

Factors affecting the Adoption of Online Banking in Ghana: Implications for Bank Managers

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ABSTRACT

Internet usage in Ghana is on the increase and all indications points to the direction of the possibility of its application on online banking to be successful. However, online banking adoption that will lead to a cashless economy is facing doubts. This paper aimed at critically examining the factors that influence the adoption of online banking in Ghana. The study was based on TAM (Technology Acceptance Model), which has been used expansively in similar studies, a descriptive cross-sectional mixed-methodology approach was used. To generalize the findings the researchers used a multi case study approach to help find out the factors that influence online banking adoption. Data was analysed by using multiple Regression Analysis in SPSS to generate ANOVA results. The results showed that the original constructs of TAM i.e. Perceived Usefulness (PU), Perceived Ease of Use (PEOU) as well as the extensions of government support, trust and security were all significant to customers' intentions to adopt online banking. An implication for bank Managers is that they should concentrate on the promotion and advancement of the priceless paybacks that are gained from 'Intended and Unintended Benefits' such as lower transaction fees, high deposit rates among others which are realized from the usage online of banking linked to Perceived Usefulness

KEYWORDS: Online banking, Trust & Security, Electronic banking, Technology Acceptance Model

1. Introduction

The benefits of Information Technology (IT) and for that matter the internet are widely documented in the extant literature. The banking sector is notable to have benefited from IT and as a result banks have invested enormously in IT to deliver conventional banking services to customers through different E-banking technologies (Heinonen, 2006; Laukkanen, 2007). However, to the best of the researchers knowledge little has been investigated on the adoption of online banking in Africa and for that matter Ghana. The use of E-business technologies to transact business, for instance E-banking has become widespread and has grown in proportions by improving the business processes of organisations that uses IT (Pravettoni *et al*, 2007). In a recent review study conducted in Romania by Moga *et al* (2012) found that the two most pressing concerns that determine customers drive to adopt or decline the usage of online banking services are trust and security issues.

Although internet banking comes with a horde of hazards and security threats but still more and more banks are using the benefits the internet has to deliver banking services to their customers. Both customers and the banks enjoy benefits that E-banking services has to offer, banks relish cost reduction and market expansion and customers on the other hand enjoys a wider range of products/services and convenient banking due to the ubiquitous nature of the internet (Flavian *et al*, 2006). Many and more studies have made the attempt to define Online Banking in the extant literature but in this study the researchers refers to Online Banking as conventional banking services that banks uses the internet technologies to render services to their customers without the presence of brick-and-mortar interactions between the customer and bank employees. In Ghana the internet has even being spread to the hinterlands through the government initiatives with the help of international

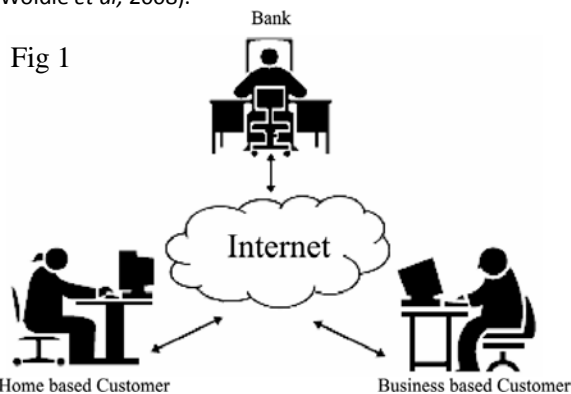
development agencies (Ngingi *et al*, 2002; Osei-Bonsu, 2000; cited in Adams & Lamptey, 2009). As at 2003 Ghana was leading in internet revolution in Africa (Zachary, 2003). Again, in 2008 the Central bank of Ghana started the introduction of the world's first biometric regulated money supply called e-Zwich. The aim of the e-zwich project is to make Ghana the first cashless country in the world (Breckenridge, 2010). These and many more developments in the banking sector in Ghana inspired this study. The literature provides the evidence that there are opportunities and the possibility of online banking adoption to be successful in Ghana, however in spite of all these it's still facing doubts. Generally, this study aimed at objectively determining the factors that influence online banking adoption in Ghana, and it employed the following specific research objectives; **one**: *To determine the level of customer perceived value and ease of use of online banking in Ghana.* **Two**: *To examine the extent to which the Ghana government policies supports the adoption of online banking in Ghana.* **Three**: *To identify the level of customers' trust and security in online banking in Ghana and lastly*: *To make appropriate recommendations to Bank Managers on the measures to employ to ensure a successful online banking adoption in Ghana.*

