Factors Influencing Intention to Adopt Internet Banking by Postgraduate Students of the University of Ibadan, Nigeria

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Abstract

This study examines the factors influencing intention to adopt internet banking by postgraduate students of the University of Ibadan Nigeria. The study adopted the Technology Acceptance Model and Theory of Planned Behaviour as the theoretical framework. The survey instrument employed involved design and administration of a total of 522 survey questionnaires within the University. The results of the study reveal no significant relationship between demographic characteristics of the students and intention to adopt internet banking, while the individual factors (attitude, trust, perceived usefulness, perceived ease of use and perceived behavioural control), and social factor (subjective norms) significantly influenced intention of the students to adoption internet banking. The study concludes that even though some students are yet to adopt the use of

internet banking, their attitude towards online banking is favourable. It is therefore recommended that banks should intensify efforts to improve the security of online banking platform as well as continue to educate their customers on the perceived benefits of internet banking in addition to making the platform more user-friendly and easy to use.

INTRODUCTION

The internet has become an indispensable tool in today's contemporary business environment. This is because almost every aspect of human lives has been affected by advancement in Information and Communication Technologies (ICTs). Advancement in ICTs has made it possible to have e-governance, e-accounting, e-commerce, e-learning, and e-payment. Advancement in ICTs and product designs has also made e-banking or internet banking possible. Financial service industries tapped into the opportunity offered by ICTs to bring a transformation that can be termed as electronic development which is advancing rapidly in all areas of financial markets. The evolution of internet banking (IB) or online banking has brought a great transformation and improvement into banking, altered the nature of personal-customer banking relationships and enabled electronic channels to perform many banking functions that would traditionally be carried out over the counter [1].

The definition of IB varies amongst researches because IB refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone [2,3]. According to few researchers, IB as an internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments [4]. IB refers to the use of the internet as a delivery channel for banking services, including traditional banking services such as balance enquiry, printing statements, fund transfers to other accounts and bill payments. In this study, IB is defined as web-based banking, where bank customers can interact with and obtain a bank's financial services (both informational and transactional) in a virtual environment using any device connected to the internet. IB services covered include online funds transfers, loan applications via the internet, online account balance and statement, automatic payroll deposits, bill payments, airtime purchases, cheque confirmation, salary advance request, investment, standing order, foreign exchange transactions, among others.

The proliferation of IB globally can be attributed to its cost saving potentials and speed of information transmission on the part of banks and convenience on the part of customers [5]. Auta [6] opined that IB has become popular because of its convenience and flexibility, and also transaction related benefits like speed, efficiency, accessibility, etc. Apart from the convenience IB has brought to banking services, it has also reduced the physical transfer of paper money from one place to another or even from one person to another. IB offer services regardless of location and time. IB gives bank customers the option to perform banking transactions and other related activities from home twentyfour hours a day, 365 days a year. In essence, IB services enable a person with a computer and internet access make banking transactions anytime anywhere. Karjaluoto et al. [7] explained that with IB services, the customers who felt that branch banking took too much time and effort are now able to make transactions at the click of their fingers.

Some of the services available on IB include electronic funds transfer, account balance and statement, automatic payroll deposits, bill payments, airtime purchases, cheque confirmation, salary advance request, investment and loans, standing order, foreign exchange transactions, customer feedback, among others. Customers can access IB services using an intelligent electronic device, such as a personal computer, laptop, smart phone, personal digital assistant, and automated teller machine (ATM).

Internet banking services have been available for some time in the developed nations, but the concept is relatively new as a banking delivery service in the developing countries [8]. Banking system started in 1892 in Nigeria, however, IB emerged in 1985, and this brought an end to the kind of banking services rendered by the Nigeria first generation of banks, which have been described as "arm-chair banking". Studies have mentioned that the number of IB users around the world has been steadily growing over the years [9,10], but despite this growing popularity of IB and its numerous benefits, IB has not been widely adopted in Nigeria. Adesina and Ayo [11] pointed out that as IB services are becoming more popular worldwide; there is not enough evidence of consumer acceptance in Nigeria because the volume of cash in circulation has continued to increase pre-and-post consolidation exercise. The low adoption has been attributed to so many factors among which are lack of trust/credibility, low awareness, low literacy level, poor customer's attitude, perceived risk, unavailability of internet access, high cost of internet access, insecurity, inadequate operational facilities like telecommunication and electricity supply, among other factors [11-13].

Studies have investigated the factors that affect consumers' adoption of IB in many countries [14-23]. However, these factors and their importance require further studies due to continual changes in social, economic, political and cultural factors. Moreover, majority of the studies were carried out in the developed world

with little or no focus on developing countries. Therefore, it is not really known to what extent the findings for populations in developed worlds can be generalized to the populations in developing countries as it has been demonstrated that people from different backgrounds are likely to have different attitudes towards acceptance of technology and that people from different cultures have different perceptions and uses of technologies [24]. This empirical research was intended to fill this gap and thereby focused on the factors that influence customers' intention to adopt IB in Nigeria.

