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What Determines Adoption of E-banking Among Nigerians? A Conceptual Approach

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Abstract

Extant studies in the field of consumer behavior and information technology acceptance have established that adoption of electronic banking is determined by several factors. While several of these studies emanate from developed nations, few are available in developing countries like Nigeria. Aside, most of these studies concentrate on intention to adopt and failed to find out why customers lack trust and do not satisfy with the services render to them. Hence, this study looks into issues of trust and satisfaction of e-banking adoption and their relationship with other determinants as this will help to increase the rate of adoption of e-banking that is generally low in Nigeria.

Keywords: E-banking; E-satisfaction; E-Trust; Adoption

1. Introduction

E-banking is a type of banking service that enables customers of banks to transfer funds, make enquiries on their accounts, settle bills, manage stocks online and perform other transactions through electronic communication channels without interacting with the officials of the banks directly (Liébana-Cabanillas, Muñoz-Leiva & Rejón-Guardia, 2013; Yap, Wong, Loh & Bak, 2010). Generally, e-banking channels include Mobile banking, Internet banking, Automated Teller Machines, PC Banking, electronic cheque clearing system and so on (Central Bank of Nigeria, 2003). These banking alternative channels have several benefits such as cost reduction, convenience, safety, better services and profits for the customers and their banks (Abushanab Pearson & Setterstrom, 2010; Juwaheer, Pudaruth & Ramdin, 2012; Odumeru, 2012; Yap *et al*., 2010).

In spite of the advantages of e-banking that have been globally acknowledged, KPMG (2013) however reports that the rate of e-banking adoption in Nigeria is abysmally low in comparative with other developing countries like Kenya, Botswana, Zimbabwe, Uganda, Senegal, Ghana, Tanzania, Angola and Coted'Ivore. Some of the reasons that are responsible for low adoption as noted by KPMG include but not limited to high rate of insecurity and fraud, lack of awareness among the customers, concentration of service provider in urban centers, lack of users friendliness of e-banking platform, and so forth.

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Moreover, extant academic scholars have equally asserted that the rate of adoption of e-banking is dropping globally since recent events show that using technology to provide financial services is not living up to expectation (Kesharawani & Radhakrishna, 2013; Kolodinskey, Hogert & Hilgert 2004). The study of Kesharawani and Radhakrishna conducted in India reports that generally, users of e-banking are apprehensive for lack of security (43%), unfriendly users interface of e-banking channels (39%), and hostile users' environment (2%). This same position has been maintained by Kolodinsky *et al* who conducted their studies in USA and discovered that one third of customers who had adopted e-banking services have stopped its usage due to lack of satisfaction, lack of security and complexity of the channels. These findings are also in line with the results of studies conducted in Nigeria (e.g., Adesina & Ayo, 2010; Auta, 2010; Dogarawa, 2010; Ezeoha ,2005)

Despite the challenges being faced by adoption of e-banking however, very few literatures are available in the context of developing countries (Chong *et al*, 2010) as many of these studies originate from developed nations. Aside, majority of the studies concentrate on intention to adopt while little efforts are paid to why customers lack trust and are not satisfied with the services rendered to them (Dograwa, 2010, Iboh & Ikoh, 2013, Yap *et al*, 2010). Hence, the objective of this paper is to fill the literature gap by examining holistically the drivers of e-banking adoption through mediating effect of e-satisfaction and e-trust in Nigeria. Examining these variables will help to acceletrate the adoption rate of e-banking in Nigeria.

2.0 Literature review

2.1 E-banking adoption

Electronic banking as a new form of technology has come to stay because of its benefits. However experience has shown that its adoption is poor globally with a severe situation in developing country like Nigeria. In literature, many concepts have been used to describe the rejection or acceptance of a service or product. The most acceptable definition considers adoption as 'the acceptance and continue use of an innovation' (Robertson, 1971, P. 56) as Rogers (1962) has initially described adoption *as a decision to continue full-scale of an innovation*. For this study, adoption is the signing of contract with the banking institution to use e-banking alternate platforms for funds transfer, standing order and so on (Erikkson et al., 2005).

