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Exploring the Factors that Influence the Adoption of Internet Banking in Ghana

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Abstract

The purpose of this study is to investigate the key determinates of the adoption of internet banking in Ghana through the theoretical lens of an extended Unified Theory of Acceptance and Use of Technology (UTAUT) model. A questionnaire was developed based on previous works in the area of technology acceptance and internet banking. Questionnaires were distributed through two banks in Ghana to customers as they enter each bank's main office. Data relating to constructs were collected from 273 customers and subjected to structural equation modelling (SEM) analysis. Confirmatory factor analysis was performed to examine the reliability, construct validity convergent validity and goodness of fit of the structural and measurement model. The result of the study found support for the influence of performance expectancy, effort expectancy, social influence, perceived credibility on behavioural intention and it positively supported the relationship between behavioural intention and usage behaviour. However, the relationship between facilitating conditions was not supported. This study is one of the first internet banking studies to have culled an additional construct (perceived credibility) from internet banking research into the UTAUT model to investigate the adoption of internet banking in a Sub-Saharan Africa context of Ghana.

Keywords: **Internet; Banking; Ghana; UTAUT; SEM; Sub-Saharan Africa**

INTRODUCTION

With the number of internet users approaching 3 billion and internet access increasingly shifting to broadband and in particular mobile broadband, Africa has been adjudged the fastest growing region in terms of internet usage between 2010 and 2013, with 93 million subscriptions, 11% penetration and an 82% cumulative annual growth rate (CAGR) [1]. Based on this, countries such as Nigeria, Ghana, Kenya and Senegal have been said to have demonstrated social and economic gains across the Sub-Saharan African region from the development of their Internet economies [2]. Given the additional channels that the internet technology has provided for banks, to promote and deliver services, the sector can be said to have been particularly affected by the internet explosion [3]. Moreover, Tarhini [4] have posited that despite the deployment of technologically driven services in the banking sector, the adoption of the internet banking service in the Sub-Saharan African region still remains an innovation. Due to this, a previous study by Njuguna [5] have revealed that, irrespective of the significant growth in the adoption of the internet technology by users in the Sub-Saharan African region, the number of financial transactions carried out over the internet remains very low.

Researchers have therefore sought to unearth the challenges, barriers and opposition that come with the provision of the service in Sub-Saharan Africa by focusing on issues relating to adoption, deployment and diffusion [4,6-9]. However, Curran [10] have established that, persuading customers to switch their behaviour from the traditional encounter to use internet banking has been the major barrier to the adoption of the internet technology. On the basis of this, studies that have sort to identify the more important factors that influence consumers' internet banking adoption behaviour have dominated internet banking research in most Sub-Saharan African countries [7].

These studies have had their focus on issues such as: factors that influence consumers' intention to adopt internet banking [11-13] internet banking usage [6,14] attitude towards adoption [15] and security and privacy [16,17]. Nonetheless, a careful assessment of these studies revealed that, although different factors have been unearthed, several gaps still exist in the current literature. For instance, after conducting a study in Bryson [15] stated that, since their study examined only antecedents towards the attitude to adopt internet banking, future studies could enhance their research model, and include factors such as behavioural intention and actual usage. Other authors have also argued the need for future researchers in the Sub-Saharan African region to explore other factors that influences the adoption of internet banking in the area [11,12,14].

Theories adopted by researchers in determining the adoption of internet banking in the region have been dominated by the Theory of Planned Behaviour (TPB) [5] and the Technology Acceptance Model (TAM) [12,14,15]. Moreover, these theories have been

criticised for ignoring important factors that may influence intention behaviour relationship [18] and providing only a limited guidance on how design and implementation can be used to anticipate technology usage. Furthermore, these studies have over the years focused on the success factors of internet banking adoption to the neglect of the resistance factors of internet banking [19]. In view of this, this study seeks to bridge this gap in internet banking research in Sub-Saharan Africa by exploring the influence of performance expectancy, effort expectancy, social influence, perceived credibilty, facilitating conditions and behavioural intention on consumers' adoption of internet banking in Ghana.