Furthermore, IB services deliveries are considered the cheapest, most profitable and wealthiest delivery channel for banking products. But it is important to know that the success of IB adoption is not in the hands of government and banks alone, but relies to a great extent on customers because the customers have great influence on any technology that is brought forward by the bank. Students of a tertiary institution in Nigeria were chosen as the population of this study because students are generally believed to be technology savvy as majority of them are youths. Studies have shown that the young people are more enthusiastic about adoption of new technology. However, it was observed that, even with access to the internet and ICTs, some students at the University of Ibadan are yet to adopt the use of IB for their banking transactions. They often visited the internet for social networking, chatting, sending of mails and pictures, but were found queuing inside the banks for their banking transactions. Based on these observations, it became necessary to conduct a study to determine the factors that influence intention to adopt IB by students, who are one of the major users of banking service, in order to enable relevant stakeholders (banks, regulatory agencies, digital switch operators etc.) formulate policies that will further increase the popularity of IB services in Nigeria.

The main objective of this study was to investigate the factors that influence intention to adopt IB by postgraduate students (PGS) of the University of Ibadan, Nigeria. The specific objectives are:
(i) To examine the relationship between demographic characteristics of PGS and their intention to adopt IB.
(ii) To investigate the influence of individual factors on intention to adopt IB by the PGS.
(iii) To find out the relationship between social influence factors and intention to adopt IB by the PGS.

LITERATURE REVIEW

Internet banking in Nigeria

The continuous advances in the internet technology have brought a great impact on business operations and have in particular brought about a paradigm shift in banking operations all over the world and in particular, Nigeria. The Nigerian

banking industry has gone through reforms which have left the country with twenty two consolidated banks out of eighty nine that were in operation in 2005. The reform was largely targeted at reducing the number of banks in the country and making the emerging banks much stronger and reliable. This reform brought about a radical change in the way banking is conducted in Nigeria. In line with the banking reforms and in the bid to catch up with global developments, improve the quality of service delivery and reduce transaction cost associated with manual banking, Nigerian banks have transformed from manual to automated systems, by joining their counterparts in other parts of the world to invest greatly on ICTs that make IB possible. Presently in Nigeria, IB is one of the services being offered by all Nigerian banks.

Factors influencing adoption and use of IB – Empirical studies

Many research works had been conducted to investigate the factors influencing the adoption and use of IB. Safeena, Date, Hundewale and Kammani [25] found that perceived ease of use (PEOU), perceived usefulness (PU), attitude, subjective norms (SNs) and perceived behavioural control (PBC) were the important determinants of IB adoption among consumers in India. Al-Somali, Gholami and Clegg [26] studied the factors that encourage customers to adopt online banking in Saudi Arabia and found that the quality of the internet connection, awareness of IB and its benefits, social influence and computer self-efficacy had significant effects on the PU and PEOU of IB acceptance. Odumeru [8] did a cross sectional analysis of determinants of acceptance of e-banking in Nigeria using the Technology Acceptance Model (TAM) as research framework and found that acceptance of e-banking in Nigeria was significantly influenced by PU and PEOU of the technology. Adesina and Ayo [11] investigated the level of users' acceptance of the electronic banking services and the factors that determine users' behavioral intentions to use electronic banking systems in Nigeria. The study found that perceived credibility and computer self-efficacy together with PUs and PEOU are critical factors in affecting user's adoption of e-banking. The network security and the security of the system in terms of privacy were the major concerns of the users and these constitute hindrance to intending users.

Suki [22] studied the factors affecting the IB adoption among Malaysian customers. Complexity, also referred to as PEOU was found to have positive effect on IB adoption. Shanab et al. [27] study was to determine factors that influence an individual's intention to use IB based on the Theory of Reasoned Action (TRA) using students from West Malaysia. The results supported the TRA's proposition that an individuals' intention to use IB is influenced by their attitude and SNs. Ramayah, Ismail and Ling [28] found that security, availability of infrastructure, and complexity of technology were named as the main factors which hindered the adoption of IB in Malaysia. Al-Fahim [29] exploratory study of factors affecting the IB adoption among post-graduate students in International

Islamic University, Malaysia revealed that trust, security, convenience, awareness and ease of use were the factors affecting the adoption of IB. The factors that predicted retail banking customers' attitude towards IB services in South Africa are PU, PEOU and trust [30], with trust emerging as the strongest predicator. Maduku also found that, even though customers were skeptical of the IB system, they intended to start using/continue using the service.

In summary, some of the factors that researches have identified to influence intention to use IB are attitude, PUs and PEOU, SNs, PBC, trust, security, convenience, availability of infrastructure, complexity of technology, internet accessibility, computer and internet access costs, perceived credibility, computer self-efficacy, awareness of IB and its benefits, reluctance/resistance to change, demographic characteristics, among others.

RESEARCH MODEL

The factors influencing IB adoption are diverse. Many researchers [8,11,26,31] have studied adoption of IB using TAM, Theory of Planned Behaviour (TPB). Diffusion of Innovation theory (DOI), Unified Theory of Acceptance and Use of Technology (UTAUT), among others models, and have introduced other variables which are validated as having impact on intention to use and actual use of IB. For example, Adesina and Ayo [11] employed an extended TAM to investigate the factors that influence users' acceptance and intention to use electronic banking in Nigeria. Siu-Cheung and Ming-te [31] extended the TAM with social cognitive theory to identify factors that would influence the adoption and continue use of IB in Hong Kong. Aldas-Manzano et al. [32] focused on the credibility variables and conclude that TAM beliefs and perceived risks (security, privacy, performance and social) have a direct influence on IB adoption.

