Nigerian Retail Customers' Adoption of Online Banking in an Islamic Bank

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Absract
Purpose: The main purpose of this study is to present the pilot study result on the adoption of online banking by Nigerian retail customers of an Islamic Bank.
Methodology: An extended Technology Acceptance Model was modified with awareness, trust and technology quality. Factor analysis and principal component analysis were conducted. A sample of sixty one Nigerian students of Linton University College and Nigerian staff of Nigerian High Commission in Malaysia were utilized in the study.
Findings: The result revealed that reliability estimates for internal consistency Cronbach's Alpha for all the thirty seven items used on seven construct ranged between 0.8 to 0.9 which is above 0.7. This indicates statistically acceptable internal consistency reliability.
Originality/value: Despite significant contribution of online banking in enhancing globalisation of banking industry, less attention has been made on on the adoption of online banking in a developing nation like Nigeria. Indeed, most of the studies were conducted in developed countries. Thus, this study sought to explore the adoption of online banking in an Islamic bank that is from the retail customer's perspective. The findings of this paper will be of importance to both financial industry and financial policy formation and future researchers in the field of online banking especially in Islamic banks.

Keywords: Adoption, Islamic banking, Online banking, Retail customers

Paper Type: Research Paper

Introduction
Online system of banking is a type of bank services offered by banks for conducting transactions over the internet through secured bank website such as bills payment, view account balance, statement of account and so forth (Amin, 2007). The introduction of online banking in an Islamic bank started in Malaysia at the end of 2001 (Vijayan and Shanmugam, 2003). The banking industry is arguably one of the most prominent adopters of online system of banking, enhanced serviced delivery in their operation may not be unconnected to the numerous benefits it brings to them. For instance, online banking offers a new opportunity to both Islamic and conventional banks to improve their services to customers and gain competitive advantage. It provides an interactive banking transaction for customers, more quality services offered and is more flexible than the traditional banking (Amin, 2007).
In the specific case of the developments occurring in the Nigeria banking industry, the introduction of Islamic banking is notable. Recently, the ever growing Islamic Banking system has also remained an area of attraction in Nigeria. The bank right from inception has been involved in enhancing the development of online banking services to its customers (Olalekan, 2011). Though there are many studies which have been conducted on online banking adoption in Nigerian conventional banks (e.g., Aghaunor and Fotoh, 2006; Agboola, 2006; Izogo, Nnaemeka, Onuoha and Ezema, 2012; Auta, 2010; Mbarika, Okoli, Byrd and Datta, 2005), none of these studies explored retail customers' adoption of online banking in an Islamic banking perspective. This limitation has motivated this study on Nigerian retail customers' adoption of online services in an Islamic bank. In this study the author highlighted some of the previous study on online banking adoption. Then the research framework with the hypotheses was also stated. Finally the result of validity and reliability of pilot study are presented with conclusions.

Research purpose and problem

The aim of this paper is to furnish the result of preliminary survey conducted on Nigerians retail customers' adoption of online services in an Islamic bank and apply extended Technology Acceptance Model (TAM). TAM as a research framework for the study was extended with three additional external variables in order to accommodate peculiarities in the research context and content. TAM is widely acknowledged model for the study of online banking adoption behavior (Sundarraj and Manochehri, 2011). The framework for this study is extended TAM. Due to differences in technology advancement and adoption rate between developed countries where new technology is innovated and developing countries like Nigeria there is a need to extend TAM with awareness, trust and technology quality. Additionally both Islamic and online banking is a recent development in Nigeria banking system (Maiyaki and Mokhtar, 2010). Hence, there is a need to know the level of awareness, trust and technology quality of Nigerian retail customers of an Islamic bank. Hence the author proposed awareness, trust and technology quality in this paper in order to accommodate peculiarities in the study context and content.