Based on the preceding discussion, this paper adapts 5 items from Juwaheer et al, (2012) to measure e-banking adoption. The Response Scale of the study is 7 point likert scales anchored on 1 for strongly disagree and 7 strongly agree. The Cronbach alpha (0.86) of all the items adhered to the benchmark set by Nunally (1978) and Peterson (1994).

Table 1.0: Perceived Usefulness measurement items and sources

Variable	S/N	Items	Sources
E banking Adoption	1	E-banking is available all round the day and throughout the week	Juwaheer *et al*, 2012
	2	E-banking saves alot of my time because I don't need to visit the branch physically	
	3	E-banking makes life easier because I don't need to queue up in the branch	
	4	I don't have to carry large amount of money because I use e-banking.	
	5	I manage my money efficiently because I can view my account online.	

2.2 Perceived usefulness

In this period of modern-day information technology and marketing research, how to determine factors that influence users' acceptance of new technology is often regarded as one of the most mature research areas (Abushanab *et al*., 2010). In the past, researchers have approached adoption of technology from different levels and perspectives. Many of the researchers have approached technology acceptance from organizations perspective by examining the relationship between organization's performance and Information Technology expenditure. On the other hand, authors have equally examined IT adoption determinants from individual levels (Davis, 1989) . As an important dependent variable, understanding what makes people to use and adopt e-banking is attracting the interest of many researchers (Yousafzai, Foxall & Pallister, 2010). In recent times, different theoretical perspectives and fragmented models have been used to explain the determinants of IT use and adoption (Chiou & Shen, 2012; Ismail & Mohammed, 2012). However, most of these studies dwelled on behavioral intentions (e.g., Putit & Johan, 2015) (which is acquisition oriented) than adoption (which is retention oriented) (Ho & Ko 2008).

TAM (Davis, 1989) has been used extensively in information technology and consumer behavior studies because of its parsimony. However, several scholars have extended TAM to suit their contexts and situations (e.g., Tan & Teo, 2000; Tan, Chong, Ooi & Chong, 2010). Perceived usefulness is one of the core constructs of TAM and is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance'' (Davis, 1989). This definition was given in the context of organization where usage of computer was the focus. Findings from Davis' research consequently revealed that perceived usefulness significantly predicted current and future adoption system and where adoption is seen as signing of contract to continue usage (Mann & Shani, 2013). Perceived usefulness in this study is seen as the degree to which users of e-banking believe that it is more beneficial than brick-mortal banking. As a follow up to Davis' work, several authors have subsequently carried out various studies in the field of e-banking or self support banking system where the focus was customers (e.g, Wessels & Drennan, 2010; Yuan, Liu, Yao & Liu, 2014). The findings of some of these studies indicate that perceived usefulness of an electronic banking channel can lead to satisfaction and trust which may eventually enhance the rate of adoption.

Based on the preceding discussion, this paper adapts 5 items from Pikkarainen et al (2004) to measure perceived Usefulness. The Response Scale of the study is 7 point likert scales anchored on 1 for strongly disagree and 7 strongly agree. The Cronbach alpha (0.86) of all the items adhered to the benchmark set by Nunally (1978) and Peterson (1994).

Table 2.0: Perceived Usefulness measurement items and sources

Variables	S/N	Items	Sources
Perceived Usefulness	1	With the help of e-banking I believe I am achieveing my financial Task daily	Pikkarainen *et al* ,2004
	2	The quality of my banking activities is being improved generally because I am using e-banking.	
	3	E-banking is helping me in monitoring of my banking and other online transactions.	
	4	I have been able to save a lot of time using using e-banking than traditional banking.	
	5	The leve of level of outputs at work has improved because I use e-banking.	

In view of the above discussions and operationalization of the variable, we hypothesize as follows:

H1: Perceived Usefulness positively influences adoption of e-banking
H2: Perceived Usefulness positively influences E-satisfaction
H3: Perceived Usefulness positively influences E-trust