2. The Extant Literature

2.1 Review of Factors influencing Online Banking Adoption:

It is becoming increasingly difficult to ignore Technology Acceptance Model (TAM) as a tool to test technology adoption in the extant literature. Principally TAM has being widely used to test customers' intention to accept or to decline the use of a particular technology and for that matter online banking adoption (Pikkarainen *et al*, 2004). The extant literature holds a horde of exploration regarding online banking adoption that signifies that the subject has gained a lot of academic attention in recent years. Some of the literature has it that culture, lack of security and trust, user friendliness of the internet technology among others are factors that influence the acceptance of internet banking among customers and somehow on the part of banks as well. One such article concluded by observing that the friendliness, the advantages derived, and the more systems are attuned determines the acceptance of the technology by clients (Kolodinsky *et al*, 2004). However, non-existence of security is the foremost hindrance factor in the advancement of internet banking adoption among users (Thorton Consulting, 1996 cited in Flavian *et al*, 2006). Moreover, other issues that influence the customers intensions to adopt internet banking are the customers' earnings, maturity and gender (Flavian *et al*, 2006). What is more? quality in conventional banking services helps to increase customer confidence in using online banking when introduced (Yap *et al*, 2010). Furthermore, a study conducted by Amin (2009) found out that factors that influences a consumer to accept or decline the use of internet banking are the apparent helpfulness, comfort of usage, obvious reliability and social norms were significant whiles alleged pleasure were unimportant to the adoption of online banking on consumers' behave.

The prime concern of Ghanaian banks' customers in online banking adoption is security and safety measures (Woldie *et al*, 2008).



Internet Banking Environment: (Source: Adopted from Hutchinson & Warren, 2003)

PIN security, individual data protection, confidentiality, hacking are all massive concerns for the adoption of internet banking for customers. Since there are no human interactions to assure the customer of the

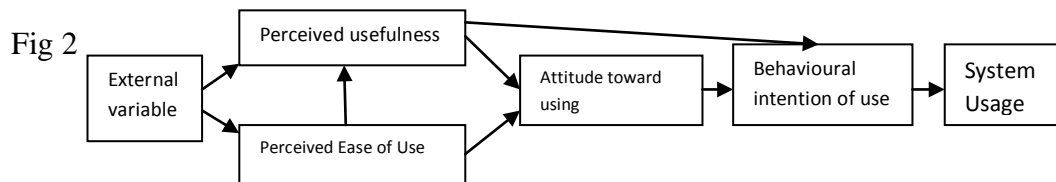
successfulness and safeties of transactions, many and more consumers are reluctant in putting their trust in non-person services identified by Benamati & Serva (2007). However, a study that is worthy of mentioning is the one conducted by Mukherjee & Nath (2003) which stipulates that the trust of online banking between the bank and its customers depends upon loyal interactions and inventive behaviour. However, in a survey conducted by Ling *et al* (2011) they argued that there are no such constructive connection between technology and perceived online trust. They went on to observe that rather websites that are perceived to be user friendly and beneficial are likely to upsurge customers trust in online banking.

2.2 The perceived usefulness of online banking:

There are two main types of perceived usefulness and are categorized as intended and unintended rewards (Lee, 2008). Lee explained that the intended rewards are the immediate and tangible rewards that consumers enjoy using online banking services such as lower transaction fees, high deposit rates, opportunities to prizes among others. The unintended rewards on the other hand being those benefits that are palpable and tough to measure like services that allows customers to perform banking transactions anywhere in the globe.

2.3 Technology Acceptance Model (TAM):

The literature has shown that TAM has expansively been used by various studies in this same area of study around the globe to test how technology is being accepted by consumers over the years. TAM which was developed originally by Davis in 1989, is used to explain how a customer accepts or decline the use of a technology based upon “perceived ease of use” and “perceived usefulness” of a technology (Aldas-Manzano, *et al* 2009).

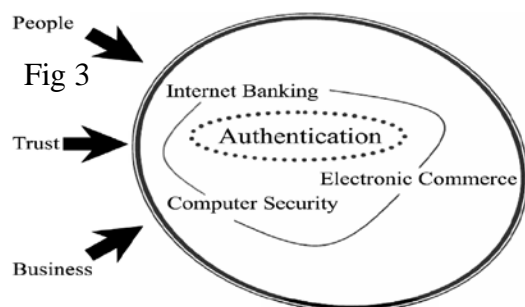


(Technology Acceptance Model (TAM), source: adopted from by DAVIS et al, 1989).