The remaining sections of this study are laid out as follows: Section 2 provides an overview of the Internet banking literature and internet banking adoption model, and the conceptual model and research hypotheses are presented in Section 3; Section 4 then summarises the research methodology conducted in this study; the findings, analyses and discussion follow in Sections 5 and Section 6 respectively; the study's conclusion and main limitations and future research directions are deliberated in Section 7.

LITERATURE REVIEW

Concept of Internet Banking

The adoption of internet banking comes with benefits for both the users and the banking institution [19-24]. These benefits as revealed by some researchers as either direct or indirect [7,25]. For instance, Martins [25] have stated that, whilst banks can decrease the cost involved in the management of branches, by encouraging and supporting the use of the internet platforms, users can also decrease their costs by not paying for transactions and benefiting from online exclusive product with higher profits. In view of this, Lee [19] has revealed that the most positive predictor of the intention to use internet banking is perceived benefit. However, the unwillingness of customers' to adopt this technological innovation has led to the inability of banks to fully maximize the opportunities that are made available [25].

Therefore, other stream of research on internet banking have focused on the challenges involved in the adoption of the internet technology. For consumers in developed countries, researchers have argued that, internet banking can be a complementary service offered by banking institution in addition to ATMs [26]. Therefore, factors such as ease of use and convenience become important criteria when they consider internet banking adoption. Andoh [9] has postulated that, with countries in the Sub-Saharan African region, factors such as insufficient electricity supply, inadequate telecommunication, literacy of customers, cost of surfing the internet, lack of understanding of the benefit of online banking, security and trust are the major issues that influence the adoption of the internet technology. Hence, there is the need for researchers to explore these factors to understand the extent to which these factors influence consumers' usage behaviour.

Adoption Models

The adoption of technology, in present times has become an issue of much research. This has led to the proliferation and emergence of different theories that offer new insight in addressing technology adoption issues at both individual level and organizational level. On the basis of this, research on internet banking adoption, which is guided by theoretically based approaches, tends to be dominated by the Technology Acceptance Model (TAM); Theory of Planned Behaviour (TPB); Theory of Reasoned Action (TRA); and the Innovation Diffusion Theory (IDT). Each of these theories proposed in literature is made up of the same dependent variable, use or intention to use, but with various antecedents or independent variables that will aid the understanding of the acceptance of the new technology.

The Theory of Reasoned Action (TRA) posits that the behaviour of an individual is usually driven by behavioural intention, which is often a function of an individual attitude toward the behavioural and subjective norms surrounding the performance of the behaviour [27]. Therefore, the stronger the intention to adopt or continue using internet banking the more positive the attitude to adopt internet banking and the greater the perception of social pressure to use internet banking. In spite of this, Ajzen [27] has argued that the theory is limited by correspondence. In essence, for the theory to predict specific behaviour, there should be an agreement of attitude and intention on an action, target, context, time frame and specificity [28]. In view of this, a major criticism of TRA has been that, it ignores the situational factors that may influence the attitude–intention–behaviour relationship and is thus ill-equipped to predict situations in which individuals have low levels of volitional control [18].

The theory of planned behaviour (TPB) builds on the limitations of the theory of reasoned action (TRA) by expanding the boundary conditions of the theory of reasoned action to deal with the behaviours over which individuals by introduction have incomplete volition control. Ajzen [27] opined that an additional determinant of intentions and behaviour is the perceived behavioural construct. Therefore, this construct is said to be the resource and opportunities available to an individual that influence the adoption of a particular behaviour. Moreover, the theory of planned behaviour has also some short comings. This has led to some authors criticising it for ignoring important factors that may influence intention behaviour relationships [18]. For instance, Eagly [29] has argued that habit, perceived moral obligation and self-identity are variables that could predict intention in the TRA that TPB failed to address. Yee-Loong [30] and Taylor [31] have criticised the theory by stating that, since the theory requires individuals to be motivated to perform a certain behaviour, this assumption may be problematic when studying consumer adoption in addition to an identical belief structure among respondents when it comes to performing a behaviour.