2.2 Perceived security and adoption

Importance of security in banking transaction cannot be overemphasized. In fact, its significance in an online service like e-banking is more paramount than in traditional or mortal and brick transactions (Yousafzai *et al*, 2009). Perceived security is essentially defined as the degree to which customers believe that transactions being carried out using a particular channel will be free from risk, fraud and intruders (Mann & Shani, 2013; Susanto, Lee, Zo & Ciganek, 2013). In e-commerce, perceived security indicates how secured the customers feel while carrying out their transactions online. In e-commerce perceived security has been approached from a broader view to include confidentiality and authentication of information as well as customers' detailed sense of well-being that may be liken to actual protection while carrying out transaction in offline environment (Shin & Shin, 2011). Most importantly, since online banking has been engendered with insecurity, technological solutions as well the feelings of online security are essential towards adoption of technology (Chellappa & Pavlou, 2002). Therefore, a site that is secured may not indicate the degree of security precautions being proffered while a site that is highly insecure can mislead the customers that it is secured (Shin & Shin, 2011). Accordingly, some studies have established significant relationships between e-banking adoption, e-satisfaction and e-trust while others assert that perceived security is not significant in the relationship (Al-smadi, 2012; Mann & Sahni, 2013; Polasik & Wisniewski, 2009; Susanto, Lee, Zo & Ciganek, 2013; Yousafzai *et al*., 2009; Yousafzai, Pallister, & Foxall, 2010). This inconclusive result makes a further research necessary.

Based on the preceding discussion, this paper adapts 5 items from Deb and Lomo-David (2013), Juwaheer, et al, 2012 and Mann and Shanni, 2013 to measure Perceived Security. The Response Scale for this variable is also based on 7 point likert scales and anchored on 1 for strongly disagree and 7 for strongly agree. The Cronbach alpha of all the items adhered to the benchmark set by Nunally (1978), and Peterson (1994).

Table 3.0: Perceived Security measurement items and sources

Variable	S/N	Items	Sources
Perceived Security	1	I feel protected when supplying my personal data on the e-banking website.	Deb & Lomo 2014 Juwaheer 2012; Mann & Sahni, 2013
	2	I do not become apprehensive while using e-banking platforms since I believe that my information will be safe and secured.	
	3	I believe that my bank will not compromise my information to the third party.	
	4	I do not entertain fear that e-banking platform would process my banking transactions wrongly.	
	5	I am confident that the bank would protect my account from hackers and that my would be refunded in case of eventualities.	

Based on the above arguments and operationalization of the variable, the following hypotheses are hereby proposed:

H4: Perceived Security has positive influence on adoption of e-banking
H5: Perceived Security has positive influence on E-satisfaction
H6: Perceived Security has positive on E-trust

2.3 Mediating effect of e-Satisfaction

One of the most significant factors underlying the success and adoption of information system is satisfaction due to spatial relationship that exists between service providers and their customers (Wang, Hsieh & Song, 2012). Satisfaction is a reflection of cumulative feeling which customers developed in the course of multiple interactions with e-banking service provider and it does reflect a gap between perceived service expectation and actual performance. Importantly, when actual performance exceeds perceived expectation, satisfaction will result (Zhou, 2011). Fornell et al (1996) who equally recognized that satisfaction has a positive significant impact on company's performance categorized it into transaction-specific and overall-satisfaction. The transaction- specific satisfaction is regarded as the critical evaluation of customer's experiences and consequent reactions with respect to a specific service encounter (Cronin & Taylor, 1992; Wen-Bao, 2007), while overall satisfaction refers to the overall customer's evaluations of his consumption experience (Taylor & Baker, 1994).

The focus of most studies is on overall satisfaction which measures overall level of satisfaction or dissatisfaction that may arise from overall experiences and encounters with e-banking service provider. Empirically, many studies have established that when customers are dissatisfied, they may not ask for additional service in the future and perhaps engage in act of switching to other service provider or patronize other alternative channel like branch services (Yap, Ramayah, & Shahidan, 2012).

With regards to information system generally and e-banking adoption in particular, extant authors have empirically established determinants of satisfaction. Importantly, perceived security and perceived usefulness have been established as major determinants of e-banking satisfaction and which will lead to adoption (Eid, 2011; Lee, Choi, Kim, & Hong, 2007; Liébana-Cabanillas *et al*., 2013; Zhou, 2011). The studies of Chang and Cheng (2009) and Zhou (2011) have empirically established the influence of e-satisfaction between perception of security, perceived usefulness, and technology adoption.

