceived any difficult to use the government website it will lead to discouragement to use the website. Daniel (2015) concluded that Effort expectancy is the stage where the user will perceive the system or particular technology as easy to use or it is difficult to interact when the user is utilizing the system or technology. The authors explain further effort expectancy is important when the government website is designed to encourage the user to get information about the government on their website. The citizen is avoiding using e-government when they see it as difficult in term of access website. AlKhatib (2013) reveal from the study that understanding the e-government from the citizen will lead to clarity of the website to continuous use by the citizen which theyaccess the information online.

Facilitating Conditions

Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exist to support the use of the System (Venkatesh *et al.* 2003). In addition, Daniel (2015) explains the user to use the certain system when they perceived that everything about the system is available both technically and organizing support. Voutinioti (2013) revealed that Facilitating conditions was siginificant influence the intention of citizen to use e-government service when the information needed by the citizen is accessible and provided by the government. Therefore, the findings from UTAUT model suggest that validation of Facilitating conditions was was significant in both behavioral intention and usage by the user.

Social Influence

Taiwo and Downe (2013) social influence may affect the user of the system through the other people as they motivate him/her to utilize the system by explaining the benefit and the important to use a certain system before he/she can use the system. Social influence is affecting the plan of the citizen to use the e-government service if other users perceive the importance of the service as influential to their decision to use e-government. These kinds of decision can be influenced by the member of the family friend and colleagues who will lead to a positive and negative effect of e-government (Daniel, 2015). Social influence may influence the citizen when they see other people using e-government

as they benefit from it. To explain the issue in e-government related to social influence, government website should design in the way citizens can be beneficial and perceived good experience in order to motivate them for continuing use (Taiwo & Downe, 2013)

■4.0 THE UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT)

The use of the UTAUT model has been used in a variety of fields of research, a series of research context and for different sitting such as intention, adoption, implementation, and acceptance. It has been used to test the technological innovation (Curtis, Edwards, Fraser, Gudelsky, Holmquist, Thornton, & Sweetser 2010); Im, Hong & Kang, 2011). The use of UTAUT has been tested and provided theory understanding the influential factors on technology acceptance and intention of the user in severalfields of research (Daniel, 2015). UTAUT have been used to study e-government in a different context, setting and national field of research on adoption, intention and acceptance of e-government either by the citizen, business or an employee (Ahmad, Markkula & Oivo, 2013; Almahroqi, 2012).

The UTAUT is a unified model that was developed by Vankatesh et al (2003) was to combine the eight models and theories which have been used by the researcher to test the utilization of technology by the human being. The UTAUT has been used to integrate it with a different model and theory on which is related to adoption and acceptance of technology or to test the behavior of a new user to utilize the new system (AlKhatib, 2013). This model and theory being tested such as Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Motivational Model (MM), combined TAM-TPB, Model of PC Utilization (MPCU), Diffusion of Innovation (DOI) and Social Cognitive Theory (SCT) (Al-Shafi, Weerakkody & Janssen, 2009& Daniel,2015).

Recently, the use of UTAUT has gained stand and become an interesting model in the government service which is the availability of electronic and internet government through the government official website to provide the information and accessibility about the government as well as a means to communicate between the citizen and the employee or business. Therefore, UTAUT has been tested in different countries on e-government service both developed and developing countries. Such as Pakistan (Ahmad et al., 2013) the study done on e-government by using UTAUT model show that performance expectations, effort expectancy, social influence and facilitating conditions are signifying to explain the e-government using the UTAUT model. Daniel (2015) explained the factor that has influenced the use of e-government in New Guinea. Citizen belief that e-government save time, cost and communicate with the government and the effort to get availability information about the government. Voutinioti (2013) carried out a study in Greece and used UTAUT as a model in this paper. The author explained the intention of the citizen by communicating with the government through online was perceived as in trust and insecure for them to use e-government. In concluded, the citizens will use e-government when the governments reduce and strategies the law and policy of the user to use e-government service which is lead or make citizen avoid the use of online delivery service by the government.