The technology acceptance model (TAM) turns to be an answer to the criticism of earlier adoption theories (TPB and TRA). TAM was developed in 1989 by Davis [32-34] to test the acceptance and use of technology. The theory is a simplification of the

Theory of Reason Action (TRA) and the Theory of Planned Behaviour (TPB). TAM has two main constructs that influence behavioural intention to use a system and finally actual usage. These two factors are the perceived usefulness and perceive ease of use. In spite of this, TAM has been criticised for relying on respondents' self-reporting and assuming that self-reported usage reflects actual usage. Taylor [31] criticised the model for providing only a limited guidance of how design and implementation can be used to anticipate technology usage.

Therefore, a more comprehensive set of factors is obtained from Venkatesh [35] UTAUT as a unified view of user adoption. By combining eight competing theoretical models, the authors have derived an overarching set of four constructs that have an immediate influence on acceptance and usage behaviour. Performance expectancy which is the first among the other constructs comprises of constructs like perceived usefulness [32-34] and extrinsic motivation in TAM and Relative advantage in Diffusion Theory [36]. Effort expectancy is also made up of constructs such as perceived ease of use in TAM and complexity in Diffusion Theory. Whilst social influence is made up of subjective norm in TAM and image in Diffusion Theory, facilitating conditions comprises of constructs such as behavioural control in TAM and compatibility in Diffusion theory. These factors are deemed as having a direct effect on internet banking adoption and are likewise used as fundamental antecedents to unravelling information systems adoption in the developing world. In view of this, to fill the gaps identified as existing in previous literature based on the limitations of the theories adopted for the various studies, this study selects the construct of the UTAUT model and the perceived credibility variables as the framework for the study.

RESEARCH MODEL

As presented earlier, Venkatesh et al. [35] empirically compared eight models in a longitudinal field study and divided the data into mandatory and voluntary settings. Moderating variables that had been reported in literature as having an influence on information systems adoption and usage decisions were also considered. However, it was realised that, with the exception of motivation model (MM) and social cognitive theory (SCT), there was an increase in the predictive validity of the models after the inclusion of the moderators. Venkatesh et al. [35] also investigated the commonality among these models and found seven constructs to be significant direct determinants of intention or usage in one or more of the individual models. Therefore, they hypothesised that five of these constructs play a significant role as direct determinants of user acceptance and usage behaviour. These include performance expectancy; effort expectancy; social influence; facilitating conditions; and behavioural intention. Moreover, the UTAUT model like other technology acceptance models have focused solely on the success factors of technology adoption to the neglect of the factors that resist the adoption of technology. Hence, in examining the barriers to the adoption of internet banking, Rotchanakitumnuai [37] have posited that, the most critical issue of consumers intention to adopt internet banking is security and trust. Therefore, considering that the study seek to explore the factors that influence internet banking

adoption in Ghana, an additional construct (perceived credibility) culled from internet banking research have been taking into the research structure. On this basis, the purpose of this study is to explore the influence of performance expectancy, effort expectancy, social influence, perceived credibilty, facilitating conditions and behavioural intention on consumers' adoption of internet banking in Ghana.

HYPOTHESIS DEVELOPMENT

Performance Expectancy

This represents the degree to which individuals using information systems believe that the use of the system will help in the attainment of gains in their job performance. However, in relation to internet banking adoption, Alalwan [38] has defined performance expectancy as the terms of utilities extracted by using internet banking which is productive relative to the traditional encounter. The performance expectancy construct is made up of constructs of other models that are deemed as having a relation with performance expectancy. These constructs include: perceived usefulness (TAM, and combined TAM-TPB); extrinsic motivation (MM); job-fit (MPCU); relative advantage (DOI); and outcome expectancy (SCT). The perceived usefulness and relative advantage construct have been widely captured as fundamental determinants of behavioural intention towards internet banking adoption [25,39,40]. For instance, Foon and Fah has empirically demonstrated that the greater the perceived relative advantage, the more likely internet banking would be adopted. Similarly, other studies have also argued that a most critical factor to the adoption of internet banking is the perceived usefulness construct [12,14,41]. Hence, the following hypothesis is proposed:

H1: Performance expectancy will positively influence consumers' intention to adopt internet banking in Ghana.

