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A CONCEPTUAL FRAMEWORK ON THE INFLUENCE OF PERCEIVED USEFULNESS, PERCEIVED EASE USE AND COMPUTER SELF- EFFICACY ON THE INTENTION TO USE ELECTRONIC COLLECTION SYSTEM IN NIGERIAN FEDERAL HOSPITALS

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ABSTRACT

Electronic collection system is a computerized revenue collection system specially designed to handle cash collections from patients in Nigerian federal hospitals. It was created purposely to enhance the efficiency of revenue collections through the use of technology and at the same time block all leakages and corruption that are rampant within the revenue cycles of the Nigerian public sector institutions. Therefore, this paper proposes a conceptual framework to investigate and understand the factors that could influence the use intention of electronic collection system among employees of the Nigerian federal hospitals. To achieve this objective, the paper proposes to use the two main variables of Technology Acceptance Model (TAM) – Perceived Usefulness and Perceived Ease of Use. Additionally, the model was extended to incorporate Computer Self-efficacy construct with a view to provide additional explanation to the model. It is expected that the proposed model would be empirically tested by future researchers to provide an insight on the factors that influence e-collection use intention in Nigerian federal hospitals so that government and hospital administrators can develop effective ways through which it usage could be inspired and encouraged in the minds of hospitals' employees that work with the system.

Keywords: Behavioral Intention, Perceived Usefulness, Perceived Ease of Use, Computer Self-efficacy, E-collection, Technology Acceptance Model.

INTRODUCTION

Information and Communication Technology (ICT) is playing significant role in enhancing the routine operations and strategic decision making in organizations. For this reason, both public and private institutions employ the use of electronic systems to facilitate organizational efficiency in their respective domains. It is in line with this development that various governments around the globe engage the use of electronic government (e-government) system in delivering public services to citizens (Lee, Hwang & Choi 2012). In line with this, federal hospitals in Nigeria started to adopte-collection system as an e-governance platform solely for revenue collection purposes. It is a system in which money (cash) for services rendered are paid (by the patients) directly to a designated bank account or through the use of electronic platforms such as electronic payment (e-payment) system. In this case, cash are no longer allowed to be paid at the cash pay points of the hospitals and

therefore, employees in charge of revenue collection are totally disengaged from cash receipts collections.

Electronic collection (e-collection) system is a computerized revenue collection system that is purposely aimed at enhancing the efficiency of revenue collections through the means of modern electronic systems so that all cash leakages and fund shortfalls within the public sector organizations in Nigeria could be blocked (Akande, 2015).Additionally, e-collection system is a subsystem of Accounting Information System (AIS) dedicated to handle the revenue cycle of hospitals. As a whole, the e-collection system integrates invoices; revenue received records and generates daily financial reports for all funds due in respect of the hospitals.

Furthermore, e-collection system has the advantage of ensuring efficiency in revenue collection and providing the convenience (for other organizations that pay hospital services on behalf their staff) to make online payments to a hospital's designated bank account. As such, e-collection system is a tool that improves revenue generation through the use of technology which will thereby blocks all leakages that could exist within the revenue cycle. In view of this advantage, several federal hospitals in Nigeria started using e-collection system as an effective tool for revenue collection.

However, despite the introduction of this modern technology in the hospitals, it is on record that the behaviour of public sector employees' attitude toward system use is not encouraging as much of them are not willing to embrace new technology in the workplace (Oyegoke, 2013). Accordingly, previous studies on technology use and acceptance have identified several factors that could influence individual behavioural intention to use a particular system or technology. It was found that Perceived Usefulness of the system (Sharma & Yadav, 2011; Sambasivan, Patrick, & Rose, 2010; Tella & Olasina, 2014;Diatmika, Irianto, & Baridwan, 2016), Perceived Ease of Use (Terzis, & Economides, 2011; Guritno, & Siringoringo, 2013; Suki, & Suki, 2011; Chow, Herold, Choo, & Chan, 2012; Nasri, & Charfeddine, 2012) Computer Self-efficacy (John, 2013; Ariff, Min, Zakuan, Ishak, & Ismail, 2013;) Technology Readiness (Kuo, Liu, & Ma, 2013; Son, & Han, 2011; Walczuch, Lemmink, & Streukens, 2007; Liljander, Gillberg, Gummerus, & Van Riel, 2006), Facilitating Conditions (Lu, Lu, Yu, & Yao, 2014; Wong, Russo, & McDowall; 2013; Alrawashdeh, Muhairat, & Alqatawnah, 2012; Teo, 2010) are factors that influence user intention to use a system or technology.

Furthermore, the most widely information system (IS) model that is being used by researchers in technology acceptance studies is the Technology Acceptance Model (TAM)developed by Davis (1989).According to this model, the two important independent variables that could influence individual's behavioral intention to use a system or technology are perceived usefulness and perceived ease of use. Based on this, the current paper is aimed at investigating the employees' behavioral intention to use e-collection system in the performance of their job tasks in Nigerian federal hospitals. In addition, previous studies have established that computer self-efficacy is also a determinant that influences system use among individuals and as such, this paper proposes the conceptualization and incorporation of this variable into Technology Acceptance Model.

