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The Influence of Perceived Usefulness and Perceived Ease of Use on the Continuous Intention to Use Electronic Collection System in Nigerian Hospitals: A Conceptual Approach

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Abstract *The use of electronic system in organizations is a commonplace phenomenon in both public and private organizations around the globe. However, previous studies have shown that, electronic systems and information technology in public sector organizations of developing countries are not been adopted and used. In Nigeria, a new system – electronic collection system was introduced in federal hospitals to replace the traditional cash collections. It main purpose is to keep track cash collections and serve as an effective tool for internal control purposes. Therefore, this study proposes a conceptual framework based on two factors (perceived usefulness and perceived ease of use) with a view to investigate the influence of the aforementioned factors on the continuous intention of the hospitals employees to use systems. The conceptual framework is an extraction from the Technology Acceptance Model (TAM) and is expected to provide an insight in explaining the influence of these two factors on the employees' continuous intention in using the system. Finally, it is projected that future empirical studies with this framework can enhance the understanding of Nigerian public sector employees' behavior on technology use.*

Keywords: Behavioral Intention, Computerized System, Electronic Collection System, Perceived Ease of Use, Perceived Usefulness, Technology Acceptance Model.

INTRODUCTION

The use of electronic systems to simplify work processes and operations has affected almost all facets of human endeavors around the globe. As a result, computerized information systems are increasingly been embraced by technology-minded organizations to simplify routine operations and enhance organizational performance (Alsharayri, 2012). As such, electronic systems are continuously been adopted and used in both private and public organizations with a view to facilitate organizational efficiency (Asogwa, 2013). In previous years, information system researchers have given considerable attention to this area which later led to the development of technology acceptance and information system success models to determine and assess the factors that influence acceptance, adoption and use of technology (Wang & Meister, 2011). It is in line with this development that various governments around the globe adopt the use of electronic systems in delivering public services to their citizens popularly known as electronic government (Lee, Hwang, & Choi, 2012). Electronic collection system (e-collection) is one of such e-government platform that was recently introduced by public owned hospitals in Nigeria for cash collection purposes. It is a sub-system within the Accounting Information System (AIS) of federal hospitals designed to increase the efficiency of cash collection from patients for all services rendered. Electronic collection system was introduced in 2015 and purposely designed to monitor and safeguard hospitals' cash resources from theft, embezzlement, fraud and misappropriation by employees in charge (Akande, 2015). In other words, the system serves as a strong internal control system within the revenue cycle of Nigerian hospitals accounting system. Additionally, the new system is capable of generating accurate and timely financial reports which are vital to the hospital administrators for informed decision making. Therefore, the merit of e-collection system could not be overemphasized in fostering internal controls, accountability and overall performance of hospitals. Despite the fact that Nigerian federal hospitals are at the forefront in adopting e-collection system to reap its inherent benefits, however, it is on records that employees in public health sector organizations are reluctant and persistently resistant to technology acceptance and use in the workplace (Bello, Arogundade, Sunusi, Ezeoma, Abioye-Kuteyi, & Akinsola, 2004; Asangansi, Adejoro, Farri, & Makinde 2008; Oyegoke, 2013).

In view of the continuous resistance attitude of some individuals to use new systems, previous studies in technology acceptance and information system models have dwelled and assessed several factors that could influence individuals' intention to accept and use new technology at both personal life and in the work place (Lee, Hwang, & Choi,

2012). For instance, perceived usefulness was found to have strong influence on user intention to accept and use technology (Sharma, & Yadav; Sambasivan, Patrick, & Rose, 2010; Tella, & Olasina, 2014; Diatmika, Irianto, & Baridwan, 2011). Similarly, perceived ease of use had also been a factor that strongly influences behavioral intention to use new system or technology (Terzis & Economides, 2011; Guritno & Siringoringo, 2013; Suki & Suki, 2011; Chow, Herold, Choo, & Chan, 2012; Nasri & Charfeddine, 2012). However, most of these studies were carried out under voluntary discretion and in private life use, but this paper intend to provide a conceptual framework for public sector organization's applicability under mandatory usage among employees. Therefore, the aim of this paper is to propose a conceptual framework base on Technology Acceptance Model (TAM) to investigate the extent of influence of each factor on individual user (employee) continuous intention to use the newly e-collection system in Nigerian federal hospitals.

