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Customers' Perception of E-banking Adoption in Cameroon: An Empirical Assessment of an Extended TAM

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Abstract

The 21st century has witnessed dramatic transformation in the financial sector as advances in information technology have created new ways of handling financial transactions through e-banking. In Cameroon, e-banking is still at it infancy and is still to be used as an operating saving tool in reducing cost and promoting customer – banker's relationship. The main aim of this study was to identify the drivers to the customer's perception of e-banking adoption in Cameroon by considering an extension in the Technological Adoption Model (TAM). The extended TAM was assessed using a sample survey of 210 customers. The psychometric properties of the data were investigated using the estimation of internal consistency reliability and the convergent and discriminate validity of the instrument items. The results estimated using a path regression analysis showed that perceived security, trust, cost of service, usefulness, and accessibility have significant influenced on customer's attitudes and hence adoption of e-banking. The results further showed that characteristics such as age, education and marital status have significant influence on customer's attitude. It was also revealed that perceived reliability, trust, security, and accessibility have significant impact on the perceived usefulness of e-banking adoption. Practically, the results show the need to increase e-banking security, accessibility, trustworthiness and to reduce the cost of e-banking services so to encourage customer's attitudes towards the adoption of e-banking services.

Keywords: e-banking, customer's perception, technology adoption model, Cameroon

JEL classification numbers: G21, L11, L86, M40, O31

1. Introduction

The 21st Century has witnessed a dramatic evolution in the financial service industry as a result of the rapid advancement in technological transformation which has become known as e-developments. These changes have engulfed all areas of financial intermediation and financial markets such as e-finance, e-money, electronic banking (e-banking), e-brokering, e-insurance, e-exchanges, and even e-supervision. This new information technology (IT) is turning into the most important factor in the future development of banking, influencing banks' marketing and business strategies. As a result of the rapid advances in IT and intensive competition in the banking sector, the adoption of e-banking is being increasingly used as a channel of distribution for financial services (Mahdi and Mehrdad, 2010).

Electronic banking has experienced explosive growth and has transformed traditional practices in banking (Gonzalez, 2008). In Cameroon, commercial banks' huge investment in telecommunication networks and various e-banking services can be seen as an effort towards measuring up with global standard. This is among other reasons such as increased customer demand, increased competition among banks themselves; derive minimized cost, new entrants, and better service delivery (Muniruddeen, 2007). However, mirroring the development of e-developments, the adoption and diffusion of e-banking is far from uniform, especially between the developed and developing worlds. Yet it is believed that in the long run, developing countries could benefit more from e-banking than developed countries since they could leap frog their technology development by learning from the experiences of the developed nations (Mann, 2000). However, during this development processes, it is expected that the developing countries will face many unexpected and complex factors that inhibit the speed and scale of e-banking adoption (Quershi and Davis, 2007).

Despite the fact that the literature on internet banking is abundant with studies carried out mostly in the developed countries, this area is underrepresented in the developing countries especially those of the Sub

Saharan Africa region, where commercial banks are trying to introduce e-banking systems to improve their operations, reduce costs and increase productivity. This therefore means that e-banking is becoming a strategic weapon used in the distribution channel for their products in the face of intense competition from both home and abroad. However, the efforts aimed at developing better and easier electronic banking systems seem to have remained largely unnoticed by the customers who are yet to fully appreciate the availability of these services in the financial industry.

Consequently, there is a need to understand the relevance of e-banking in developing countries and to identify areas where the developing countries lag behind. There is need to identify factors which inhibit e-banking adoption and diffusion, and those that can affect customer's perception or attitudes towards the adoption of e-banking. These issues are important because it holds the key that will help the banking industry to formulate their marketing strategies to promote new forms of electronic banking systems in the future. Therefore, in order to address the current gap in the literature and encourage further e-banking adoption in developing countries such as Cameroon, a better understanding of the drivers and barriers influencing customer's perception towards e-banking adoption is critical.

This research aims at extending the Technological Adoption Model (TAM) to incorporate the role of demographic and infrastructural factors in influencing customer's perception towards e-banking adoption. In addition, the extended TAM is assessed empirically to validate its application in driving e-banking adoption in Cameroon. The rest of the paper is divided into four sections: the second section contains a review of the literature on the theories which can be used to explain electronic banking and information systems acceptance. In addition, the section reviews previous research on the critical factors which may have significantly influenced the acceptance of e-banking. The third section presents the methodology and developed the hypotheses used in this study. The fourth is made up of the qualitative and quantitative analysis. In this section, the data is analyzed using Partial Least Square (PLS) analysis and the results are presented and discussed. The final section consists of the conclusion and practical implications of the research in Cameroon and other developing economies.