THE CONCEPTUAL FRAMEWORK

Different models were developed by various scholars to investigate individual's behavioral intention to adopt or use a new technology. These include Theory of Reason Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DIT), Technology Readiness (TR) and Unified Theory of Technology Acceptance and Use of Technology (UTAUT) to mention among others. In all the aforementioned models, TAM has been found to best explain individual attitude toward the use of new technology (Legris, Ingham, & Collerette 2003). This is due to its popularity among IS researchers, empirical support and dominance in IS studies (Wang & Butler, 2006). The original TAM developed by Davis (1989) depicted in Fig. 1 was constructed with a postulation that usage of a system is strongly determined by user's belief on its Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

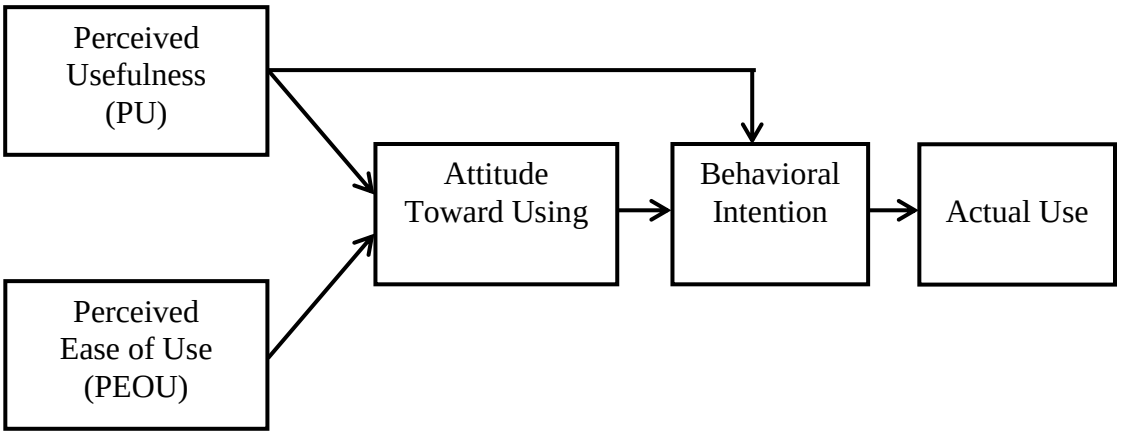

Fig. 1: Technology Acceptance Model (TAM) - Davis (1989)

Perceived usefulness is the degree to which a user of technology or information system believes that the system will enhance his or her performance on the job and perceived ease of use is defined as the degree to which an individual believes that using a particular system is free from effort (Davis, 1989). These two constructs were construed by the original TAM to investigate individual intention toward the use of new system. Nevertheless, TAM has been modified and extended by many researchers (Sharma & Yadav, 2011) in accordance with the purpose and context of a given study. In other words, some IS researchers have added other variables to the model to enable them test relationships that will further explain more so as to enable them arrive at valid conclusions within the context of their studies.

It is in view of the above that this study finds it important to extend the original TAM with a variable named 'Computer Self-efficacy' (CSE). It is worthy to know that computer self-efficacy construct has been used in IS researches to elucidate user perception on his/her ability to use computer in the performance and accomplishment of job tasks (Compeau & Hinggins, 1995). In addition, CSE has been found in previous studies as a factor that influence information system's usage in individuals (John 2013; Ariff, Min, Zakuan, Ishak, & Ismail 2013; Cassidy & Eachus, 2002). In this regard, this study finds CSE as an appropriate factor to use in examining its influence on employees' intention towards the use of e-

collection in Nigerian federal hospitals. The conceptual framework of this study is shown in Fig. 2 below.