Literature review

Technology Acceptance Model

Information system models were mainly developed to focus on examining the determinants of technology acceptance and use or evaluating system satisfaction for either organizations or individuals. One of such models that have been widely used is the Technology Acceptance Model (TAM) which was developed by Davis (1989). Technology Acceptance Model is among the most influential IS models that help in understanding individual intention in technology acceptance. The model is an extension of Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) of Azjen (1985). In TRA individual's behavioral intention is believed to be determined by two things: attitude toward behavior and subjective norm. However, an extension was made in TPB to include a variable called 'perceived behavioral control' as a determinant of individual use intention. The link between attitude-intention-behavior was used to formulate TAM. According to TAM, the two important independent variables that influence individual's behavioral intention to use a new system is perceived usefulness and perceived ease of use. In other words, the underlying belief in TAM is that, individual intention to use a technology or system is dependent on how useful the user perceived the system to be and it simplicity in terms of operation. Furthermore, TAM explains that behavioral intention is determined by attitude toward technology use which is also been determined by the two external variables of perceived usefulness and perceived ease of use. This relationship can be better understood by looking at the original TAM in Figure 1.

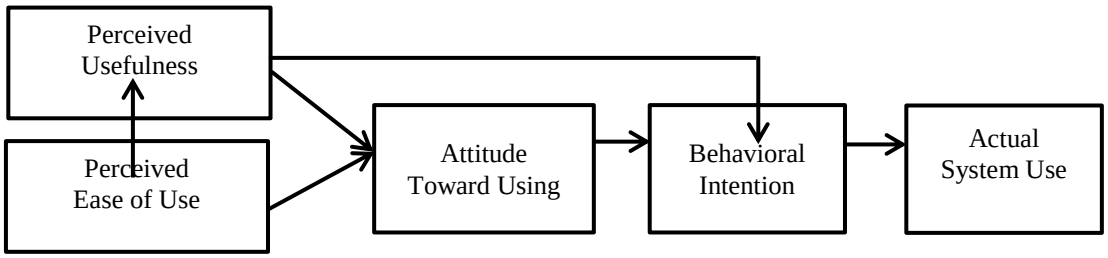

Figure 1: Technology Acceptance Model (TAM) - Source: Davis (1989)

Despite the fact that TAM has been extensively used in several researches across the globe and in different field of studies, still it can be adopted, replicated or extended to suit the context of a study (Abbasi, Shah, Doudpota, Channa, & Kandhro, 2013). It is for this reason that this research paper proposes TAM with some little modifications (removal of 'attitude toward using' and 'actual system use') with a view to investigate the relative influence of the independent variables (perceived usefulness, perceived ease of use) on the continuous intention to use e-collection system in Nigerian federal hospitals.

Conceptual Framework and Propositions

Based on the literature review, it was observed that perceived usefulness and perceived ease of use were used in related studies in the past for determining the behavioural intention of system or technology use among individuals. In view of that, the conceptual framework of this study was developed from the Technology Acceptance Model (TAM) as shown on Figure 2.

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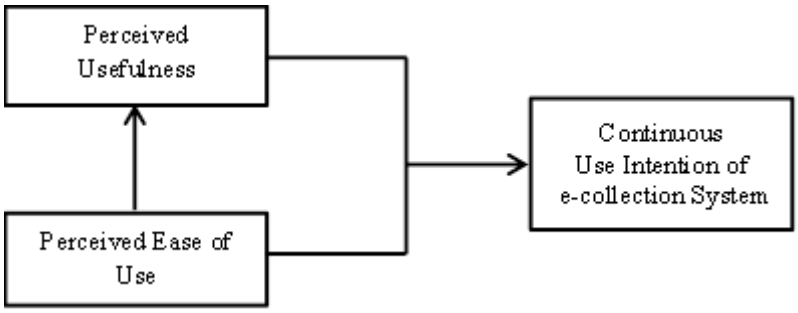

Figure 2: Proposed Conceptual Model

Perceived Usefulness

Perceived usefulness is the degree to which a user of technology or information system believes that it will enhance his or her performance on the job (Davis, 1987). In other words, it is the extent to which users of a system are optimistic that their productivity and effectiveness in their work could be improved through the use of the system (Rouibah & Abbas, 2006; Mou, Shin, & Cohen, 2016). Therefore, users' intention is determine by the perception of usefulness they have on the system (Sharma & Yadav, 2010). Also, several scholars have found that perceived usefulness has a significant and strong influence on individual's behavioral intention to use a new technology or system. For instance, the study on e-procurement in developing countries reveals that perceived usefulness has significant influence on the behavioral intention to use e-procurement system in the public sector institutions (Gamal, 2010; Sambasivan et al., 2010). Similarly, it was found in another study that behavioral intention to use electronic payment among bank customers was influenced by its perceived usefulness in banking transactions (Tella & Olasina, 2014). Also, the findings of Diatmika et al. (2016) revealed that perceived usefulness is a factor that influences behavioral intention in most of the organizations that have adopted Accounting Information System (AIS). Therefore, perceived usefulness is deemed to be examined to investigate its significant influence on behavioral intention to use e-collection system in Nigerian federal hospitals and this study proposes the below proposition:

