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# Students' Intention to Use Mobile Banking: The Role of Trust

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**Abstract:** *The primary objective of this study was to use technology acceptance model (TAM) which is based on the theory of reasoned action (TRA) to explain students' intention to use mobile banking. The study, specifically aimed to examine the effect of perceived usefulness (PU) and perceived ease of use (PEOU) on behavioural intention to use mobile banking. Furthermore, the role of trust in this relationship was also tested. 253 students who are users of mobile banking in Bayelsa State were involved in the study. Perceived ease of use and perceived usefulness were found to be significant predictors of intention to use mobile banking. Trust was also found to significantly moderate the effect of both independent variables on intention to use mobile banking.*

**Keywords:** *Role of trust, students' intention to use mobile banking*

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## INTRODUCTION

Advancements in technology particularly in the area of communication and information technology is changing the way business is conducted. We are living in an era of instant communication and ease of information sharing. Consumers are constantly searching for easier and faster ways of carrying out financial transactions and commercial banks, like any other business, are searching for easier and more effective methods of doing business. Pikkariainen, Pikkariainen, Karjaluoto and Pahnila (2004) noted that technological development has provided opportunities for service providers to develop their services and offer customers more flexibility. Mobile banking or m-banking is becoming a prominent feature in banking operations in Nigeria with commercial banks adopting this technology in order to provide their customers with fast, accessible, reliable and quality services. Mobile banking otherwise known as M-banking refers to the provision of banking and all forms of financial services with the help of mobile telecommunication devices such as the smart phones, androids (Agwu, Atuma, Ikpefan & Iyoha (2014). Segun (2011) defines mobile banking as an occurrence when customers access a bank's networks using cellular phones, pagers, personal digital assistants, or similar devices through telecommunication wireless networks.

Mobile banking technology is a fast and efficient channel available for customers anytime, anywhere and is becoming more important as a reliable and easy access to banking services (Jeyabalan, 2013) due to the growth in the use of smartphones and other mobile devices. Mobile phone (both smart and feature) penetration levels in Nigeria have moved from 53% in 2016 to 83% in 2017 (Adepetun, 2018). Agwu (2012) opined that mobile phones remain the most feasible and available means to provide mass marketing and could serve as alternative

to branch banking in Nigeria. In spite of the purported advantages of M-banking, its acceptance among consumers has fallen short of expectations. Akturan and Tezcan (2012) stressed that the market of mobile banking remains very small when compared to other electronic banking counterparts such as ATM; internet banking, etc.

Agwu, (2012) stated that mobile phones and its applications are still highly under-utilized and banks in Nigeria are racing to use this latest technology as it helps to reduce their operational costs and increase their customer base. The basic question therefore is, with the increase in the usage of mobile devices in Nigeria, how can more commercial bank customers be encouraged to use mobile banking services? Previous studies in this area have identified several factors that encourage the use of mobile banking services by studying existent users of these services. Some factors identified include convenience, cost, perceived trust, perceived use of use, perceived efficiency, perceived lifestyle compatibility, perceived usefulness, perceived risk and self-efficacy (Bankole, Bankole and Brown,2011; Chawla and Joshi, 2016; Abrahao, Moriguchi and Andrade, 2016; Shankar and Datta, 2018 amongst others).

It is worth noting that studies on mobile banking have been largely conducted outside the context of Nigeria's banking sector hence the literature on m-banking in Nigeria is not as developed as it should be. Apart from that, studies on adoption of mobile banking have largely ignored young people who are more likely to adopt new technologies like mobile banking (Abayomi, Olabode, Reyad, Teye, Haq, & Mensah, 2019). This study therefore seeks to add to the literature on mobile banking by testing the technology acceptance model (TAM) by Davis (1985; 1989; Davis and Venkatesh, 1996) which has been extended to consumer online situations and used in many studies either in its original form or in an extended form. Therefore, the research question is: Does the technology adoption model (TAM) with trust as a moderator explain students' intention to use mobile banking?