Effort Expectancy

Effort expectancy on the other hand represents the degree of ease associated with the use of a system. Other constructs in different models also capture this same concept. They include: perceive ease of use (TAM); and complexity (DOI and MPCU). However, the relationship between effort expectancy and behavioural intentions is often debated due to the effect of performance expectancy on behavioural intention. Even though the effort expectancy construct was aggregated in the UTAUT from the perceived ease of use and complexity construct, research conducted using the TAM model has provided contradictory outcomes when reviewing the perceived ease of use and studies using TAM, IDT and MPCU in examining complexity [33,36,42] Moreover, in respect of the effort expectancy construct, Zhou [43] has posited that when users feel that internet banking is easy to use and does not require much effort, they will have a high expectation towards acquiring the expected performance; or else, their performance expectation will be low. In view of this, we conclude that a positive relationship exist

between perceived ease of use and intention to adopt a system. Hence, the hypothesis:
H2: Effort expectancy will positively influence consumers' intention to adopt internet banking in Ghana.

Social Influence

Social influence can also be defined as the degree to which an individual perceives how important others believe he/she should use a new system. This particular construct is represented differently in existing models such as subjective norms (TRA, TAM2, TPB/DTPB and combined TAM-TPB), social factors (MPCU), and image (DOI). Al-Qeisi has posited that a comparison between models established that the behaviour of these construct in relation to the adoption of new systems is similar. Hence, making Datta [44] posit that for adopters without enough experience, the perception of referent becomes an important issue for behavioural intention. Moreover, although social influence has been modelled on different models, the result in regards to its importance in predicting behavioural intentions has been debatable. Moreover, AbuShanab [45] have stated that social influence is expected to positively influence behavioural intention in relation to internet banking adoption. Hence, the hypothesis:

H3: Social influence will positively influence consumers' intention to adopt internet banking in Ghana.

Perceived Credibilty

As posited by Wang perceived credibility can be defined as the extent to which a potential customer feel satisfied that the use of internet banking is free from security and privacy threats. In essence, information of customers are protected from unsanctioned intrusions and outflows. Yousafzai [18] have also revealed that issues of trust in institutions and technology also matters when measuring credibility. Erdem & Swait have argued that other variables such as the required expertise in performing a task should be included in the credibility construct. On the basis of this, perceived credibility should not be only limited to security, privacy and trust but also the expertise in carring out a task should also be consisdered. In essence, consumers are not only concern about stolen username and password but also the issue of faulty transaction. Extant studies have shown that with regards to developing countries suh as Ghana, the issue of trust, security and Privacy are important factors that influence the consumers intention to adopt internet banking [12]. Therefore, this research proposes the following hypothesis:

H4: Perceived credibility will positively influence consumers' behavioral intention to adopt internet banking in Ghana.

Facilitating Conditions

Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of a system [35]. It is important to note that the usage of a system requires a particular skill, resources and technical infrastructure [46,47] and these facilities such as the internet and computers are usually not free from the consumer context [48,49]. Therefore, Joshua [50] have postulated that, the more convenient the access of respondents to the internet and computers, the more proficient their use of the computer and internet, which may result in a higher adoption rate of respondents using the internet. Hence, facilitating conditions has a major role to play in enhancing or hindering consumers' intention and adoption of internet banking as well as facilitating the utilities that are extracted from using online banking [46,51]. Thus, the hypothesis:

H5: Facilitating conditions will positively influence consumers' adoption of internet banking in Ghana.

Behavioural Intention

In support of all the different model from psychological theories, which argue that individual behaviour is predicted and influenced by individual intention, the UTAUT model contended and proved behavioural intention to have significant influence on technology usage [35,48,49]. Therefore, for the purpose of maintaining consistency with the underlying theory for all the intention models, behavioural intention is expected to have a significant positive influence on the usage of a new system [35]. Considering that the ultimate goal of every business is to attract consumers to adopt a system rather than their intention to adopt, it is necessary for writers to examine the relationship between behavioural intention and actual usage. Extant studies have posited that behavioural intention positively influence internet banking usage (Njuguna et al. 2012), thus, it can be hypothesised that:

H6: Behavioural intention (BI) will have a significant positive influence on internet banking usage behaviour in Ghana (Figure 1).