Proposition 1*: Perceived usefulness positively influences the behavioral intention to use e-collection system in Nigerian federal hospitals.*

Perceived Ease of Use

Perceived ease of use is the extent to which a system user believed that the use of that system would be free from effort (Davis, 1989). In simple term, perceived ease of use means that the user perceived that the system is very simple to use. Therefore, it is believed that users' behavioral intention increases when system is not difficult to use. In relation to this, several studies were conducted with a view to finding the significant influence of perceived ease of use on electronic system use. For example, the study that was conducted on the use of Computer Based Assessment (CBA) system among undergraduate students shows that perceived ease of use significantly influences behavioral intention to use the system (Terzis & Economides, 2011). In a similar study, perceived ease of use was found to have a direct effect on user intention for electronic air-ticketing (Guritno & Siringoringo, 2013). In addition, research on the use of 3G mobile service found that perceived ease of use influences behavioral intention among smartphone users in Malaysia (Suki & Suki, 2011). However, other scholars uphold that perceived ease of use does not have direct significant influence on user intention but only indirectly through perceived usefulness (Chow et al., 2012; Nasri & Charfeddine, 2012). In other words, according to their findings, the perception of an information system's user that a given system is simple to use does not guarantee the direct likelihood of its influence on behavioral intention to use, unless if the user is aware of its usefulness. It is on this background that this study proposes a relationship to find out the significant influence of perceived ease of use on behavioral intention to use e-collection system in Nigerian federal hospitals based on following proposition:

Proposition 2: *Perceived ease of use positively influences the behavioral intention to use e-collection system in Nigerian federal hospitals.*

Proposition 3: *Perceived usefulness mediates the relationship between perceived ease of use and behavioral intention to use e-collection system in Nigerian federal hospitals.*

PROPOSED method

It is recommended that future empirical studies on the proposed framework can use survey research design. Preferably, the unit of analysis should be individual because TAM was originally developed to assess the behavior of individual users of technology. In addition, questionnaire instrument would be appropriate for data collection from the target respondents which comprise of e-collection users (employees) of the federal hospitals working in Account and Finance, Audit and IT departments.

There are 55 federal hospitals across the country comprising of three distinct types: Federal University Teaching Hospitals, Federal Medical Centers and Federal Specialty Hospital. Since the type of hospitals are heterogeneous stratified simple random sampling technique is deemed appropriate in selecting the most appropriate sample size for fair representation and generalizations. Table 1 below present the overview of the number and types of federal hospitals in Nigeria.

Table 1: Category and corresponding number of hospitals

Type of Hospital	Number of Hospital
Federal University Teaching Hospital	21
Federal Medical Centre	21
Federal Specialist Hospitals	13
Total Number of Hospitals	**55**

Conclusion

This paper proposes a conceptual framework to investigate the influence of perceived usefulness and perceived ease of use on the continuous use intention to use e-collection system in Nigerian federal hospitals. Theoretically, this study will enhance the existing body of knowledge by adopting TAM variables in an entirely new type of information system (e-collection system). Also, the study is proposed to focus on testing this framework in a mandatory environment where system use is either at a trail stage or compulsory to use. Therefore, this work will contribute to information system studies by offering an initial understanding and knowledge of the influence of these two prominent constructs (perceived usefulness and perceived ease of use) on the behavioral intention of employees towards technology use in government mandatory use environment. In practical application, this conceptual paper would be a guide for researchers to conduct further empirical investigations on the relationships that were depicted on the conceptual model which is strongly believed that, if conducted, the empirical findings will greatly assist the federal government to have an insight on the continuous intention of public health employees toward the use of new technology in the workplace and in particular – electronic collection system.

References

Abbasi, M. S., Shah, F., Doudpota, S. M., Channa, N., & Kandhro, S. (2013). Theories and Models of Technology Acceptance Behavior: A Critical Review of Literature. *Sindh University Research Journal (Science Series) 45*(1), 163-170.