## **LITERATURE REVIEW**

### ***Theoretical framework***

This study seeks to test the technology adoption model (TAM) which was developed by Davis (1985) drawing from the theory of reasoned action (TRA) which was first postulated by Fishbein (1967) and then refined by Fishbein and Ajzen (1975). The basic premise of TRA is that an individual's intention to perform a specific behavior is the most significant driver of that behaviour. Behavioral intention in turn is driven by two factors – the individual's attitude (the affection as influenced by his assessment of the consequences attached to that behaviour) towards the focus behavior and subjective norm (the individual's perception that reference individuals expect him/her to perform that behavior). Fishbein and Ajzen (1975) in Davis (1985) state that the individual's attitude is a function of his beliefs regarding the consequences of the focus behavior. He therefore drew on that same framework and identified the individual's beliefs about the perceived usefulness and perceived ease of use of the focus technology as drivers of an individual's attitude towards that behavior. In a refinement of the technology adoption model (TAM), Davis and Venkatesh (1996) argued for the exclusion of attitude as empirical evidence pointed to the fact that it only partially mediated the relationship between beliefs and intention.

### **Conceptual framework**

*Perceived usefulness (PU)*: Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). That is, potential adopters assess the consequences of their adoption behavior based on the ongoing desirability of usefulness derived from the innovation (Chau, 2004). In the context of this study, perceived usefulness refers to the fact that users choose to accept mobile banking if they think the application of Mobile Banking can have a positive impact in their lives.

*Perceived ease of use (PEOU)*: “Perceived ease of use refers to the degree to which the prospective user expects the target system to be free of effort” (Davis, Bagozzi and Warshaw, 1989). Perceived ease of use is the degree to which a person believes that using a particular system would be free of effort (Dholakia and Dholakia, 2004). Perceived ease of use may contribute towards performance and therefore the lack of it can cause frustration, and therefore, impair adoption of innovations (Davis, 1989; Venkatesh and Davis, 2000). In this study, perceived ease of use refers to the individual’s belief that using mobile banking would not be complicated and would not require effort.

*Trust*: Customer trust is recognized as a critical factor for the success of mobile banking. Trust has gained separate attention in electronic commerce literature due to the presence of high uncertainty and risks associated with the domain (Afshan, 2016). Trust is a complex phenomenon having multiple diverse definitions (Susanto, Lee, & Zo, 2012). (Kim, Lee, & Chung, 2013) define trust as as the willingness to believe partners in a business contract, the credibility of and confidence in transaction targets and their honesty, and the perceived reliability and favour of the targets. Mcknight and Chervany (2001) in Yadav & Mahara ( 2017), define trust as the point of reliability and credibility on new technology by new people. Trust is based on the perceived credibility of the seller. Trust is composed of multidimensional concepts such as ability, integrity and benevolence (Shankar & Datta, 2018). Perceived trust has been identified in previous studies, as an important factor influencing customer intention to engage in certain behaviours online (Yadav and Mahara, 2017). It has been identified as an antecedent of PEOU and PU (Al-Jabri, 2015), as a mediator between PEOU, PU and behavioural intention (Athapaththu and Kulathunga, 2018; Ramos, Ferreira, De Freitas and Rodrigues, 2018), and as a moderator between behavioral intention and actual behavior (Rehman, Bhatti, Mohamed and Ayoup, 2019). However in this study, trust is included as a moderator of the effect of PEOU, PU and behavioural intention in the conceptual model.

### **Empirical Framework**

Jeong and Yoon (2013) found that PEOU, PU, percived credibility, perceived self-efficacy had significant effect on intention to use mobile banking. They also found that PU was the most influential factor which explained the intention to adopt mobile banking. Bhatiasevi (2016) in his study of consumer adoption of mobile banking in Thailand found that performance expectancy, effort expectancy, social influence had positive relationship with behavioural intention to use mobile banking. Perceived credibility and perceived convenience were found to have positive relationships with behavioural intention. Perceived convenience was found to