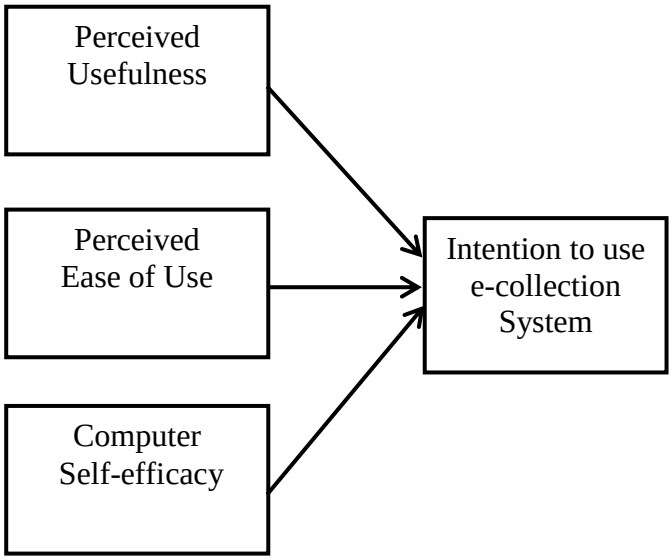

Fig. 2: Conceptual framework of the study

Perceived Usefulness

According to Davis (1989) perceived usefulness is the degree to which a user of technology or information system believes that the system will enhance his or her performance on the job. Therefore, if a system user perceived the usefulness of e-collection system, there is a high possibility of patronizing it (Sharma &Yadav, 2011). In addition, prior studies have found direct effect of PU on behavioral intention in the use of online systems (Park Nam, & Cha (2012). Similarly, Tella and Olasina (2014) have found that PU has a significant influence on electronic payment system continuance usage in Nigeria. A similar finding of Oni and Ayo (2010) on its effects on electronic banking use among bank customers had also shown a positive result. Therefore, PU is an appropriate variable that could be examined to see its significant influence on intention to use e-collection system in Nigerian federal hospitals. In view of this, the study postulates the following hypothesis:

H1: Perceived usefulness significantly influences the intention to use electronic collection system among system users in Nigerian federal hospitals.

Perceived Ease of Use

Perceived ease of use is the degree to which a user or potential user of a system beliefs that the use of a system to perform a task is free from effort (Davis, 1989). In other words, the system is very simple to use. Therefore, the perception of user that the system is not difficult to use will probably influence his or her use intention. In relation to this, several studies were conducted with a view to finding the significant influence of PEOU on electronic system use. For example, Terzis and Economides (2011) have found that PEOU significantly influences intention to use Computer Based Assessment (CBA) system among undergraduate students. In a similar study, PEOU was found to have a direct effect on user intention for electronic air-ticketing. The above two findings are in consonance with the work of Suki and Suki (2011) that studied on use intention of 3G mobile in Malaysia. However, other studies (Yaghoubi,

2010; Chow, Herold & Chan, 2012; Nasri & Charfeddine, 2012) uphold that PEOU does not have direct significant influence on user intention but only indirectly through PU. It is against this background that this study intends to find out the significant influence of PEOU on the intention to use e-collection system among system users in Nigeria federal hospitals. Therefore, the following hypothesis is proposed:

H2: Perceived ease of use significantly influences the intention to use electronic collection system among system users in Nigerian federal hospitals.

Computer Self-efficacy

According to Compeau & Hinggins (1995), computer self-efficacy is the user perception on his or her ability to use computer and other information technology gadgets in carrying out a specific task. They further outlined three dimensions of computer self-efficacy. These dimensions are magnitude, strength and generalization. According to them, magnitude refers to the level of capability an individual has in carrying out a task with computers. Secondly, strength is the degree of confidence of an individual to accomplish a task with computers. Thirdly, generalizability refers to the capability of a person to complete assigned tasks using different platforms and or software. Besides, many studies of information system buttressed that CSE is a significant determinant of individual intention to use electronic systems (Hayashi, Chen, Ryan, & Wu 2004). Therefore, computer self-efficacy is an appropriate factor in determining the ability of an individual to use e-collection systems. Evidently, the study of Ariff et al. (2013) has shown that CSE is a factor that influences the behavioral intention to use internet banking among bank customers. Similarly, the finding of John (2013) also indicates a significant influence of CSE on behavioral intention. Thus, CSE could be jointly used with PU and PEOU variables to examine its influence on the system users' intention to use e-collection system in Nigerian federal hospitals. Thus, this study proposes the following hypothesis:

H3: Computer self-efficacy significantly influences the intention to use electronic collection system among system users in Nigerian federal hospitals.

METHOD

This study recommends that survey method would be appropriate to test theproposed conceptual framework for empirical study in which data could be collected from the target respondents mostly those hospitals employees from the Account and Finance, Audit and IT departments. This is because; these categories of staff are responsible for operating and overseeing the e-collection system in the hospitals. There are 55 federal hospitals across the country comprising of three categories: Federal University Teaching Hospitals, Federal Specialty Hospitals and Federal Medical Centers. Each of the three categories and their corresponding numbers are presented on Table 1.

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 research paper proposes a conceptual framework that could be used to examine the influence of perceived usefulness, perceived ease of use and computer self-efficacy on the intention to use e-collection system in Nigerian federal hospitals. In theory, this study will improve the current body of knowledge by incorporating computer self-efficacy as an independent variable into Technology Acceptance Model. Additionally, the study is proposed to focus on testing this framework in a mandatory environment (government organization) where system use is obligatory. As such, this work will contribute to IS studies by giving the initial understanding of these combined constructs (perceived usefulness, perceived ease of use and computer self-efficacy) on their influence on the intention to use new technology in public sector health institutions in a developing country. In practical application, this conceptual paper would guide future researchers to carry out further empirical investigations on conceptual relationships that were illustrated on the model. Therefore, it is strongly believed that this concept will assist the federal government in gaining an insight on the possible factors that could influence the behavior and intention of public sector employees and their readiness to use new technology at the workplace. By knowing this, proper ways and methods could be used to orient, train and motivate current and potential users to have interest in the system.

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