These works were able to establish that TAM can be used to investigate intention to use IB, but pointed out that TAM alone is not sufficient to determine behaviour intention to use information system, IB inclusive. And because majority of the works that have used TAM were in the developed countries, it is yet to be established that IT acceptance models established in developed countries can apply equally well to the developing countries without some modification to account for the different context. This study therefore adopted the TAM in conjunction with TPB to investigate the factors influencing intention to use IB by students of the University of Ibadan, Nigeria. Two additional constructs were added. These are trust and demographic characteristics of respondents.

TAM

TAM was developed to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of technologies and user populations, while at the same time being both

parsimonious and theoretically justified [33]. The model has received much attention from researchers and practitioners as a powerful model for explaining and predicting usage intention and acceptance behaviour in information systems research [34,35]. TAM model explains the relationship between beliefs, PU and PEOU of an information system and users' attitude, intentions, and actual usage of the system. The theory posits that user's acceptance of a new information system is determined by his intention to use the system which is determined by users' attitude. Users' attitude in turn is determined by the two behavioural beliefs PU and PEOU [33]. TAM has been tested and validated in many studies [36,37] and it has been found that an individual's behaviour to use a system largely explains their intentions. A study done by Mathieson [36] found that TAM consistently explains a significant amount of the variance in usage intentions and behaviour. The model puts it that intention to use has a significant impact on a user's ability to actually use a system.

TPB

TPB was developed as an extension of TRA because of the limitations of TRA in dealing with behaviours over which people have incomplete volitional control [38,39]. TPB introduced a third independent determinant of intention, PBC. TPB predicts the occurrence of a particular behaviour, provided that behaviour is intentional. TPB posits that individual behaviour is driven by behavioural intentions where behavioural intention is a function of an individual's attitude toward the behaviour, the SNs surrounding the performance of the behaviour, and the individual's perception of the ease with which the behaviour can be performed (perceived behavioural control). Since its introduction, the TPB has been used in numerous technology adoption contexts, including IB, to predict and explain individual intentions as well as actual self-reported behavior [24,40,41]. The research framework is presented in Figure 1.

RESEARCH VARIABLES

Attitude

Attitude towards behaviour is the degree to which performance of the behaviour is positively or negatively valued. Researchers have noted attitude as the driver of consumer usage of information systems. Davis Karjaluoto et al. [7] explained that attitude is the users' desirability to use the system. Attitude toward IB is defined as an individual's overall affective reaction to using the internet for banking activities. The effect of attitude on intention to use IT has been theorized and validated by several studies and has also been validated in the IB domain [11,25,29,37,41-47]. Results of these studies showed that attitude significantly influenced intention to adopt technologies, IB inclusive. Zolait [47] found that attitude is one of the prominent direct predictors of individual's intention to use IB in Yemen. Therefore, it is hypothesised that:

H1: There is significant relationship between attitude and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.
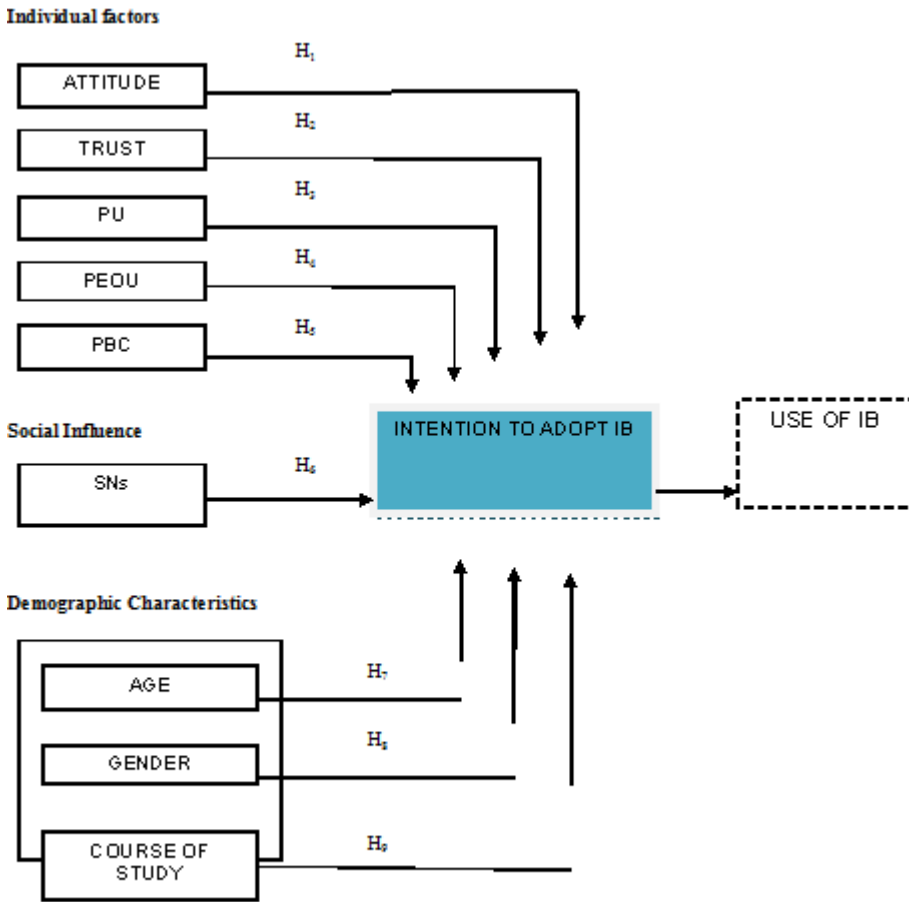
Individual factors