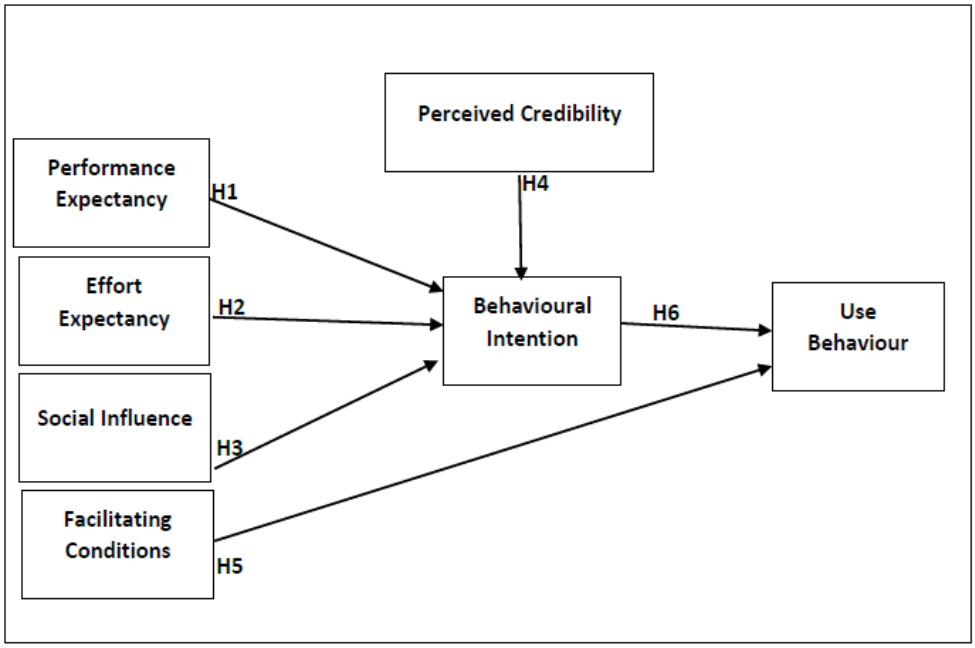
METHODS

Measurement Instrument

A total of twenty-eight scale items were adapted from previous information systems literature to measure the underlying constructs of the framework. With slight modefication, the measurement items PE, EE, SI, FC, BI were adopted from Venkatesh [35] and Davis [32], PC from Luarn and Lin and UB from Im et al. [52]. The 5 point Lickert scale was used to measure these items with anchors ranging from strongly agree to strongly disagree. Five closed ended question was devoted for demographic

variables: age, gender, educational level, internet knowledge and computer knowledge.

Figure 1: Research Framework.



Data collection

A pre-test was conducted by sending a draft of the questionnaire to a panel of experts who supported the scale validity, yet they mentioned the necessity of rephrasing a few words or statement in a clearer manner. The most important issue realized from the pre-test was with the usage behaviour (UB) variable, which was adapted initially from Venkatesh et al. (2003). These items were therefore replaced by one from Im et al. [52] already used in this context. Regarding the other items, a number of suggestions were made about the phrasing and the overall structure of the questionnaire. The suggestions were discussed and some changes were effected.

A total of 317 survey questionnaires were received out of 350 questionnaires that were distributed by convenience sampling to bank customers in Ghana over the month of February, March and April 2015. Upon further checks, it was realized that only 273 of the lot were valid for further statistical analysis. The respondents for the study were made up of customers of two separate banks in Ghana of which 52% of the respondents were customers of Fidelity Bank and 48% of the respondents were customers of Guaranty Trust Bank. The respondents were made up of 59% males and 41% female. With respect to the age distribution of the respondents, the ages ranged between 20 years and below which was the least represented at 0.4 percent followed by 51-60 years representing a low representation of 1.5%; 21-30 years which also

represented 41.4%; and 31-40 years which accounted for the largest age group distribution of respondents, representing 45.4% of the sample respondents.