Akande, L. (2015). Buhari orders federal ministries, agencies to open treasury single account. Premium Times. Retrieved on (23/08/2015) from http://www.premiumtimesng.com

Alsharayri, M. (2012). Evaluating the Performance of Accounting Information Systems in Jordanian Private Hospitals. *Journal of Social Sciences 8(1)*, 74-78.

Asangansi, I. E., Adejoro, O. O., Farri, O., & Makinde, O. (2008). Computer use among doctors in Africa: Survey of trainees in a Nigerian teaching hospital. *Journal of Health informatics in developing countries 2*(1), 10-14.

Asogwa, B. E. (2013). Electronic government as a paradigm shift for efficient public services: Opportunities and challenges for Nigerian government. *Library Hi Tech 31*(1), 141-159.

Bello, I. S., Arogundade, F. A., Sunusi, A. A., Ezeoma, I. T., Abioye-Kuteyi, E. A, & Akinsola, A. (2004). Knowledge and utilization of information technology among healthcare professionals and students in Ile-Ife, Nigeria: a case study of university teaching hospital. *Journal of Medical Internet Research 6* (4), e45

Chow, M., Herold, D. K., Choo, T. M., & Chan, K. (2012). Extending the technology acceptance model to explore the intention to use second life for enhancing healthcare education. *Computers & Education 59*(4), 1136-1144.

Diatmika, I. W. B., Irianto, G., & Baridwan, Z. (2016). Determinants of Behavior Intention of AIS Based Information Technology Acceptance. *Imperial Journal of Interdisciplinary Research 2*(8), 125-138.

F. D Davis, Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly 13(3), 319-340 (1989).

Gamal, A. M. (2010). Predicting e-procurement adoption in a developing country: an empirical integration of technology acceptance model and theory of planned behaviour. *Industrial Management & Data Systems*, *110*(3), 392-414.

Guritno, S., & Siringoringo, H. (2013). Perceived usefulness, ease of use, and attitude towards online shopping usefulness towards online airlines ticket purchase. *Procedia-Social and Behavioral Sciences 81*, 212-216.

I. Ajzen, *From intentions to actions: A theory of planned behavior* (Springer, Berlin, 1985).

Lee, S. M., Hwang, T., & Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decision 50*(1), 147-162.

Mou, J., Shin, D. H., & Cohen, J. (2017). Understanding trust and perceived usefulness in the consumer acceptance of an e-service: A longitudinal investigation. *Behavior & Information Technology 6*,125-129.

Nasri, W., & Charfeddine, L., (2012). Factors affecting the adoption of internet banking in Tunisia: an integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research 23*(1), 1-14.

Oyegoke, L. (2013). *Adoption and Utilization of ICT in Nigeria Hospitals (Government owned)* (Unpublished Bachelor's Thesis). HAAGA HELIA University of Applied Sciences, Finland.

Rouibah, K., & Abbas, H. A (2006). Modified technology acceptance model for camera mobile phone adoption: development and validation. *ACIS 2006 Proceedings*, Paper 13.

Sambasivan, M., Patrick, G. W., & Rose, R. C. (2010). User acceptance of a G2B system: A case of electronic procurement system in Malaysia. *Internet Research 20*(2), 169-187.

Sharma, D., & Yadav, D. R. (2011). An Empirical Study on Tax Payer's Attitude towards E-Return Filing in India. *International Journal of Research in Computer application and Management 1*(6), 20-24.

Suki, N. M., & Suki, N. M, (2011). Exploring the relationship between perceived usefulness, perceived ease of use, perceived enjoyment, attitude and subscribers' intention towards using 3G mobile services. *Journal of Information Technology Management 22*(1), 1-7.

Tella, A. & Olasina, G. (2014). Predicting users' continuance intention toward e-payment system: An extension of TAM. *International Journal of Information Systems and Social Change 5*(1), 47-67.

Terzis, V., & Economides, A. A. (2011). The acceptance and use of computer based assessment. *Computers & Education 56*(4), 1032-1044.

Wang, Y., & Meister, D. (2012). Re-examining relative advantage and perceived usefulness: An Empirical Study. Learning Tools and Teaching Approaches through ICT Advancements. *International Journal of Information and Communication Technology Education 7*(1), 46-59.

Yaqub, J., Bello, H. T., Adenuga, I. A., & Ogundeji, M. O (2013). The cashless policy in Nigeria: Prospects and challenges. *International Journal of Humanities and Social Science 3*(3), 200-212.