Figure 1: Research model adapted from TAM [69] and TPB [39]

Trust

McKnight and Chervany [48] defined trust as the customers' confidence in quality and reliability of the services offered by an organization. Lack of trust has been recognised as one of the major obstacles to the adoption and use of IB [49,50]. Therefore the establishment of trust and confidence plays a major role when providing financial services. Trust, according to past researches, has been a significant factor in illustrating intention to adopt technology [44,45,48,51-54]. The findings of Suh and Han [54] showed that trust is a very significant determinant of intention to use IB in South Korea. Reid and Levy [45] illustrated that the trust that people have in IB, to securely conclude their transactions and maintain the privacy of their personal information, affects their voluntary intention to use it. Therefore this research incorporated trust among the variables that were used to

investigate the factors influencing intention to adopt IB. This hypothesis was therefore proposed:

H2: There is significant relationship between trust and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.

PU

Davis [42] defined PU as the degree to which a person believes that using a particular system would enhance his or her job performance. It is believed to be one of the fundamental and well-established determinants of the acceptance and use of IT related systems across nationalities. Davis et al. [42] found that even though ease of use is clearly important, the usefulness of information system is even more important and should not be overlooked. Davis et al. opine that "users may be willing to tolerate a difficult interface in order to access functionality that is very important, while no amount of ease of use will be able to compensate for a system that doesn't do a useful task" [42]. Many studies in information system have provided evidence of the significant effect of PU on usage intention [42,44,55]. From IB perspective, the user perception of usefulness might influence his/ her willingness to use the system. Several researchers [10,16,23,44] validated that PU is a very important factor to determine IB usage, hence the need to examine this factor among the study population. It is hypothesised that:

H3: There is significant relationship between PU and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.

PEOU

According to Davis [42], PEOU refers to the degree to which a person believes that using a particular system would be free of effort. It also refers to how clear and understandable interaction with the system is, ease of getting the system to do what is required, mental effort required to interact with the system, and ease of use of the system [56]. Hence an application perceived to be easier to use than another is more likely to be accepted by users. Extensive researches over the years provide evidence of the significant effect PEOU has on usage intention, both directly and indirectly [25,42,44,57-59]. Odumeru [8] found that acceptance of IB in Nigeria is significantly influenced by PEOU, among other factors. Therefore, this study also looked at the influence of PEOU on intention to adopt IB and formulated the hypothesis:

H4: There is significant relationship between PEOU and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.

PBC

PBC refers to people's perceptions of their ability to perform a given behaviour.

According to the TPB, PBC is an individual perception of how easy or difficult it is to perform a specific behaviour. The TPB proposes that one's intention is influenced by his or her PBC. This is based on the premise that individuals are likely to engage in certain behaviour when they believe they have the required resources and confidence to perform this behaviour. Many studies have established that PBC has an effect on key dependent variables such as intention and behaviour in a variety of domains [10,37,39,47] hence the motivation to investigate PBC as one of the factors influencing intention to adopt IB.
H5: There is significant relationship between PBC and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.

SNs

SN is the perceived social pressure to engage or not engage in behaviour. A person's SN is determined by his or her perception that salient social referents think he/she should or should not perform a particular behaviour. A person is motivated to comply with the referents even if he/she does not favour the behaviour. The referents may be superiors (parents or teachers) or peers (friends, colleagues, or classmates) [37]. In TRA and TPB, social influence was tested as SNs on behavioural intention. There is a significant body of theoretical and empirical evidence regarding the importance of the role of SNs on technology use, directly or indirectly [37,60]. Safeena et al. [10] found that intention to use online banking is primarily and positively affected by SNs, while Zolait [47] discovered that SN was the weakest psychological determinant of intention with respect to IB adoption in Yemeni. AL-Muala et al. [43] found significant relationship between Jordanian customers' SNs and their intention to adopt IB services. This study therefore incorporates SNs as one of the variables to investigate and formulated the hypothesis:
H6: There is significant relationship between SNs and intention of PGS of the UI, Ibadan, Nigeria to adopt IB.

Demographic Characteristics (DCs)

Many studies from various disciplines, including banking, have shown that demographic characteristics such as age, gender, educational level, income, may have influence on intention to use a technology [26,30,61]. Al-Somali et al. [26] explained that there is a strong relationship between age and the acceptance of online banking in Saudi Arabia. Ezzi [44], Okeke and Okpala [62] Wang et al. [23] found positive relationship between age and IB adoption. In view of this, age was included among the variables that were investigated to influence the behavioural intention towards adoption of IB by the PGS.

Likewise, gender has been noted as a significant moderator of the relationship between TAM's constructs (PUs, PEOU, and SNs) and intention to use a technological innovation. Venkatesh et al. [63] state that the decisions to adopt

technology by men are mainly determined by the PUs of technology use, whereas women, in contrast, are more influenced by their perceptions about a system's ease of use and social influences. A study conducted by Chen and Wellman [64] which focused on internet usage in China, Germany, Korea, Italy, Japan, Mexico, UK, and USA found that men were more likely than women to use the internet. Some other studies have looked at the influence of gender on IB usage [44,65-68]. Therefore it can be concluded that there is a relationship between gender and intention to adopt IB, hence the need to investigate gender as one of the factors influencing intention to adopt IB by the population of this study. The following hypotheses were then proposed:

H7: There is significant relationship between age of PGS and intention to adopt IB.