Based on the preceding discussion, this paper adapts 5 items from George and Kumar, (2013); Kumar and Ravindran, (2012) and Zhou (2013) to measure E-Satisfaction. The Response Scale for this variable is also based on 7 point likert scales and anchored on 1 for strongly disagree and 7 for strongly agree. The Cronbach alpha of all the items adhered to the benchmark set by Nunally (1978), and Peterson (1994).

Table 4.0: E-Satisfaction measurement items and sources

Variable	S/N	Items	Sources
E-Satisfaction	1	My bank is highly responsive in meeting my e-banking requirements	George & Kumar, 2013
	2	My expectation of online banking is always met by banking Institution.	
	3	I have great experiences always while using e-banking platforms.	
	4	Pergormance of banking activities online making me happy than traditional banking	
	5	I feel fulfilled with the usage of e-banking site.	

Based on the above discussions, the following hypotheses are hereby formulated:

H7: E-Satisfaction has positive on adoption of e-banking
H8: E-Satisfaction mediates the relationship between perceived usefulness and adoption a-banking
H9: E-Satisfaction mediates the relationship between perceived security and adoption of e-banking

2.4 *e-Trust Mediation effect*

The feature and characteristics of online service delivery has given rise to a lack of trust among some e-banking customers. This arises due to lack of personal and direct interaction between service provider and customer (Akhlaq & Ahmed, 2013). The lack of physical interaction which consequentially creates a vacuum between the customers and service provider implies that the customers cannot directly observe front line officers or the physical office space with the purpose of judging how trustworthy the service provider is (Susanto et al., 2013; Yap et al., 2010). Activities being carried out in the online environment do not permit instant and simultaneous exchange of goods/service and money since there is a spatial and temporal separation of buyers and sellers. Further, the fear of hackers who often intrude privacy has importantly created uncertainties in the online services and couple with the news of frauds and other associated activities that have dominated the headline of news in the recent time (Yap *et al*, 2010). Due to lack of trust, skepticism and uncertainty, a gap has been created and it is the duty of bank managers to quickly bridge this gap so as to grow e-banking as an important medium through which banks can perform good and excellent service delivery (Yap *et al*, 2010).

Trust has therefore been conceptualized as a situation when one party or a customer has confidence and believes that the service provider has integrity and can be relied on (Morgan & Hunt, 1994). Trust can importantly be defined as *''a willingness to rely on an exchange partner in whom one has confidence"* (Morgan & Hunt, 1994, p.23). Extant literature on trust has suggested that confidence forms the bedrock of trust since one party has the strong belief that the service provider is consistent, honest, helpful, fair, benevolent and competent and would not take personal advantage of service agreement (Chandra et al., 2010).

In addition, Aydin, Özer, & Arasil, (2005), further assert that for service provider to gain trust, the recipient of the service must believe that the action being performed will result in positive and desired outcomes and such outcomes will continuously be delivered in the future. From the perspective of Ganesan, (1994), trust has two components: performance or credibility trust and benevolence trust (Yap et al., 2012).

In online environment generally and e-banking service in particular, concept of trust has been defined by Yousafzai et al (2009) as *''*a psychological state which leads to the willingness of customer to perform banking transactions on the internet, expecting that the bank will fulfill its obligations, irrespective of customer's ability to monitor or control bank's actions*''*. However, previous authors have empirically established relationship between creating trust in online banking, perceived usefulness and perceived Security (Akhlaq & Ahmed, 2013; Liébana-Cabanillas et al., 2013; Yap et al., 2010; S. Yousafzai et al., 2009). The studies of Eid (2011) and Amin, Rezaei and Abolgasemi (2014) found mediating influence of trust between perceived usefulness, perceived security and adoption of technology.

Based on the preceding discussion, this paper adapts 5 items from Juwaheer (2012) to measure E-Trust. The Response Scale for this variable is also based on 7 point likert scales and anchored on 1 for strongly disagree and 7 for strongly agree. The Cronbach alpha of all the items adhered to the benchmark set by Nunally (1978), and Peterson (1994)