Perceived ease of use is the level at which a potential consumer of a technology believes a technology or a potential system is effortless, David *et al* (1989, cited in Pikkariainen *et al*, 2004). They progressed to state that Davis *et al* (1989) on the other hand explained “perceived usefulness” to be the level at which a potential user of a technology perceived the use of the technology will enhance his or her performance. Perceived usefulness and perceived ease of use which are the main variables of TAM, have a direct influence on online banking adoption (Suping & Yizheng, 2010).

2.4 Online banking Trust and Security

Trust is professed to be of paramount interest when it comes to its influence it has on online banking acceptance according to Suping & Yizheng (2010).) But online trust can be overcome if a proper understanding of the factors that can upsurge customers trust for internet banking are well observed (Yap *et al*, 2009). They continued to advised that bank managers should take online trust seriously and suggested that trust must be developed by combining conventional and online measures. In a survey conducted by Computer Fraud and Security (2007), 82% of customers were doubtful to reply to emails from their banks, 52% more said they will reject any sign-up for online banking, signifying that more and more customers are now highly concerned about the security of online banking.



Security issues of online banking.

(Source: adopted from Hutchinson & Warren, 2003)

In April 2006 an RSA survey acknowledged that there were 3,655 phishing occurrences aiming at banks of all sizes, and proceeded to suggest that there is the probability that the phishing endemic will increase to a minimum of 4000 outbreaks a month in 2007 according to Moloney (2009). Moreover, phishing fraud has been the most disturbing problem for the banking sector because that is the weapon that the fraudsters uses a lot to attack financial institutions (Reavley, 2005). Furthermore, in recent developments it is has been observed that the two most pressing concerns that determine customers drive to adopt or decline online banking are trust and security issues according to Moga *et al* (2012). However, there is an inconsistency with this internet security claims in that according to Hole *et al* (2006) Customers are not perturbed by the dangers of identity theft, phishing email scams due to the conveniences that they enjoy using online banking, and continues to acknowledged that customers are likely to believe that internet banking is safe, when their banks tell them is safe which contradicts the truth about online security.

2.5 Ghana government's measures to support online banking

A study conducted by Chong *et al* (2010) in Vietnam found out that a government's support in connection with consumer intention to use online banking is highly essential. Furthermore, it has been observed that in other to support the promotion of online services such as online banking adoption, online shopping, online payment of bills among others, governments should offer free basic ICT programs in basic schools that will concentrate on the teaching of basic computer knowledge and Internet awareness (Nasri, 2011). The reason being that, as more people become IT literates, the more they will accept online services and for that matter; online banking adoption will increase. The government of Ghana has created an enabling policy and regulatory environment to expand and investment in mobile and online banking in the banking sector. The aim of the policy is to enable the expansion of a dependable and cost-effective world class standard communications setup & facilities, underpinned by suitable high-tech novelties and reachable by all Ghanaian citizens to improve the advancement of monetary competitiveness in a knowledge-driven environment. Additional legislations that have being developed to support the policy are;

- i. Cyber Security Bill,
- ii. Data Protection Bill,
- iii. Electronic Communications Regulation,
- iv. Electronic Regulation on Dumping of Electronic Waste and;
- v. National Digital Content Management Bill.

(Source: adopted from Ofosu-Adarkwa, n.d.).

The Ghana government introduced a policy document titled 'ICT for Accelerated Development (ICT4AD) policy' in the year 2003 with the objective of engineering an ICT-led socioeconomic development process. The impact of these initiatives is evident in the November 2005 edition of African Business. The article on the Ghana profile page, entitled "Cake is bigger but if the slices are smaller", concluded that interestingly "Ghana has the most developed IT sector in the West Africa sub-region" (Adams & Lamptey, 2009).

Table 1: THE STATE OF ICT DIFFUSION IN GHANA

	Internet penetration per 100 inhabitants		Mobile phone penetration per 100 inhabitants	
	2004	2005	2004	2005
Ghana	1.72	1.81	7.93	13.00
Africa	2.61	3.72	9.35	15.37

(Source: ITU basic ICT statistics (2007) source adopted from Woldie *et al*, 2008)

3. METHODOLOGY

This study employed an adaptive approach and used a multi case study. Anonymous and self-administered survey which were based on the research model were used to collect data in Ghana in 2012 from the Regional branches of the cases in the study (i.e. United Bank for Africa Ghana (UBA), Ecobank Ghana and Ghana Commercial Bank (GCB)), they were selected from the Ashanti Region of Ghana. Secondary data were also used in this study which were obtained from sources including the banks' annual reports, magazine articles, local newspapers as well as information from the official websites of these banks which touches on issues concerning online banking and other information relevant to this study.