H8: There is significant relationship between gender of PGS and intention to adopt IB.

H9: There is significant relationship between course of study of PGS and intention to adopt IB.

Intention

Intention is defined as the measure of strength of a person's intention to perform a specified behaviour. Although there is not a perfect relationship between intention and actual behaviour, intention can be used as a proxy measure of behaviour. An individual's intention is the central factor in TPB and TAM as the two theories posit that behaviour is determined by intention to perform the behavior [33,39,69]. Studies in IB have also validated that intention leads to actual usage [10,44].

METHODOLOGY

Location and population of the study

The location for the study is the University of Ibadan, situated in the South-West region of Nigeria. The study population includes all PGS of the school. Descriptive survey is adopted for the study. The sample frame for this study is the list of all PGS obtained from the Academic Planning unit of the institution. The total number of PGS as at December 2014 was 11,026.

Multistage sampling method was used and this is because it allows for the combination of different probabilistic method in a variety of useful ways that helped to select the sample. First, the population was divided into faculties. Purposive sampling was then adopted to select three faculties out of the list of faculties. The faculties selected are Science, Technology and Arts. These

faculties were chosen so as to include students from Science and Art disciplines and because they also have large population of students. This could allow the researcher to know if the discipline of the students affects their intention to adopt and use of IB. Thereafter, proportional to size sampling technique was used to select 15% respondents from each of the three faculties. This in in accordance with Brown [70], Naing, Winn and Rusli [71] who opine that the sample size selected from a population of a study must be at least 5%. The total sample size is 522. The summary of the sample size is presented in Table 1.

Table 1: Selected Sample Size of the Population

Faculty	Male	Female	Population	Sample size (15% of the faculty population)
Science	1109	582	1691	254
Technology	586	95	681	102
Art	689	420	1109	166
Total	2,384	1,097	3,841	522

The instrument used for data collection is questionnaire because of its cost effective way of collecting data from a large number of respondents in a short period. Questionnaire has also been used in previous similar studies. The questionnaires consist of scales that were adopted from previous studies. Zolait [47] modified for the purpose of this study. The respondents were asked to indicate their opinion on a likert scale (1-5) with response ranging from "strongly disagree" to "strongly agree".

522 copies of questionnaire were administered at the faculties, departments and halls of residence of the institution with the help of two research assistants. 440 copies were retrieved and 382 copies were considered useful for data analysis. This gives a response rate of 73.2%. The validity of the questionnaire was ensured by giving the instruments to scholars who are experts in the area of study. Their input was used to refine and restructure the instrument and establish its content validity. Construct validity was achieved through the use of Cronbach's alpha to select constructs with higher values of alpha. The overall Cronbach alpha (α) is 0.899. The results of the Cronbach alpha statistic are presented in Tables 2 and 3. All the items have a Cronbach alpha above 0.70. This is evidence that all the items are sufficient to measure the students' intentions to adopt IB. Cooper and Schindler [72] suggested that scales of 0.7 have an acceptable reliability coefficient and thus acceptable for surveys.

Table 2: Reliability Statistics for Research Instrument

Cronbach's Alpha (α)	Cronbach's Alpha Based on Standardized Items	No of Items
.899	.912	32

Table 3: Cronbach alpha Statistics

Factor	Cronbach's Alpha (α)	No of Items
Attitude	.763	4
Trust	.712	4
PU	.715	5
PEOU	.759	5
PBC	.765	5
SNs	.770	5
Intention	.782	4

The respondents' right for confidentially and privacy was taken into consideration in the process of designing and administering the questionnaire. Efforts were made to ensure that the respondents were not exposed to conditions that could bring harm to them. They were given the free will to choose whether to participate in the study or not. The study was therefore conducted by following ethical principles that govern the conduct of social research. Data obtained from the questionnaire was coded and analysed using Statistical Package for Social Science (SPSS). The variables used to measure Attitude, Trust, PU, PEOU, SNs, PBC and intention using a 5-point Likert scale, were recoded; 1=strongly disagree, 2=disagree, 3=not sure, 4=agree, 5=strongly agree. The analysis involved the descriptive analysis of the DCs. Spearman's non-parametric correlation and ordinal regression analyses were used to test the hypotheses.

DATA ANALYSIS AND DISCUSSION

Descriptive analysis of DCs

The descriptive statistics revealed that 50.5% were female while the males were 49.5%. Majority (76.4%) of the respondents were between the age bracket 21-30 years, 19.6% between the age bracket 31-40 years, 3.4% between the age bracket 41-50 years, and 0.5% were above 51 years old. The faculty of Science had more respondents (47.4%), followed by the faculty of Arts (28.5%), while respondents from the faculty of Technology were 24.1%. Department of microbiology had the highest number of respondents from the faculty of Science.

Electrical engineering department had the highest number of respondents from the faculty of technology, while respondents from the department of English were the highest from the faculty of Arts.