Literature Review and Theoretical Foundation

Numerous studies have been conducted on online banking field from various countries. Some reviews from previous researches are: influencing factors for the adoption of online banking services and adoption rate of online banking services from Palestine, Oman, Iran, Nigeria and Bahrain. In addition to that customers' perception in adopting the online banking in the context of Malaysia comprises of Al-Fahim, (2012). An important study was conducted by Sabri, Abu Laban, and Hanyia (2012) in Palestine in order to investigate online banking awareness. Their sample consists of bank managers, treasurers and customers of both traditional and online banking of twelve commercial banks in Gaza in Palestine. Their main findings reveal that majority of the banking customers are not aware of online banking available in their banks. This is similar to the findings of Al-Fahim (2012). However even some of the customers that are aware of it they don't know how to use it or never tried it. Sabri, et.al. (2012), recommends the followings: For Palestine to facilitate online banking transactions there is a need to adopt new related regulations by Palestine Monetary Authority. The banks should present awareness campaigns to their customers about the existence of both online banking, and to offer call centers to support customers and explain how to use such facilities.

Riffai, Grant and Edgar (2012) conducted a study in Oman, using technology Acceptance Model to investigate the promise and challenges of online banking. Their sample was three hundred and fifteen bank customers. The main findings of their study reveals that trust in perceived online quality and usability are significant and are deemed to be key drivers for the adoption of online banking.. These findings are consistent with the findings of Sun, (2010) and Lee and Lee (2001).

Another study was conducted by Gholami, Shams, Amoozadeh, Teimouri, and Rahmati, (2012) in Iran, using Technology Acceptance Model to investigate the role of customers' trust in online banking. Their sample was two hundred and forty one customers of Maskan bank in Dresher city in Iran. The major findings of their study revealed a positive relationship between trust and adoption of online services of Maskan Bank. It was also found out that the use of online banking increases if online trust increases. These findings are consistent with the findings of Sun, (2010) and Lee and Lee (2001). Therefore, in the world in which businesses are done via internet and electronically, trust plays an important role in its adoption. Gholami et al. (2013) recommend that banks should equip themselves to prevent hackers from accessing personal information and be careful about their security system and privacy in order to increase customers' online trust.

Auta, (2010).explored the major factors responsible for online banking adoption in Nigerian conventional Banks. He used Seven hundred and fifty customers as a sample from all the twenty three conventional banks in Nigeria. The result of his study revealed that customer' perceived online banking services as convenient to use. This is consistent with Lin and Hsieh (2006) and Alkibsi and Lind, (2010).

Jalal, Marzooq, and Nabi, (2011), used simple regression analysis in order to assess the relationship between technology acceptance model with technology quality (Security and Privacy) and usage of online banking services in Bahrain. Their major findings revealed that all the three elements that are perceived usefulness, security and privacy, perceived ease of use are main influencing factors for usage of online services in Bahraini banks. This is in line with the studies of Tan, 2002), Giglio, (2002) and Pikkarainen, Pikkarainen, Karjaluoto, and Pahnila, (2004).

Theoretical foundation

Online banking have been successfully accepted in the developed countries where it was innovated, for the same technology to be accepted in the developing countries there is a need for some modifications of Technology Acceptance Model in order to suit the developing countries like Nigeria. This paper proposes the need for a

study that examines the effects of retail customers' awareness, trust and technology quality on their adoption of online banking in an Islamic Bank. This paper will use and modify expanded TAM adopted by Al-Sukkar, (2005), for use in developing countries. It was originated by Davis, (1993) and has been used by researchers such as Kripanont, (2007) and Echchabi, and Aziz (2012) to indicate the users' acceptance of a system. The model shown in Fig. 1 forms the basis of this study, and the constructs used are described here based on related research Davis, (1993), Fishbein and Ajzen, (1975). Fishbein (1979), Davis, Bagozzi, and Warshaw (1992) and Venkatesh and Davis, (2000).