A self-selection sampling method was used to select the banks for this study because they are corporate organisations and wouldn't want their corporate strategies and information to be divulged and for that matter had to express their interest to partake in the study. Furthermore, these banks were selected because they are widely and well known to offer internet banking services to their customers in Ghana. Qualitative data were collected through in-depth interviews conducted with three (3) Branch Managers and three (3) IT (Information Technology) Managers of the three (3) selected banks in this study with the help of an interview guide. The quantitative data on the other hand were collected by administering hundred and thirty (130) questionnaires to the customers of the selected banks. The questionnaires were administered to customers who were at the banking halls waiting to be served, out of the one hundred and thirty (130) questionnaires administered, hundred and twenty (120) useful data were received for the study, giving a high response rate of 92%.

3.5 Data Analysis

Statistical Package for Social Sciences (SPSS) was used in which Regression Analysis was used to generate ANOVA results. The method of data analysis and presentation of results was mainly descriptive and explanatory. It used frequency and percentage tables and histogram, which were duly interpreted and explained, based on the research objectives and the findings. The software was also used to run correlation and regression analysis to measure the relationship between the independent and dependent variables to find out the power and fault as well as the type of relationship that existed between the variables. Furthermore, ANOVA was used to find any statistically significant differences between the variables used to assess the case organizations as well as the impact and effects of the relationships (such as: t-Stats, P-value and *Coefficients*).

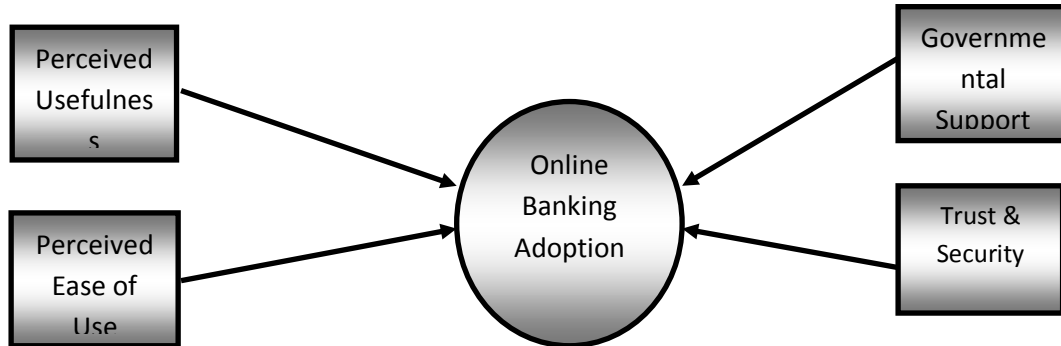
3.6 Profile Of Interviewees

In the study, the gender distribution of the respondents were 52.5% males and 47.5% females. Majority of the respondents had college and high school education: 40% had postgraduate degree and 30% were College degree holders.

3.7 Research Model

The research model is an illustration based upon TAM (Technology Acceptance Model) which was mainly designed to explain user acceptance of information technology by (Davis *et al*, 1989). It was intertwined with the moderating roles played by government support, trust and security.

Fig 4: Research Model



(Factors affecting online banking adoption and the moderating role of trust, security and governmental support; adopted and modified from Chong *et al.* 2010)

4. ANALYSIS OF DATA AND DISCUSSION OF RESULTS

The completed questionnaire were first edited, coded, scored and computed via Statistical Package for Social Sciences (SPSS). The chapter deals with background information of respondents, The Adoption of Online Banking in Ghana, the moderating role of trust and security, as well as the role governmental support play.

Table 2: Gender Distribution of Respondents

		sex		
		Value	Count	Percent
Standard Attributes	Position	1		
	Label	sex		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	male	63	52.5%
	2	female	57	47.5%

Source: Field Data (2012)

The gender distribution of the respondents were 63 of the respondents being male representing 52.5% participants out of the 120 usable data received from respondents and 57 were females representing 47.5% in table 1.