Test of hypotheses

The study set the significance level for all hypotheses to be a pre-set value of 0.05. All hypotheses stated were tested in null form, posing the assumption that a significant relationship does not exist between the independent and dependent variables. The hypotheses in the alternative form assume that a significant relationship exists between the concerned variables. If p value is less than or equal to 0.05, the alternative hypotheses will not be rejected whereas the null hypotheses will be rejected and vice-versa.

Spearman's correlation was employed to test hypotheses 1 to 7, while ordinal regression was employed to test hypotheses 8 to 10. A summary of the results of the test of hypotheses 1 to 7 is presented in Table 4, while a summary of the ordinal regression results of hypotheses 8 to 10 is presented in Table 5.

Table 4: Spearman's Correlation Results of Hypotheses One to Seven

Hypotheses	Factors		Intention
1	Attitude	Correlation Coefficient	.481**
		Sig. (2-tailed)	.000
		N	376
2	Trust	Correlation Coefficient	.488**
		Sig. (2-tailed)	.000
		N	377
3	PU	Correlation Coefficient	.521**
		Sig. (2-tailed)	.000
		N	373
4	PEOU	Correlation Coefficient	.504**

		Sig. (2-tailed)	.000
		N	374
5	PBC	Correlation Coefficient	.452**
		Sig. (2-tailed)	.000
		N	374
6	SNs	Correlation Coefficient	.187**
		Sig. (2-tailed)	.000
		N	371
7	Age	Correlation Coefficient	.018
		Sig. (2-tailed)	.722
		N	380

The results of the correlation test (Table 4) shows that there is a significant correlation between attitude and intention (r=0.481, p<0.05, two-tailed). Also, the result indicates a moderate and positive relationship between attitude and intention, explaining only 23.1% of the variation. The null hypothesis 1 is therefore rejected. This means that there is significant relationship between attitude and intention of PGS to adopt IB. The results in Table 4 also reveals that there is a significant correlation between trust and intention (r=0.488, p<0.05, two-tailed), showing a moderate and positive relationship between trust and intention, and explaining about 23.8% of the variation in students' intention. Therefore, the null hypothesis is rejected. It is therefore stated that there is significant relationship between trust and intention of PGS to adopt IB.

Table 4 equally reveals that there is a significant correlation between PU and intention (r=0.521, p<0.05, two-tailed). The result indicates a moderate and positive relationship, explaining up to 27.1% of the variation. The null hypothesis is rejected. Alternatively, it is stated that there is significant relationship between PUs and intention of PGS to adopt IB. A significant correlation between PEOU and intention (r=0.504, p<0.05, two-tailed) exist as shown in Table 4. The result equally shows a moderate and positive relationship between PEOU and intention, explaining about 25.4% of the variation in students' intention. The null hypothesis is therefore rejected, which mean that there is significant relationship between PEOU and intention of PGS to adopt IB.

Table 4 equally reveals that there is a significant correlation between PBC and intention (r=0.452, p<0.05, two-tailed). Also, the result indicates a weak and positive relationship, explaining up to 20.4% of the variation. Therefore, the null hypothesis is rejected and it is stated that there is significant relationship between PBC and intention of PGS to adopt IB. The results show a significant correlation between SNs and intention (r=0.187, p<0.05, two-tailed) with a very weak but positive relationship, explaining about 3.5% of the variation in students' intention. Hence the null hypothesis is rejected, which means that there is significant relationship between SNs and intention of PGS to adopt IB. Table 4 also shows that there is no significant correlation between age and intention (r=0.018, p>0.05, two-tailed). Also, the result indicates a very weak but positive relationship, explaining only about 0.03% of the variation. Hence, the null hypothesis is not rejected which mean that there is no significant relationship between age of PGS and intention to adopt IB. The results of the ordinal regression used to test hypotheses 8-10 is shown in Table 5.

Table 5: Ordinal Regression Result on Hypotheses Eight to Ten

Hypotheses	Factor	Model Fitting Information			Goodness of Fit				Pseudo R-square	
			Df	Sig.		Chi-square	df	Sig.	Cox & Snell	Nagelkerke
8	Gender	Final	1	0.58	Pearson	9.898	13	.702	.009	.010
					Deviance	11.125	13	.600		
					Valid Cases	380				
9	Course of Study	Final	0.42	.000	Pearson	415.873	546	1.000	.312	.315
					Deviance	312.909	546	1.000		
					Valid	374				

					Cases					
					Devian ce	25.94 5	26	.466		
					Valid Cases	380				

Dependent Variable: Intention

From Table 5, a fitting model was generated for the relationship of gender with intention to the adopt IB (df=13, N=380, p>0.05). The overall model explained about 1.0% of the variation in intention. The goodness of fitness measures indicates a non-significant Pearson Chisquare level (p>0.05). Thus, the gender of the students does not have a significant relationship with their intention to adoption IB. Null hypothesis eight is therefore not rejected. A fitting model was generated to test for relationship between course of study and intention to adopt IB (df=546, N=374, p>0.05). The overall model explained about 31.5% of the variation in intention. The goodness of fitness measures indicates a non-significant Pearson Chi-square level (p>0.05). Thus, the course of study of the students does not have a significant relationship with their intention to adopt IB; hence null hypothesis nine is not rejected.

The demographic characteristics were combined to know their combined effects on intention. This is presented in Table 6.