The sample was also highly educated; this suggests that most of them could read and comprehend the issues raised in the questionnaire on their own, therefore reducing the biases of the researcher. The sample statistic with regards to the educational level revealed that, over 80% of the sample had had at least a first degree, while 9.2% were HND diploma certificates holders, with the remaining 2.2% having basic education. In term of the marital status of the respondents it was recorded that 42.1% of the sample were married while 4% were either divorced, separated, widowed or cohabiting, and the remaining 57.5% being singles who have never married. In terms of the employment status of the sample, it was recorded that 11.4% of the sample were not working while 16.8% were self-employed and the remaining 71.8% of the sample were salaried workers. Moreover, it is important to clarify that the majority of these respondents were private sector workers which represented 46.9% of the sample while 41.0% were public sector workers with the remaining 12.1% being students.

FINDINGS

The structural equational modelling with AMOS 20 was used to validate the proposed model and the research hypothesis. This validation was done by employing the two-stage approach of SEM [53]. A measurement model using confirmatory factor analysis (CFA) was initially conducted to test the model fitness as well as the constructs' validity and reliability. Next, a structural model was applied after the test for model fitness to examine the hypothesized paths [54].

Measurement Model

By employing the CFA with the maximum likelihood (ML) estimates using AMOS 2.0 the initial fitness indices indicated that the model had a poor fit due to the CMIN=624.445, DF=329, P-value=0.000. Moreover, some authors have argued that, it is misleading to rely on only Chi-square statistics for assessing model specification [54-56]. Hence, further test used in assessing GOF was introduced. The result revealed that most of the values had poor fit as indicated by CMIN/DF=1.898, GFI=0.865, RMSEA=0.057 with 90% confident interval (0.051, 0.064), RMR=0.051, CFI=0.935, NFI=0.873, TLI=0.925, IFI=0.935, AGFI=0.833, PCFI=0.814, and PNFI=0.760. Accordingly, this necessitated purification and re-analysis of the measurement model [53]. By looking at the modification indices, standardized regression weight (factor loadings), square multiple correlation and standardized residual covariance as listed in the AMOS output, this study was able to identify the problematic items that decreased the model fit. In light of this, 2 items of the facilitating condition variable and one item of the behavioural intention variable was deleted. The result of a re-run after the deletion of the items showed that the modified model had a good fit with observed data, hence further modification was not needed. The result is therefore depicted Table 1 below.

Table 1: Goodness of Fit Indices for Measurement Model.

Fit Indices	Accepted Value	Model Value
Absolute Measure		
Chi-square		458.392
Degree of Freedom		254
CMIN/DF	≤ 2	1.805
Probability	P ≥ 0.05	0.000
RMSEA (Root Mean Square Error of Approximation)	≤ 0.08	0.054
RMR		0.048
Incremental Fit Measures		
NFI (Normed Fit Index)	≥ 0.90	0.901
CFI (Comparative Fit Index)	≥ 0.90	0.953
TLI (Tucker-Lewis Index)	≥ 0.90	0.944
IFI (Incremental Fit Index)	≥ 0.90	0.953
Parsimony Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	≥ 0.80	0.851
PCFI (Parsimony Comparative of Fit Index)	≥ 0.50	0.807
PNFI (Parsimony Normed Fit Index)	≥ 0.50	0.762

The study also conducted a further test to ascertain the reliability and validity of the construct used for the study. The test revealed that all the remaining construct items had factor loadings above the cut off value of 0.06 and most of them were up to 0.70 with a critical ration as low as 1.96 at p less than 0.001 [57]. The average variance estimated (AVE) and composite reliability (CR) for all construct reached their recommended level with values up to 0.50 for AVE ranging from 0.586 to 0.741 and higher than 0.7 for CR ranging as low as 0.779 and as high as 0.917. This is therefore an indication that the scale measurement had satisfactory validity and reliability [58]. The result clearly shows that the measurement model was able to satisfy the criteria for model fitness as well as reliability and validity. The result is depicted in Table 2 below.