4.1.1 Descriptive Analysis of Respondents Internet Access

The study showed that one hundred and nineteen 119 respondents of the total respondents have access to internet representing 99.2% of the total number of valid data collected from respondents. In table 2 the independent variable was insignificant to the dependent variable with the results of P=0.851, which is > 0.05 the normal regression standard. The histogram in Fig 5 shows that the mean is -2.20E-16 with standard deviation of 0.983 of 120 participants

Table 3: Analysis of Respondents Access to Internet

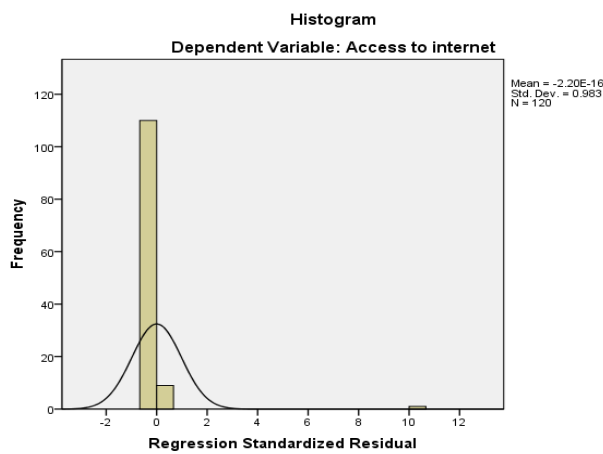
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.012	4	.003	.340	.851 ^a
	Residual	.980	115	.009		
	Total	.992	119			

a. Predictors: (Constant), Assuming that i have access to internet banking, I intent to use them, I believe i will use internet banking in the future, i intend to increase my use of the internet banking in the future, I intend to use internet banking if the cost and times is reasonable for me

b. Dependent Variable: Access to internet

Source: Field data (2012)

Fig 5: Histogram of Respondents Access to Internet

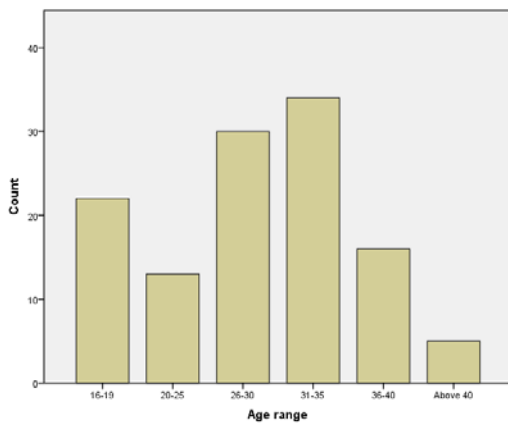


Source: Field data (2012)

4.1.2 Age Distribution

In Fig. 7, majority of the respondents of this study were either between the ages of 26-30 years or 31-35 years that uses internet banking to transact their banking activities.

Fig 6: Age Distribution of Respondents



Source: Field data (2012)

4.1.3 Construct B: Perceived Usefulness (PU):

Perceived usefulness in the study is a component of TAM, the study showed that the independent variable is significant to the dependent variable with the ANOVA results of $P = 0.000$ which is < 0.05 as the normal regression standard. Moreover, the histogram shows that the mean is $-4.79E-16$ with standard deviation of 0.983 of 120 valid data collected from respondents. The other dependent variables yielded the same results (see table 9). This is consistent with other findings in the literature (Pan & Jordan-Marsh, 2010; Chong, 2010).

Table 4: Results of Perceived Usefulness

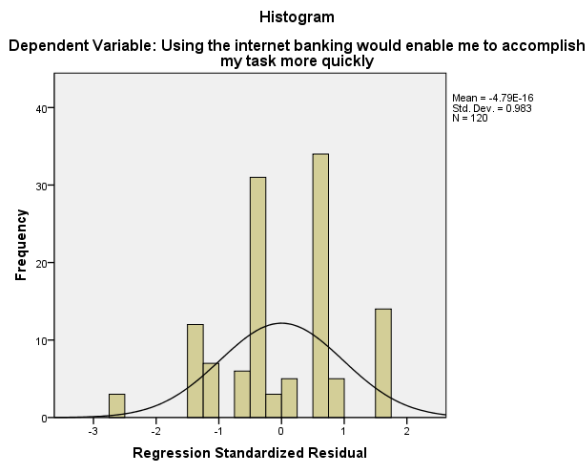
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.786	4	2.197	9.328	.000 ^a
	Residual	27.081	115	.235		
	Total	35.867	119			

a. Predictors: (Constant), Assuming that i have access to internet banking, I intent to use them, I believe i will use internet banking in the future, i intend to increase my use of the internet banking in the future, i intend to use internet banking if the cost and times is reasonable for me

b. Dependent Variable: Using the internet banking would enable me to accomplish my task more quickly