Table 6: Ordinal regression result of DC (combined) and intention

Factors	**Model Fitting Information**			**Goodness of Fit**				**Pseudo R-square**	
Age		D f	Sig.		Chi- square	Df	Sig.	Cox & Snell	Nagelker ke
Gender	Fina l	4 4	0.00 0	Pearso n	1108.2 83	137 0	1.00 0	.315	.319
Course of study				Devian ce	684.53 6	137 9	1.00 0		
				Valid Cases	378				

Dependent Variable: Intention

A non-fitting model was generated for the relationship of all DC and intention to adoption IB (df=1370, N=378, p>0.05). The overall model explained about 31.9% of the variation in intention. The goodness of fitness measures indicates a non-significant Pearson Chisquare level (p>0.05). Thus, the combined demographic characteristics of the students do not have significant relationships with their intention to adopt IB.

Discussion of findings

The results of this study have provided insightful managerial and theoretical implications as discussed in the following. The test of hypotheses reveals that the DCs (age, gender and course of study) of PGS have no relationship with intention to adopt IB when tested singly and jointly. This result is in contrast to the findings of some past studies [23,73]. For example, Taylor and Todd [37] and Gefen and Straub [51] found that gender has a direct influence on adoption of technology with men and women having different rates of computer technologies adoption. Lichtenstin and Williamson [74] also found that gender influenced consumer adoption of IB in Australia. Putrevu [75] discovered that difference existed in information processing between men and women as both genders had different rate of technology acceptance. Malaysian females had significantly higher BI to use IB services [68], while male retail banking customers in Awka, Anambra State, Nigeria were more inclined to use e-banking than the females [62].

However, the results of this study are related to the findings of Sathye [3] who did not find significant relationship between personal respondents' demographic traits and the tendency to use IB services by Australian customers. Padachi et al. [76] also did not find significant differences between adopters and non-adopters in terms of demographic variables. Mermod [66] findings show that there was no significant relationship between gender and the IB usage among online customers of Turkish banks. Likewise the study of Munusamy et al. [67] did not find significant relationship between gender and IB. Actually, relationship between gender and adoption of IB in past studies are somehow inconsistent as conflicting results have been reported in literatures. The reasons for this could be due to the fact that behavioural studies have been reported to be subjective as human exhibit different attitude and behavior.

This study found no relationship between the age of the respondents and intention to adopt IB. This is in contrast with some past studies [15,23,26,44] which found positive relationship between age and IB adoption. For example, Wang et al. [23] found that students below the age of 29 years were more willing to use e-banking as opposed to those who were above 50 years of age. Akinci et al. found age as an important factor that influenced the usage of IB in Turkey. Our findings, however, are in line with Okeke and Okpala [62] who also

established that age had no relationship with IB adoption. The results of this study could be because there was actually no disparities in terms of age as majority of the respondents (96%) fell within the same age bracket (21- 40 years). Interestingly, the course of study of the study population also does not have a significant relationship with intention to adopt IB, even with the assumption of the researcher that the background of the students (Arts versus Science/Technology) could influence their intention to use IB, as students of science and technology was believed would be more technology savvy than the Arts students.

The results of this study show that the individual factors (attitude, trust, PUs, PEOU and PBC) have significant relationship with students' intention to adopt IB. These findings have been validated by many researches and this pattern is consistent with existing literature. Many studies have empirically verified that individuals' intentions to adopt technologies, including IB domain, are motivated by their attitudes [37,39,40,42,44-46] . For example Liao, Shao, Wang and Chen [77] found that attitude toward using IB by customers significantly affects their intention to adopt the technology. A study carried out by Suh and Han [54] on online survey of IB customers of five major banks in Korea also revealed similar results. Nor et al. [27] found that an individuals' intention to use IB is influenced by their attitude. Safeena et al. [10] found that attitude is one of the important determinants of online banking adoption. AL-Muala et al. [43] found significant relationship between attitude and intention to adopt IB services among Jordanian customers. Zolait [47] found that attitude is one of the direct predictors of intention to use IB among Yemeni bank customers. The implication of this result is that, when people have good attitude towards technology, there is high likelihood to adopt the technology. In the same vein, when the students have good attitude towards IB, there is the likelihood of them adopting the usage in the future. For example when customers believe that IB is the easy, convenient, flexible, efficient and secured to conduct banking transactions, they are likely to adopt it.

The results of this study suggest that trust is one of the factors that influenced intention of PGS to adopt IB. The significance of the influence of trust on intention to adopt IB, as found in this study, has been validated by many studies [1,78,79]. Giannakoudi [1] stated that consumer trust significantly affect IB adoption in Uganda. Nor and Pearson [27] illustrated that online services need the trust element, since trust is one of the main additions influencing the electronic setting. Padachi et al. [76] found that trust affected the adoption of IB in Mauritius. Nor and Pearson [27] found that trust had a significant positive effect on intention to use IB. Several other researchers have explained that the disposition to trust is important in the initial stages of a relationship, and that is what leads consumer to adopt internet services [48]. This implies that when consumers trust the security and privacy of IB, they are likely to adopt it. Trust in electronic channels is very important because of some risk involved in using

electronic media for financial transaction. As security is the main concern in online transactions, commitments and promises such as keeping private information and transactions safe and secure must be fulfilled. Trust can be improved through uncertainty and risk reduction strategies. Strategies may include development of security technology, embracing the best available encryption and firewall technology, working closely with online security firms, and adopting privacy and security policies. These strategies depict high level of security that banks should adopt and their continuing efforts toward reducing uncertainty and risk of using IB.