have the strongest relationship with behavioural intention. Only facilitating conditions and perceived financial cost was found to have negative relationships with behavioural intention. As part of his study, he conducted a multi-group analysis between full-time employees and students. For students, he found that the significant predictors of behavioural intention were performance expectancy, effort expectancy, social influence and perceived convenience. Shankar & Datta (2018) studied adopters of mobile payment in India and found that PEOU and PU had a significant positive impact on m-payment adoption intention. They however found that subjective norm and personal innovativeness did not have significant effects on m-payment adoption intention. Slade, Williams, Dwivedi, & Piercy (2015) found that performance expectancy, social influence, innovativeness and perceived risk significantly influenced non-users' intentions to adopt remote mobile payments in the UK. Abrahao, Moriguchi, & Andrade (2016) found that performance expectation, effort expectation, social influence and perceived risk explained a significant part (76%) of behavioural intention to use mobile payment systems in Brazil. Chawla and Joshi (2017) found that perceived trust, PEOU, perceived lifestyle compatibility and perceived efficiency were found to positively and significantly affect user intention. Ashoka and Ramaprabha (2018) studied mobile banking adoption in Karnataka region, India and found that PEOU, PU, perceived cost, perceived risk, security positively affected adoption of mobile banking.

**H1:** Perceived usefulness will have a positive and significant effect on students' intention to use mobile banking.

**H2:** Trust will significantly moderate the effect of perceived usefulness on students' intention to use mobile banking.

**H3:** Perceived ease of use will have a positive and significant effect on students' intention to use mobile banking.

**H4:** Trust will significantly moderate the effect of perceived ease of use on students' intention to use mobile banking.

### **Research Strategy**

The study adopted a quantitative research philosophy using self-administered questionnaires to generate response for the study. The study population consists of students of Nigerian universities however; the accessible population was students in one public university. The study used convenience-sampling technique to select the accessible respondents. The choice of these students is because they are more accessible to the author and will be more willing to assist in the study. Students were used to gather the data from their fellow students. 253 students were finally involved in the study after accounting for lack of response from some and those who were not users of mobile banking. The questionnaire used measures that have been tested and validated in previous studies. Items in the questionnaire were all Likert-type statements anchored at strongly disagree to strongly agree. Perceived usefulness, perceived ease of use, trust and behavioural intention were measured using items from Shankar and Datta (2018).

**DATA ANALYSIS AND FINDINGS**

**Table 1: Demographic distribution**

Descriptor		Male (n = 110)	Female (n = 143)	Total (n = 243)	%
Age	Under 20 years	22	14	36	14.5
	21 – 30 years	67	119	186	73.5
	30 and above	21	10	31	12.3
Marital status	Single	97	102	199	78.7
	married	13	41	54	21.3
What do you use mobile banking for?	Money transfer	45	79	124	49.0
	Bill payment	11	14	25	9.9
	Purchase of data bundle	5	15	20	7.9
	Purchase airtime	26	24	50	19.8
	Balance enquiries	13	4	17	6.7
	Statement enquiries	0	7	7	2.8
	purchase	10	0	10	4.0
Frequency of use	Once a day at least	34	57	91	36.08
	Once a week at least	57	57	114	45.1
	Once a month at least	19	29	48	19.0

From the table above, males constitute 43.5% of the sample while females constitute 56.5%. 14.5% of the sample are under the age of 20 years, 73.5% are between the ages of 21 and 30 years. 12.3% of the respondents. Singles constitute 78.7% of the respondents while married students constitute 21.3% of the respondents. 36.08% used mobile banking technology once a day at least, 45.1% used it once a week at least while 19% used it once a month at least. On the issue of the functions performed by mobile banking, it is worth noting that respondents were asked to select more than one function it helped them to perform since the technology gives customers the opportunity to choose what to do with it. This therefore means that truly isolating the number of functions each respondent used mobile banking to perform would be quite hard. The details given in the table can best be viewed as a summary or snapshot of the various functions performed by mobile banking which were captured in the study.

**Test of hypotheses**

**Table 2: Correlation matrix of variables**

	MEAN	SD	PU	PEOU	TRUST	INTENTION
PU	4.3241	0.51896	1			
PEOU	4.0817	0.61964	0.282	1		
TRUST	3.7621	0.61578	0.169	0.311	1	
INTENTION	3.7918	0.86763	0.140	0.223	0.343	1