Source: Field data (2012)

Fig 7: Perceived Usefulness



Source: Field data (2012)

4.1.3 Construct C: Perceived Ease of Use (PEOU):

Likewise the above PU construct PEOU is also a component of TAM, from table 4 the independent variable is significant to dependent variable with the ANOVA results $P = 0.000$ which is < 0.05 the normal regression standard. Moreover, the result from the histogram shows that the mean is $7.15E-16$ with a standard deviation of 0.983 out of total respondents of 120. It must be noted here therefore that, the other variables of PEOU also yielded similar outcomes; that is, they were all highly significant (see table 9). This result is not consistent with previous studies in the literature by Chong *et al* (2010). Their results found out that PEOU has little or no significance on customers' intention to adapt to internet banking.

Table 5: Perceived Ease of Use

ANOVA^b

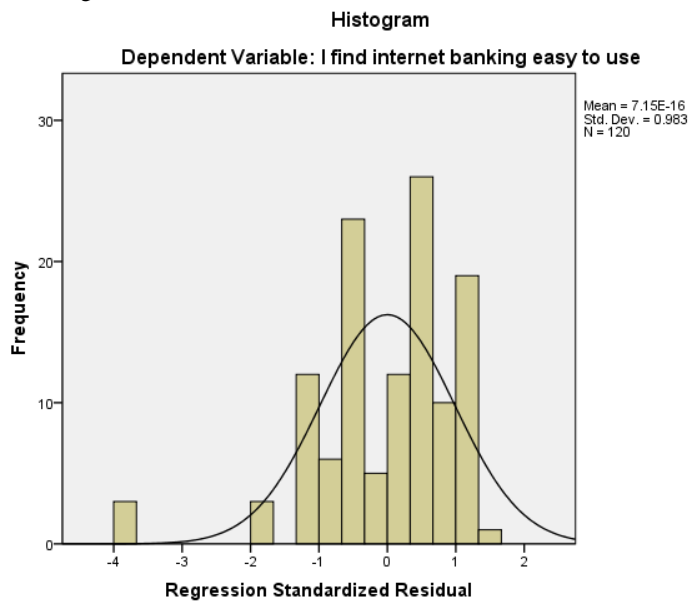
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.413	4	2.853	6.012	.000 ^a
	Residual	54.579	115	.475		
	Total	65.992	119			

a. Predictors: (Constant), Assuming that i have access to internet banking, I intent to use them, I believe i will use internet banking in the future, i intend to increase my use of the internet banking in the future, I intend to use internet banking if the cost and times is reasonable for me

b. Dependent Variable: I find internet banking easy to use

Source: Field data (2012)

Fig 8: Perceived Ease of Use



Source: Field data (2012)

4.1.4 Construct D: Trust and Security

From the study the independent variable is significant to the dependent variable with ANOVA results of P = 0.000, which is < 0.05 the normal standard regression. The rest of the dependent variables of the Trust and Security constructs also yielded similar results that is they all showed that indeed Trust and Security are significant to the independent variables of customers' intention to use internet banking in Ghana (see Table 9).

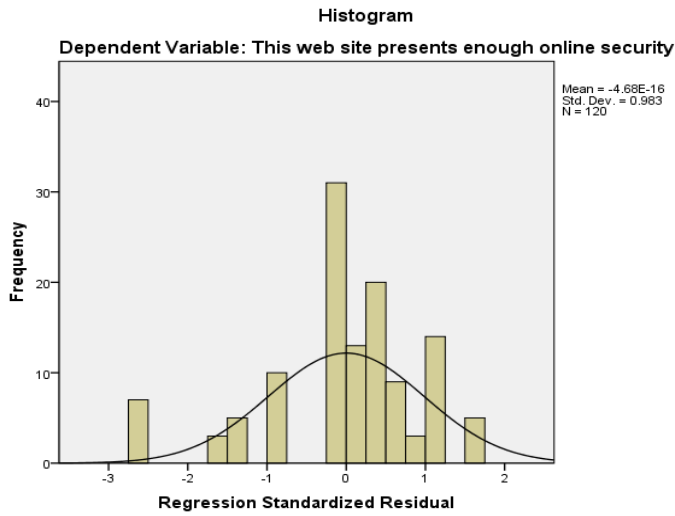
Table 6: Trust and Security

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.148	4	8.037	12.990	.000 ^a
	Residual	71.152	115	.619		
	Total	103.300	119			