Fig. 1 Research Model
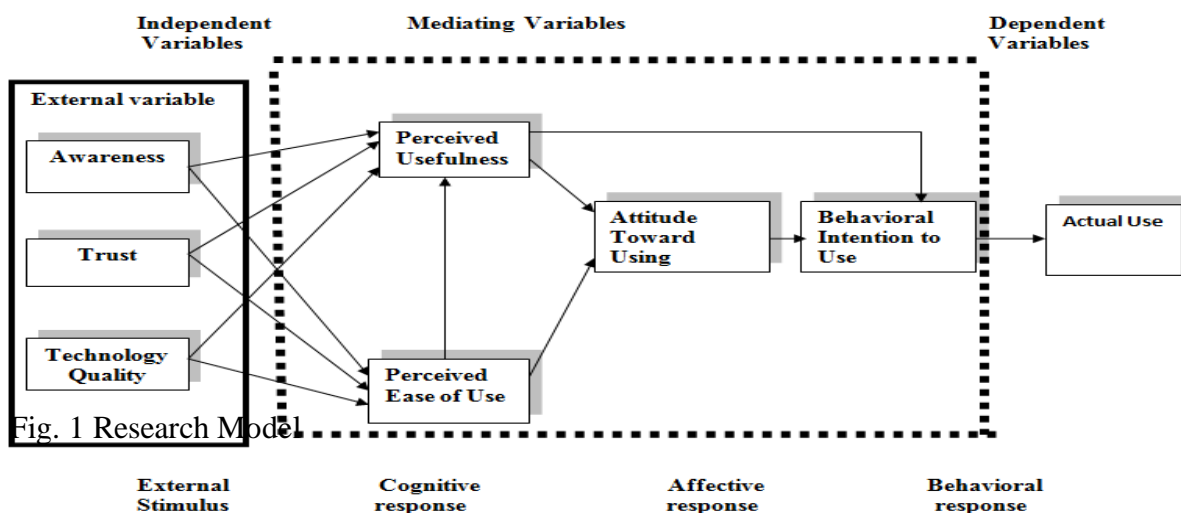
Research Hypotheses
The external variables of Technology Acceptance Model and their related hypotheses are presented as follows:

Awareness
Previous studies showed that attitudinal factors for example awareness; perceptions, trust etc. had affected online banking usage. In line with that this study will test the relationship between awareness and perceived usefulness.
Awareness vs. Perceived usefulness
H1: There is a significant relationship between awareness of online banking (AOB) and the perceived usefulness.
Awareness vs. Perceived ease of use
H2: There is a significant relationship between awareness of online banking (AOB) and perceived ease of use.

Trust
Trust in the organization or institution in this study means trust in online banking being offered by the bank. Al-Sukkar, (2005) and Sanayei and Noroozi advocates trust in online banking.
Trust vs. Perceived usefulness
H3: There is a significant relationship between trust in online banking and perceived usefulness.
Trust vs. Perceived ease of use
H4: There is a significant *relationship between trust in online banking and perceived ease of use.*

Technology Quality
One of the challenges of the modern banking is to offer the best quality of technology services that satisfy individual customers' needs. This is necessary for banks because of strong competition and globalization in the banking industry. Therefore it is necessary for banks to provide excellent technology quality to their customers especially in areas of convenience, privacy and security which are the main focus of this study.
Technology quality vs. Perceived usefulness
H5: There is a significant relationship between technology quality and the perceived usefulness.
Sub hypotheses of Technology quality vs. Perceived usefulness

H5$_1$: There is a significant relationship between convenience and perceived usefulness.
H5$_2$: There is a significant relationship between privacy and security and perceived usefulness.
Technology quality vs. Perceived ease of use
H6: There is a significant relationship between technology quality and perceived ease of use
Sub hypotheses of Technology quality vs. perceived ease of use
H6$_1$: There is a significant relationship between convenience and perceived ease of use.
H6$_2$: There is a significant relationship between privacy and security and perceived ease of use.
The Internal Variables of Technology Acceptance Model (TAM)
According to the TAM, 'perceived usefulness' and 'perceived ease of use' are influential factors for adopting and using new technologies. Hence it is assume that individuals will use online banking if they perceive online banking will help them to attain a desired performance. Therefore the hypothesis (H7, H8 and H9) are proposes as follows.
Perceived usefulness vs. Attitude toward using
H7$_1$: There is a significant relationship between perceived usefulness and attitude toward using.
H7$_2$: There is a significant relationship between perceived ease of use and attitude toward using.

Perceived Ease of Use vs. Perceived Usefulness
This study will test if there is a positive relationship between perceived usefulness and perceived ease of use.
H8: There is a significant relationship between perceived ease of use and perceived usefulness.
Perceived usefulness vs. Behavioral intentions
Kripanont, (2007) in his study indicated that perceived usefulness is a major determinant of behavioral intentions. This study will test if perceived usefulness is a major determinant and predictor of behavioral intentions to use the online banking.
H9: There is a significant relationship between perceived usefulness and behavioral intentions.