Table 2: Construct Reliability Results for the Pooled Data File.

Construct	Items	Factor Loadings	AVE	Composite Reliability	Cronbach Alpha
TPE	PE1	0.815			
	PE2	0.864			
	PE3	0.888			
	PE4	0.804	0.711	0.908	0.906
TEE	EE5	0.839			
	EE6	0.863			
	EE7	0.864			
	EE8	0.835	0.735	0.917	0.917
TSI	SI9	0.788			

	SI10 SI11 SI12 SI13	0.839 0.798 0.746 0.643	0.586	0.875	0.873
TPC	PC14	0.877			
	PC15 PC16 PC17	0.876 0.703 0.761	0.653	0.882	0.882
TFC	FC18 FC19	0.749 0.816	0.643	0.779	0.755
TBI	BI22 BI23 BI24 BI25	0.660 0.664 0.867 0.905	0.614	0.862	0.854
TUB	UB27 UB28	0.905 0.965	0.741	0.851	0.846

Structural Equational Modelling

After an assessment of the measurement model fit and construct validity, the next step was to assess the structural model. This involved the testing of the hypothesised theoretical model to ascertain the relationship between the latent constructs. The result revealed that the strongest path coefficient existed between Behavioural intention and usage behaviour, whilst the weakest one was between facilitating conditions and usage behaviour. Hence, except for the research hypothesis H5, hypothesis H1, H2, H3, H4 and H6 were all supported (Table 3).

Table 3: Structural Path Analysis.

H	Estimate	S.E.	C.R.	P	
H1	TPE → TBI	0.172	0.112	2.598	0.009
H2	TEE → TBI	0.232	0.134	2.499	0.012
H3	TSI → TBI	0.150	0.097	2.412	0.016
H4	TPC → TBI	0.200	0.147	2.207	0.027
H5	TFC → TAU	0.000	0.025	0.020	0.984
H6	TBI → TAU	0.142	0.023	5.140	***

DISCUSSIONS

The various constructs of the study were treated generally as individual first-order constructs even though the model is made up of multiple dimensions. However, the result of the analysis revealed the influence of the other dimensions on the first order

constructs. The model was empirically tested using data collected from 273 respondents from two different banks in Ghana. The analysis of the study revealed that the performance expectancy construct positively contributed to explaining the variance in behavioural intention. This implies that customers who have high performance expectancy were likely to have an intention to use internet banking. The result of this study is therefore in support of some works in the UTAUT model [35] and in TAM [34] and other replication of those models [12,25,38,40,45,46,59]. The relationship between effort expectancy was also positively supported. It accounted for the largest unique contribution in explaining the variance in behavioural intention. In view of this, it can be said that customers' intention to use internet banking is highly dependent on the user-friendly features of the system, familiarity of tasks, and the clear and easy to follow instructions of the system. This result is therefore consistent with that of Zhou et al. (2010) who concur that, when users feel that internet banking is easy to use and does not require much effort, they will have a high intention towards the adoption of the system. Existing studies have also supported this relationship based on the association between the ease of use of a system and the higher intentions to use it [60,61].

The social influence variable also positively contributed significantly towards explaining the variance in behavioural intention. Hence, the significant effect of the social influence on behavioural intention is a clear indication that the respondent used for the study were much concerned about environmental factors such as the opinion of friends. This study is therefore in support of other studies in the UTAUT model and in TPB and other replication of those models [62]. Consistent with other studies, the relationship between Perceived credibility and behavioural intention was also found to be significant. Hence, it is clear that, the issue of security, trust and privacy have a collective influence on consumers' intention to adopt the internet technology. Moreover, although it had a positive influence on consumers' intention to adopt internet banking through perceived credibility. In spite of this, it did not record the highest contribution in explaining the variance in behavioural intention as revealed by previous studies.