**Table 3: Summary of test of hypotheses**

Independent variable	Inferential statistics	Model 1 Direct effect	Model 2 Direct + interaction effect
Perceived usefulness (PU)	R	0.140	0.344
	R <sup>2</sup>	0.020	0.118
	Adj. R <sup>2</sup>	0.16	0.111
	Significance level	0.026	0.000
	R <sup>2</sup> change		0.099
	Significance change		0.000
	PU x TRUST		0.100
	Significance level		0.000
Perceived ease of use	R	0.223	0.383
	R <sup>2</sup>	0.50	0.147
	Adj. R <sup>2</sup>	0.46	0.140
	Significance level	0.000	0.000
	R <sup>2</sup> change		0.097
	Significance change		0.000
	PEOU x TRUST		0.106
	Significance level		0.000

Note: p < 0.05

**Hypothesis 1:** Model 1 shows that the correlation coefficient (R) is 0.140 signifying a positive relationship between perceived usefulness and intention to use mobile banking. Adjusted R<sup>2</sup> (0.16) shows that perceived usefulness accounts for 16% of the variance in intention to use mobile banking and it is significant (p = 0.026). Hypothesis 1 is therefore accepted.

**Hypothesis 2:** Model 2 shows that the correlation coefficient is 0.344 showing an increase in the strength of the relationship between perceived usefulness and intention to use mobile banking. Adjusted R<sup>2</sup> (0.111) shows that perceived usefulness now accounts for 11% of the change in intention to use mobile banking. R<sup>2</sup> change is 0.099 and is significant (p = 0.000). This shows that trust moderates the relationship between perceived usefulness and intention to use mobile banking. Hypothesis 2 is accepted.

**Hypothesis 3:** Model 1 shows that the correlation coefficient (R) is 0.223 signifying a positive relationship between perceived ease of use and intention to use mobile banking. Adjusted R<sup>2</sup> (0.50) shows that perceived ease of use accounts for 50% of the variance in intention to use mobile banking and it is significant (p = 0.000). Hypothesis 3 is therefore accepted.

**Hypothesis 4:** Model 2 shows that the correlation coefficient is 0.383 showing an increase in the strength of the relationship between perceived usefulness and intention to use mobile banking. Adjusted R<sup>2</sup> (0.147) shows that perceived ease of use now accounts for 14.7% of the change in intention to use mobile banking. R<sup>2</sup> change is 0.097 and is significant (p = 0.000). This shows that trust moderates the relationship between perceived usefulness and intention to use mobile banking. Hypothesis 4 is accepted.

## **DISCUSSION**

Tests of hypotheses 1 and 3 show that perceived usefulness (PU) and perceived ease of use (PEOU) are significant predictors of student intention to use mobile banking. This is supported by previous studies which have established PEOU and PU as predictors of consumer intention to use new technologies and new platforms such as online shopping (Ahn, Ryu and Han, 2007; Alagoz and Hekimoglu, 2012; Renny, Guritno and Siringoringo, 2012; Wei, Lee and Shen, 2018 amongst others) and mobile banking (Jeong and Yoon, 2013; Chawla and Joshi, 2017; Ashoka and Ramaprabha, 2018). The study of Bhatiasavi (2016) is of particular interest here as his study, which was based on UTAUT, found that performance expectancy and effort expectancy that are conceptually similar to perceived usefulness and perceived ease of use were significant predictors of intention to use mobile banking amongst the student sub-group of his sample.

Tests of hypotheses 2 and 4 show that trust has a positive and significant relationship with behavioural intention to use mobile banking as shown by the correlation matrix which is necessary in order to test for moderation effect. This relationship is supported by previous studies on the effect of trust on behavioural intention (Yadav and Mahara, 2017; Athapaththu and Kulathunga, 2018). Trust is found to be a significant and positive moderator of the effect of PEOU and PU on behavioral intention. It is expected that while consumers may believe that mobile banking platforms are useful and easy to use, what enhances their intention to use mobile banking platforms is their level of trust in the system and in the organizations behind those systems.

## **RECOMMENDATIONS**

This study is very limited in its scope as it focuses not just one students, but on students within one university. This limits the generalizability of the study. Hence, it would be necessary to conduct a far wider study with subjects across a wider geographical area in Nigeria. Secondly, gender has been identified as a moderator of the relationship between beliefs like perceived usefulness and behavioural intention to use electronic systems for their personal transactions. It would be necessary to study within the Nigerian context, the place of gender in consumer intention to use mobile banking platforms.

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