Venkatesh *et al.* (2003) in their study came out with four variable (Performance Expectancy', 'Effort Expectancy', 'Social Influence', and 'Facilitating Conditions) and UTAUT posits the role of four key moderator variables (Age, Gender, Experience, and Voluntariness of use) to study either behavioral intention or usage of user as dependent variables (Voutinioti, 2013). The use of the UTAUT model has been utilized in a different field or area of study as it was mentioned in the previous section. Henceforth, the following research framework is put forward (Figure 1).
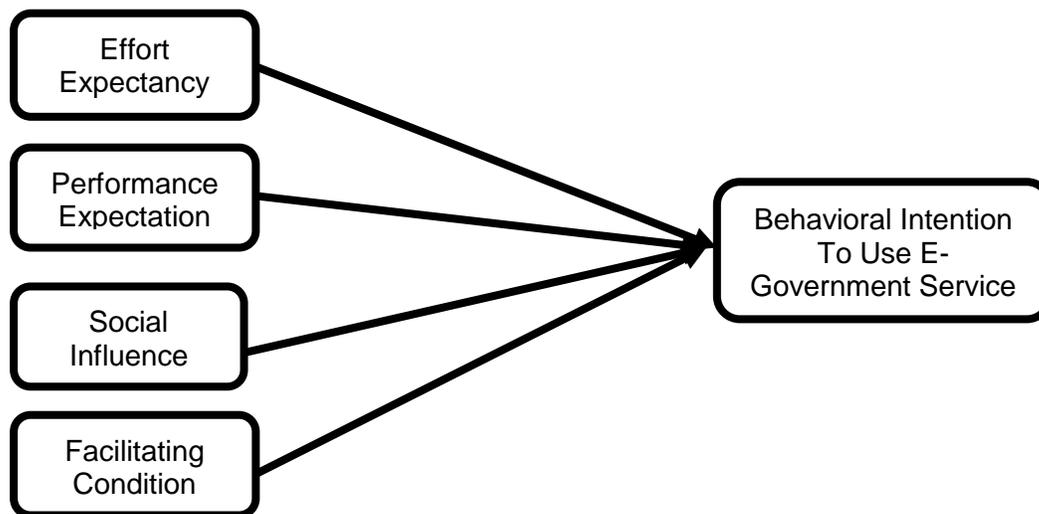

Figure 1 The proposed research framework

Interestingly, Abubakar and Ahmad (2014) stated that to determine to use the new system may influence by the individual friends, a group of people or society through the motivate each other to use the kind of system. Chiemeke and Evwiekpaefe (2011) relates that the understanding of the citizen to use the new technology such as e-government, the citizen may perceive the system as a difficult to use, which can change their intention to use the system and it may not add or help their performance. Similarly, Abubakar (2015) found that the citizens have intended to use the new technology, but the problem that they are facing is the awareness about the information on the new system or technology that they introduce to them. Biola and Dan (2012) argued that the behaviors of the citizens of Nigeria get their information and awareness from the others, which has influenced the attitude and their behavior or perception on a certain system or technology as it

influenced by friends and family, religious leaders and politicians and celebrities. The behaviors of the citizens have led to the influential on television, radio, internet, social media and print media (Abubakar & Ahmad, 2013).

Finally, the use of e-government to change the method of delivery service to the citizen and back the interaction can be connected with the lack of adequacy of information that can motivate the intention of the citizen to use the e-government and perceived the benefit. Abubakar (2015) concluded that lack of adequate of infrastructure to make the system to function, has to do with the intention of the citizen to use as their lack of infrastructural support (Mundy and Musa, 2010). To make the e-government function and motivate the citizen to participate, the fear of uncertainty about the performance of the technology as well as the need of effort and influence of people who are important to change the intention to perceive the benefit of e-government. Therefore, the significant to justify the theories that UTAUT constructs; Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions have correlated to e-government in the Nigerian context, thus this study conceptualized that they are factors that influence the behavioral intention to use the e-government and its adoption of technology was addressed through the use of UTAUT model.

■5.0 CONCLUSION

It has been understood that the use of UTAUT is inline in the area of the information system and information technology have gained standing in recent years especially in e-government service. Furthermore, UTAUT has strongly formulated the eight models and theory by combining them together to become the UTAUT theory of technology. Although, UTAUT is used in this paper to investigate the behavioral intention of a citizen to use the e-government in Nigeria.The study shows that social influence has a strong impact on the intention of the citizen to participate and use the e-government service. In order for the government to make the citizen use the e-government service, the government should understand the factors that can influence the intention of the citizen to use the service by providing what the citizen need to address their behavioral intention to use the e-government service which will help the government to see the issues and challenges the citizens were faced and avoiding to participating in e-government in Nigeria

This paper suggests and recommends that the Nigeria government should improve the awareness of the e-government within the citizen, meanwhile a citizen can influence citizen if they have awareness and knowing the benefit of utilizing the e-government. The digital divide is another issue that the study can suggested to the government to try to fill the gap of the internet issue and the computer because not all the houses have access to the computer. The government has to provide the training center for those citizens that wish to know about the e-government, so that they can know where to learn how to interact and communicate with the government. The future research can look at the culture and awareness as moderator on the intention of a citizen to use e-government service in Nigeria

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