Attitude toward using vs. Behavioral intention
There are some literatures which said there is a positive significant relationship between the attitude toward use and behavioral intention such as Kripanont, (2007) and Al-Sukkar, (2005). The following hypothesis will examine this relationship between the attitude toward use of online banking among the Nigerian retail customers and behavioral intention.
H10: There is a significant relationship between attitude towards use and behavioral intention.
Behavioral Intention vs. Actual Use
This hypothesis will examine the relationship between behavioral intention of online banking among the Nigerian retail customers and the actual usage.
H11: There is a significant relationship between behavioral intentions and actual use.
The hypotheses developed are summarized in table 1 and also presented in figure 3.

Table 1: Main and Associated Hypotheses for the Expanded TAM Model

| Hypotheses		Independent Variable	Dependent Variable
Main	*Sub*		
H1		Awareness of Online Banking (AOB)	Perceived Usefulness.
H2		Awareness of Online Banking (AOB)	Perceived Ease of Use Banking
H3		Trust in Online Banking (TOB)	Perceived Usefulness.
H4		Trust in the Online Banking (TOB)	Perceived Ease of Use.
H5	H5 H5$_1$ H5$_2$	*Technology Quality* Convenience (C) Privacy and Security (PS)	Perceived Usefulness
H6	H6 H6$_1$ H6$_2$	*Technology Quality* Convenience (C) Privacy and Security (PS)	Perceived Ease of
H7 Attitude	H71 H71	Perceived Usefulness (PU) Perceived Ease of Use (PEOU)	Attitude Toward Using (ATU)
H8		Perceived Ease of Use (PEOU)	Perceived Usefulness (PU)
H9		Perceived Usefulness (PU)	Behavioral Intention (BI)
H10		Attitude Toward Using (ATU)	Behavioral Intention (BI)
H11		Behavioral Intention (BI)	Actual use (AU)
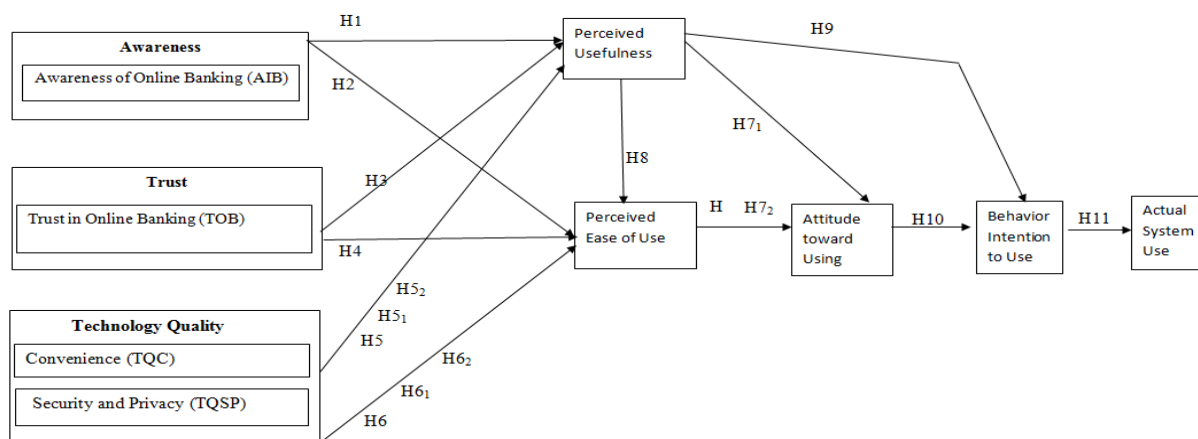
Figure 2: Research Framework

Methods

Data collection and Sample

Pilot study was conducted in August 2013, with Nigerian students of Linton University College and Nigerian staff of Nigerian High Commission in Malaysia. Spector, (1992) recommends a sample size of 50 to 100. As a result of time and financial constrain, a sample of 100 Questionnaire were distributed. Sixty six questionnaires were returned. Five of them were exempted from analysis because they were not fully completed. Therefore sixty one questionnaires representing sixty one percent (61%) of returned questionnaire were used in the analysis.