Source: Field data (2012)

Fig 8: Trust and Security



Source: Field data (2012)

1.1.5 CONSTRUCT E: GOVERNMENTSUPPORT

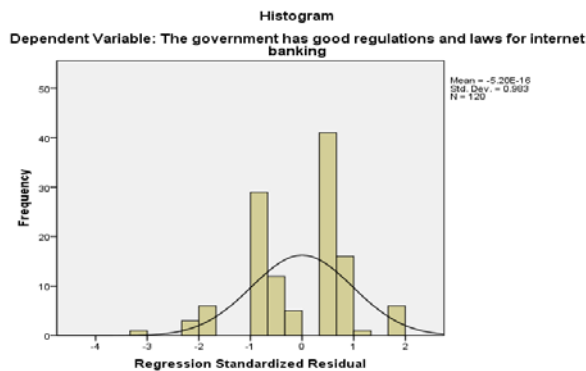
From table 8 the independent variable is also significant to the dependent variable with ANOVA results of $P = 0.000$ which is less than the normal regression standard of 0.05. Moreover, the result of the histogram shows that the mean is $5.20E-16$ with a standard deviation of 0.983. The rest of the dependent variables in the governmental support constructs yielded almost the same results (see Table 8).

Table 7: Government Support

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.208	4	8.052	14.993	.000 ^a
	Residual	61.759	115	.537		
	Total	93.967	119			

Source: Field data (2012)

Fig 9: Government Support



Source: Field data (2012)

Table 8: Summarized Standardized Regression Analysis Weights for the Quantitative Analysis Results

Dependent Variables	Independent Variables	Weights (Sig.)	Mean	Std. dev.
Perceived Usefulness	Using the internet banking would enable me to accomplish my tasks more quickly	0.000 ^a	-4.79E-16	0.983
	Using the Internet Banking would make it easier for me to carry out my tasks	0.007 ^a	-9.35E-16	0.983
	I would will find the internet banking useful	0.000 ^a	1.01E-16	0.983
	Internet banking made communications with banks much easier	0.000 ^a	1.01E-16	0.983
	Overall I believe internet banking is more useful than traditional ways of banking	0.001 ^a	3.88E-16	0.983
Perceived Ease of Use	I find internet banking easy to use	0.000 ^a	7.15E-16	0.983
	Learning to use internet banking is easy for me	0.000 ^a	1.07E-16	0.983
	My interaction with internet banking is clear and understandable	0.001 ^a	2.10E-16	0.983
	It is easy for me to remember how to perform task with internet banking	0.031 ^a	1.60E-16	0.983
	It is easy to get internet banking to do what I want it to do	0.000 ^a	1.02E-16	0.983
Trust and Security	The website presents enough online security	0.000 ^a	4.68E-16	0.983
	I trust that transaction conducted through internet banking is secure and private	0.000 ^a	4.34E-16	0.983
	I trust payments made through internet banking channel will be processed securely	0.001 ^a	1.08E-15	0.983
	I believe my personal information on internet banking will be kept confidential	0.000 ^a	9.71E-17	0.983
	I am worried to use online banking because other people may be able to access my account	0.000 ^a	6.23E-16	0.983
Government Support	Government encourages and promotes the usage of internet and e-commerce	0.000 ^a	1.12E-16	0.983
	The internet infrastructure and facilities such as bandwidth is sufficient for online banking	0.000 ^a	5.15E-16	0.983
	The is driving the development of online banking	0.000 ^a	6.06E-16	0.983
	The government has good regulations and laws for internet banking	0.000 ^a	5.20E-16	0.983

Source: field data (2012)

5. SUMMARY, DISCUSSIONS & IMPLICATIONS

5.1 PERCEIVED USEFULNESS (PU)

In this study PU was found to have a significant influence on Ghanaian customers' intention to use internet banking. This is consistent with the study Chong *et al* (2010) undertook in Vietnam based on the TAM framework. The implications to managers is that, in other to encourage more customers to adapt online banking services and products of their organisations in Ghana, management should concentrate on the promotion and advancement of the priceless paybacks that are gained from '*Intended and Unintended Benefits*', which are by-products of Perceived Usefulness as identified in the literature by Lee(2008).This will help customers to enjoy the rewards received from *Intended Benefits* such as immediate and tangible benefits when using online banking services,

these are; lower transaction fees, high deposit rates, opportunities to prizes among others. Not only that, but also it will help customers to enjoy the rewards received from 'Unintended Benefits' which are palpable and tough measures like services that allows customers to perform banking transactions anywhere around the globe, thus at the comfort of their homes, offices among others due to ubiquitous nature of the internet.