This study found that PU influenced intention to adopt IB by the PGS. This is in conformity with previous studies [29,33,59,60,73,80] which provide evidence of the significant effect of PU on usage intention of various technologies. The significant effect of PU on intention to adopt IB is clearly demonstrated by Chen and Barnes [81] who pointed out that PU is one of the important antecedents to online initial trust. Qureshi, Zafar and Khan [82] found that PU is one of the main perusing factors to accept online banking system. Safeena et al. [10] found that PU is the most important predictor of intention to use online banking in India. This means that the more the benefits perceived by bank customers of the use of IB, the greater the likelihood of adoption. This therefore makes it imperative for banks to educate and enlighten their customers of the benefits associated with IB adoption and use so as to increase its rate of adoption.

In relation to the findings of this study, the significance of PEOU and intention to adopt and use IB has been validated by Davis [33], Gefen and Straub [51], Padachi et al. [76], Safeena et al. [10], Su et al. [80] Venkatesh and Davis [83]. For example, Padachi et al. [19] identified ease of use as the most significant factor affecting the adoption of IB in Mauritius. Odumeru [8] revealed that there is a positive relationship between PEOU and acceptance of e-banking by customers. This makes it imperative for relevant stakeholders to design more user friendly IB hardware and software to increase its adoption and use. This also makes it necessary for internet service providers and relevant government agencies to put in place programmes that will make computers and the internet more accessible to the general populace.

This study also reveals significant relationship between PBC and intention to adopt IB. This result is in conformity with some other past studies. For example, Safeena et al. [10] established that PBC was one of the most influential factors explaining the use of online banking services in India. The results of Nor and Pearson [27] also found that PBC significantly affected intention to use IB. Zolait [47] study revealed that PBC was one of the overall prominent predictors of an individual behavioural intention to use IB. Mathieson [36] found that control was a significant determinant of intention to adopt technology. The implication of these findings is that IT producers and programmers, as well as banks need to produce IT devices and IB software/platform that are easy to use, less cumbersome,

straight forward, user friendly, easy to understand and navigate so that customer can feel more confident to use the IB applications on their own, without needing any assistance. Government can also encourage the use of IB among the populace by ensuring that the resources (internet access, internet facilities, power supply) needed to gain access to the internet are available and affordable. The result of the hypotheses of the study found that there is a significant relationship between the social influence factor (SNs) and intention to adoption of IB. The result however shows a weak but positive correlation between the two variables. This finding is related to the studies of Hsu and Lu [59] and Venkatesh and Davis [83] who have demonstrated the significance role of SNs on technology use, directly or indirectly. Hartwick and Barki [84] found that the relative influence of SNs on intentions was stronger for potential users with no prior experience since they are more likely to rely on the reactions of others in forming their intentions. Nor and Pearson [27] found that SNs influenced intention of students in Malaysia to use IB. AL-Muala et al. [43] found significant relationship between customers SNs and their intention to adopt IB services in Jordan. Safeena et al. [10] established that SN is one of the important determinants of online banking adoption. The implication of this is that banks should employ more promotional activities to promote the use of IB among its customers. Promotional activities such as advertisement and referral plan could be used to target potential IB users.

CONCLUSION

This study has been able to give an exposition into the factors that may influence or inhibit IB adoption among PGS of University of Ibadan. The findings of this study show that intention to adopt IB by PGS of the University of Ibadan, Nigeria was not influenced by their demographic characteristics, but by individual and social influence factors (attitude, trust, PU, PEOU, PBC and SNs). It is therefore recommended that efforts be made by banks to improve on the security of the IB interface, so that customers can have trust in using the service. The usefulness of IB service to customers should also be constantly communicated to the customers by the banks in addition to making sure IB platform is easy to use through improved accessibility and introduction of more user friendly IB software. Banks should not only make IB more secure, but also put in place policies, and infrastructure that will further boost customer confidence. Furthermore, governments should encourage the use of IB by ensuring that the resources (internet access, internet facilities, power supply) needed to gain access to the internet are available and affordable.

LIMITATIONS OF STUDY AND FUTURE RESEARCH DIRECTION

First, the sample of this study involved only PGS and just three out of twenty one faculties in the University. As a result, the findings may not be fully generalised to the entire University. Special caution should also be taken when generalising or

extrapolating these findings to different cultural and social environments. As a result of the limitations, the following suggestions are made for further study:

(i) Effort should be made to carry out this research using a cross-sectional research approach using both the undergraduate and postgraduate students in all faculties of the institution and other institutions and regions in the country.

(ii) The instrument for data collection used for this study is questionnaire. Future research can consider using interview, focus group discussions or triangulating these instruments to further give insight to diverse opinions from respondents.

CONTRIBUTIONS TO KNOWLEDGE

This study has been able to contribute to knowledge in the area of adoption of IB in Nigeria by establishing factors influencing intention to adopt IB among students of a tertiary institution. This study has been able to provide relevant information that can help banks to know the factors that may facilitate or inhibit adoption of IB among banks customers. The study has also been able to validate the TAM and TPB as theories that can be used to study IB adoption and use.

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