Instrument

Validity: In order to ensure the questionnaire items measured what is expected to measure. Content validity was conducted. Content validity refers to "the degree to which elements of measurement instruments is relevant to and representative of target construct for particular assessment purpose" (Haynes, Richard and Kubany 1995). First, the questionnaire items were adopted and adapted from the past literature related to online banking adoption, Secondly three meetings were held by the researcher and her supervision team. Finally the instrument was verified by two experts to ensure face and content validity of the questionnaire.

Reliability: Cronbach's Alpha was employed to test the reliability of the research instrument in order to ensure internal consistency among the measure Hair, Anderson and Tatham, (2007) stated that the minimum Cronbach's alpha value is .70. Tasir and Abu (2003) stated that the maximum value for reliability test Cronbach's Alpha value is 1. Hence for this study the Cronbach's Alpha values ranges from .88 to .96. They have all exceeded the minimum alpha value of .60, Hair, J. F. (2009). Thus the constructs measures are deemed reliable. Factor analysis was also conducted to confirm the construct validity of the scales employing (PCA) principle component analysis. The lowest factor loadings of .60 on its construct were suggested by Nunnally and Bernstein, (1978). A good Eigenvalue of one has been utilized as determining factor in the factor analysis. Factor loadings have been obtained by employing varimax rotation. Table 11 display the final results for each item exceeding 0.60. Hence meeting the requirement of significant level of convergent validity Hair, J. F. (2009).

Result
Pilot Study Result

Table 2: Factor Loadings

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
AOB1	0.898							
AOB2	0.943							
AOB3	0.939							
AOB4	0.891							
AOB5	0.848							
TOB1		0.904						
TOB2		0.941						
TOB3		0.940						
TOB4		0.885						
TOB5		0.807						
TQC1			0.894					
TQC2			0.843					
TQC3			0.828					
TQC4			0.794					
TQC5			0.772					
TQSP1				0.953				
TQSP2				0.945				
TQSP3				0.931				
TQSP4				0.884				
PU1					0.925			
PU2					0.897			
PU3					0.876			
PU4					0.871			
PU5					0.857			
PU6					0.832			
PU7					0.796			
PEOU1		Perceived Ease of Use				0.925		
PEOU2						0.921		
PEOU3						0.920		
PEOU4						0.873		
PEOU5						0.863		
ATU1		Attitudes towards use					0.970	
ATU2							0.958	
ATU3							0.952	
BI1		Behavioral Intention						0.905
BI2								0.935
BI3								0.911
Eigen Values	4.089	4.021	3.422	3.449	5.247	4.059	2.766	2.523
% of Variance Explained	81.78%	80.43%	68.44%	86.22%	74.96%	81.18%	92.21%	84.10%
Cronbach's Alpha	0.93	0.94	0.88	0.95	0.94	0.94	0.96	0.91

Summary of Pilot Study Result

Table 3: A Summary of the Specifications of Latent Variables (Constructs), their Measurement Variables (Indicators), Number of Items and their reliability

Latent Variables (Constructs)	Measurement Variables (Indicators)	Number of items	Reliability
Awareness	-Awareness of Online Banking	5	0.93
Trust	-Trust on technology quality	5	0.94
Technology Quality	-Convenience	5	0.88
	-Security and Privacy	4	0.95
Perceived usefulness		7	0.94
Perceived Ease of Use		5	0.94
Attitudes Towards Use		3	0.96
Behavioural Intention		3	0.91
	Total Number of items	37	

Discussion and Conclusion
Table III shows that each of the constructs has a Cronbach's alpha that is above 0.7 as suggested by Hair et. al. (2007). This implies statistically acceptable internal consistency reliability. The reliability estimates for internal consistency (Cronbach's alpha) for all the thirty seven items based on seven constructs ranges from 0.88 (convenience) to 0.96 (attitudes).

This study presents the pilot study result of online banking adoption by Nigerian retail customers of an Islamic Bank. It has contributed new knowledge by examining online banking adoption using extended Technology Acceptance Model as a base model with three additional external variables. The findings of this paper will be of importance to both financial industry and financial policy formation and future researchers in the field of online banking.

Implications
This implies statistically acceptable internal consistency reliability.

Limitations and future research
This study is limited to only retail customers other types of banking customer likes businesses and institutions are not included. Only Jaiz Islamic bank customers other customers from conventional banks offering Islamic banking window services are not included. Future studies may examine non adoption of online banking in both Islamic and conventional banks.

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