Moreover, management of banks in Ghana, should consider the compromise between *Quality* and *Price* as paramount to their organizations as been suggested in the literature by Heinonen (2007). where *Quality* is the benefit that the customer will derive from the online banking service and *Price* been the cost that the customer has to pay for the services enjoyed. This is because in the long run on the part of the banks they will gain cost-efficiency when they are able to deliver their services to customers through technology. And on the other hand Customers will create value for themselves through self-services by using system to serve themselves without the interaction with bricks-and-mortar offices and customer service personnel (Heinonen, 2007).

5.2 PERCEIVED EASE OF USE (PEOU)

The study also showed that PEOU also has significant influence on the Ghanaian customer intention to accept internet banking. This contradicts the findings of the original study conducted by Chong *et al* (2010) in Vietnam. However, it is in consistence with the findings of the original TAM model developed by (Davis *et al*, 1989 cited in Aldas-Manzano *et al*, 2008) and since PEOU is significant to determine customers' intention to use internet banking, the implications to management is that they should concentrate on their corporate websites to make it more user-friendly since that will go a long way to increase customers trust and upsurge their intention to accept online banking as opined by a recent study conducted by Ling *et al* (2011).

5.3 TRUST AND SECURITY

The study also revealed that trust and security is paramount and it has a significant influence on the Ghanaian customer intension to use internet banking which was also found out by Woldie *et al* (2008) in a similar study in Ghana. Moreover, it is consistent with the study that was conducted in Vietnam by Chong *et al* (2010). Furthermore, it is consistent with the study conducted by Moga *et al* (2010). However, this study contradicts a study conducted by Hole *et al* (2006). The implication for managers is that since trust and security is significant to (Moloney *et al*, 2010) determine customers' intention to use online banking, trust and security must be given a high priority and must be linked with conventional means of banking to boost the trust and confidence that customers may have in online banking in order to patronize fully Ghanaian banks online banking products and services. Again, a major security concern that management should take into consideration is phishing which was found in the literature to be the major tool that fraudsters uses to attack banks (Reavley, 2005).

5.4 GOVERNMENT SUPPORT

The study is consistent with the study by Chong *et al* (2010), it showed that government support has a positive influence on the Ghanaian customer intention to adopt internet banking. Although the qualitative data collected through interview revealed that the government of Ghana has shown a lot of support for internet banking over the years but there is still much to be desired. Implication to government is that free ICT and internet education must be incorporated in the educational system at the basic level as notified by Nasri (2011), since as more people become IT literates the more they will derive interest in accepting online banking and its related services like online shopping among others. Not only that but also the Government of Ghana should invest more in ICT infrastructure to support online banking adoption as suggested by Chong *et al* (2010).

CONCLUSION

This study gives an insight into the factors that influence the adoption of internet banking in Ghana. By adopting the original TAM variables with modified extended variables such as government support, trust and security used by Chong *et al* (2010). The study has been able to identify the factors that determines the adoption of internet banking and has been able to provide empirical implications for both management of banks and the government to help improve the adoption of internet banking in Ghana. Based upon the findings of this study we recommend the following;

(1) an implication for bank Managers is that they should concentrate on the promotion and advancement of the priceless paybacks that are gained from '*Intended and Unintended Benefits*' such as lower transaction fees, high deposit rates among others.

(2) Another implication to managers of banks is that they should concentrate on their corporate websites to make it more user-friendly since that will go a long way to increase customers trust and upsurge their intention to accept online banking.

(3) Since Trust and security was found to be significant to determine customers' intention to use online banking in this study, the implication to managers is that trust and security must be given a high priority and must be linked with conventional means of banking to boost the trust and confidence that customers may have in online banking for more online banking products and services patronization.

(4) It is recommended that government should also improve upon free ICT and internet education and must be incorporated in the educational sector especially at the basic level, since as more people become IT literates the more they will derive interest in accepting online banking and its related services like online shopping among others. Future research should find out the impact of social status and educational background on the adoption of online banking amongst the youth and the older generations to help bank managers identify which generation they should channel their limited resources to in connection with online banking adoption.

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