Table .5.0: E-Trust measurement items and sources

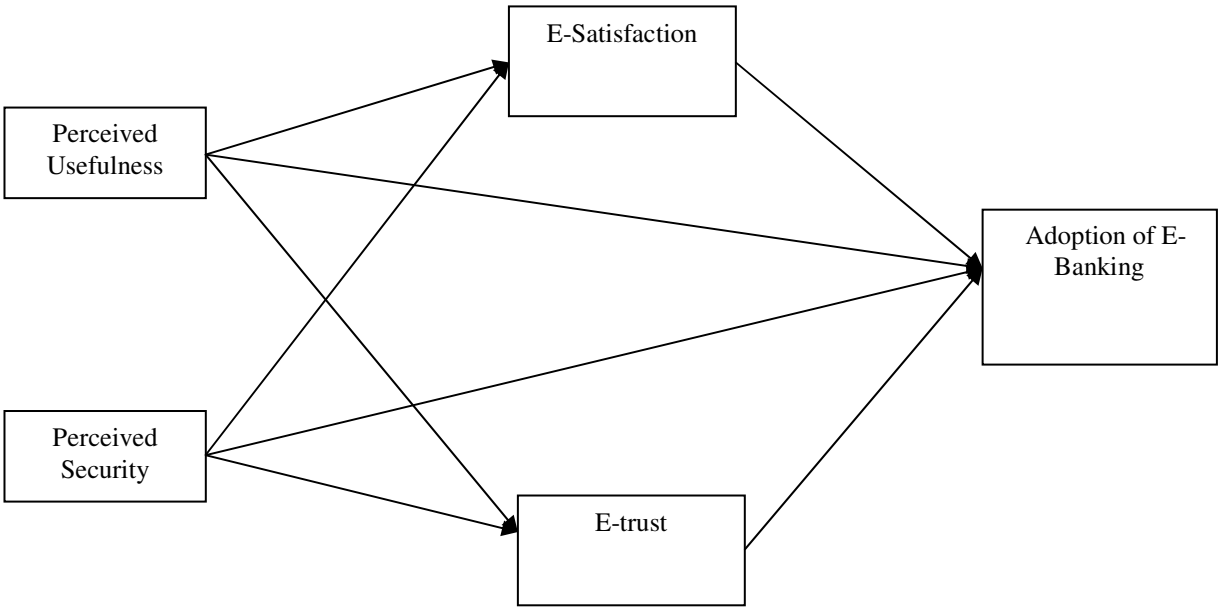
Variable	S/N	Items	Source
E-Trust	1	The websites of my banking institutions are reliable for for banking services.	Juwaheer, *et al*, 2012
	2	E-banking platforms adhere to promises and commitments in Nigeria.	
	3	I trust that my bank will not expose my banking transactions.	
	4	I trust the website of my banking institution	
	5	I trust my bank's technology in providing internet banking services.	

In view of the above discussions, the following hypotheses are hereby formulated:

H10: E-Trust has positive influence on adoption of e-banking
H11: E-Trust mediates the relationship between perceived usefulness and adoption of e-banking
H12: E-Trust mediates the relationship between perceived Security and adoption of e-banking

3.0 The Conceptual Framework

Based on the literature review, the conceptual framework as shown in figure 1.0 below emerges. The proposed framework reveals that two variables (Perceived usefulness and perceived security) directly and indirectly linked to adoption of e-banking through mediating influence of e-satisfaction and e-trust. The purpose of mediating effect as shown in the in the conceptual framework is to enhance the relationship that exists between e-banking adoption and its determinants. To the limited knowledge of the researcher, this is the first attempt to holistically conceptualize this relationship especially in the context of Nigeria and as such the major contribution of this paper.



4.0 Conclusion and suggestions for further research

Several studies in the field of consumer behavior and information technology acceptance have established that several factors determine the adoption of e-banking. As discussed in this paper, some of these factors include perception of usefulness and ease of use, e-satisfaction and e-trust. However, no agreement has been reached among the scholars on specific drivers which can be used for the prediction of of electronic banking adoption and which makes the findings of these studies to be inconclusive. This conceptual paper has introduced the mediating influence of e-trust and e-satisfaction in the context of Nigeria with the purpose of enhancing the relationship between adoption of e-banking and its other determinants. It is hope of the authors that this paper has filled a major gap in literature through its conceptual framework that can further be tested empirically by future researchers. When the relationships that are established in this framework are empirically tested, banks policy makers, e-banking products designers, and marketers will be able to draw a lot of implications that will practically help to improve the rate of adoption of e-banking in Nigeria.

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