The result also indicated that, contrary to our expectations, the effect of the facilitating conditions construct on usage behaviour was not supported. In light of this, the result suggests that the surrounding environment of our respondents does not influence their usage of internet banking. This result is in agreement with some existing works [25,38]. Finally, as recorded in previous studies, the relationship between behavioural intention and actual usage behaviour was also supported. This result is in support of [35] work and other replicated works [35].

Implications for Practice and Policy

Based on the research framework used for the study, the current study identified different factors that influence the adoption of internet banking in Ghana. In view of this, the current study deems it important to indicate the implications of these factors on the Ghanaian banking sector. The findings suggested that consumers' behavioural intention to adopt internet banking is largely characterised by effort expectancy. As a result, the

study admonishes banks to invest more in organising free trial services for its customers, because customers perception of being able to easily operate the system has a higher influence on behavioural intention to adopt the system. Additionally, the perforrmance expectancy construct was also identified as having a positively significant relationship on consumers' behavioural intention to adopt internet banking. Hence, there is the need for banks to make known to potential adopters and adopters the numerous benefits that comes with the adoption of the internet facility. Futhermore, another variable that had a significant influence on behavioural intention is the social influence variable. In view of this, the study admonishes banks to amplify the advertisment of the internet banking technology through social influence on people. This is because as a highly social society, the daily life of Ghanaians are usually influenced by others, and also in the adoption of the internet banking technology. In light of this, in providing incentives and promotions, customers' referrals can be a sure way of influencing consumer use of the internet banking technology. Furthermore, the findings of the study has showed that perceived credibility is an important factor affecting consumer intention to use intenet banking. In light of this, managers must ensure that consumers' security and privacy concerns are well addressed by putting in place good security practices to boost the issue of trust in the institution and the technology as well. Lastly, the study revealed that consumers with higher behavioural intention were more likely to adopt internet banking. In view of this, banks are adviced to implement strategies and policies that has an influence on the antecedents of behavioural intentionin in order to encourage consumers, accept the online plateform as an alternative to the traditional form of banking.

Limitations and Future Research Pointers

In spit of the general support for the model and the interesting findings that this study has produced, it is important to acknowlegde that the study have certain limitaions. First and formost, the study reports a limitaion in respect of the sample population and the type of technology investigated or the context of the online behavior. Hence, for the purpose of generalizability and validation, future researchers are admonished to consider examining the factors that influence the adoption of mobile banking using the model. Secondly, another issue that needs the attention of future research is that, although the use of the current famework produced some interesting findings [63] have posited that technological adoption in developing countries is a complex artefact that yields distinct modes of adoption and use across varying region, culture and communities. In view of this, future studies may consider the inclusion of additional variables from other fields of technology adoption into the framework in order to increase its explanatory power, given the varing regional, cultural and communal disitinction among Sub-Saharan Africa.

CONCLUSIONS

Based on the discussions in the preceeding Chapter, this study draws a number conclusion. First and foremost, within the area of internet banking adoption in Sub-

Saharan Africa, the effort expectancy variable remains very important. The study findings provide evidence from the users' of the system in Ghana to support this conclusion. This observation therefore implies that consumers' perception of the ease to use technological innovation has an influence on their behaviourial intentions. In view of this, banks can consider offering free trial services to consumers to enable the acceptance of the technology. Secondly, the perceived credibility variable was also seen as having a very influencial impact on the adoption of internet banking. In view of this, managers must prioritized consumers' sercurity, privacy and trust concerns since the study has established that these item are foundamental antecedents of the perceived credibility variable. The performance expectancy variable was also identified as being an important factor that influence internet banking adoption. In essence, the perception of usefulness of the internet banking technology, influence consumers adoption of the system. As a result of this, banks can consider deploying other services on the platform and educating its customers on the benefits of the internet banking technology in order to enhance the acceptance of the technology by customers as an alternative to the traditional branch base banking system. The relationship between social influence and facilitating conditions was also found to be significant. In view of this, banks have been admonised to provide incentive and promotion for customers' since referrals from customer can be a strong technique to influence consumers adopt internet banking.

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