2. Literature Review

Electronic banking (e-banking) is the newest delivery channel of banking services. The definition of e-banking varies amongst researches partially because electronic banking refers to several types of services through which a bank's customers can request information and carry out most of their banking transactions using computers, televisions or mobile phones (Daniel, 1999). According to the Federal Trade Commission (FTC), Fact for Consumers (2006), Electronic banking also known as an Electronic Fund Transfer (EFT), is defined as the use of computer and electronic technology as a substitute for checks and other paper transactions. EFT is initiated through devices like cards or codes that let you, or those you authorize, access your account. Many financial institutions use ATM or debit cards and Personal Identification Numbers (PINs) for this purpose. Some use other forms of debit cards such as those that require at the most, your signature or a scan. In addition, electronic banking can be considered as a variety of the following platforms: internet banking (or online banking), telephone banking, TV-based banking, mobile phone banking and e-banking (or offline banking).

Moutinho and Smith (2000) emphasized that human and technology based delivery channels were greatly linked with the customers' perceptions of how these bank services were delivered to them. They pointed out that these perceptual outcomes would affect the level of bank-customer-satisfaction, retention, and switching. However, for e-banking technologies to improve productivity, they must be accepted by intended users (Venkatesh et al., 2003). Venkatesh et al. (2003) noted that the research in understanding user acceptance of new technology has resulted in several theoretical models with roots in information systems, psychology and sociology.

The current study proposes the application of the Technology Acceptance Model (TAM) to capture the factors which have significant influence on customers' perception towards e-banking adoption. TAM is one of the most utilized models for studying IT acceptance (Al-Gahtani, 2001; Venkatesh and Davis, 1996; Davis et al., 1989). The TAM involves two primary predictors for the potential adopter — Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of technology as the main determinants of the attitudes toward a new technology. PU is the degree to which a person believes that using a particular system would enhance his or her job performance; while PEOU is the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). These two beliefs create a favourable behavioural intention toward using the IT that consequently affects its self-reported use (Davis et al., 1989). TAM's theoretical background is based on the Theory of Reasoned Action (TRA) and it was specially tailored for understanding user acceptance of information system model. The theory postulates that an individual's behavioural intention is the immediate determinant of behaviour, their attitude and subjective norm are mediated through behavioural intention and their behavioural

and normative beliefs are mediated through attitude and subjective norm. Intention is considered a direct determinant of behaviour in the TRA that is influenced by the attitude (attitude toward performing behaviour), and subjective norms (social pressures to perform behaviour). TRA has been tested and used extensively as well as its extension, the Theory of Planned Behaviour (TPB) by Ajzen (1991). Ajzen extended TRA by adding another construct called Perceived Behavioural Control, which refers to an individual's perception of the presence or absence of requisite resources and opportunities required to perform the specific behaviour.

TAM has been the instrument in many empirical studies and it has been found that its ability to explain attitude towards using an information system is better than TRA and TPB (Mathieson, 1991). King and He (2006) conducted a statistical meta-analysis of TAM as applied in various fields using 88 published studies and the results showed TAM to be a powerful, highly reliable, valid and robust predictive model that may be used in a variety of contexts. Wang et al. (2003) confirm the validity of TAM and support its use with different populations of users and different software choices.

Many researchers have suggested that external variables may be added to TAM as a way of improving the model's predictive power (Muniruddeen, 2007; Davis et al., 1989; Davis, 1993). In particular, Muniruddeen (2007) employed the extended TAM to examine individual's perceived security and privacy of internet banking in Malaysia. Siu-Cheung and Ming-te (2004) also extended the model with the Subjective Norm and Social Cognitive Theory (self-efficacy) of Bandura (1982) to explain the intention to use internet banking in Hong Kong. Jahangir and Begum (2008) also employed the extended TAM with attitude as defined by Theory of Reasoned Action to determine customer's adaptation to e-banking.

3. Methodology and Hypotheses

3.1 Extended TAM Model for Perceived E-banking Adoption

This study proposes an extension to the Technology Acceptance Model (TAM), since the original TAM with two main constructs; Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) is unable to fully explain users' behaviour towards new emerging information technology. From the review of the theoretical discussion above, it is deemed necessary to examine additional drivers influencing customers' perception and attitude towards e-banking adoption in Cameroon. We therefore account for the impact of additional variables not used in previous studies such as: Perceived Cost of Service, Perceived Accessibility and demographic characteristics such as marital status. Other variables also included in the extended TAM include: Perceived Quality of Internet Connection, Perceived Security, Perceived Trust, Perceived Reliability and demographic characteristics such as age, income level, and gender.

The extended Technological Adoption Model in electronic banking adoption is illustrated in Figure 1 below;

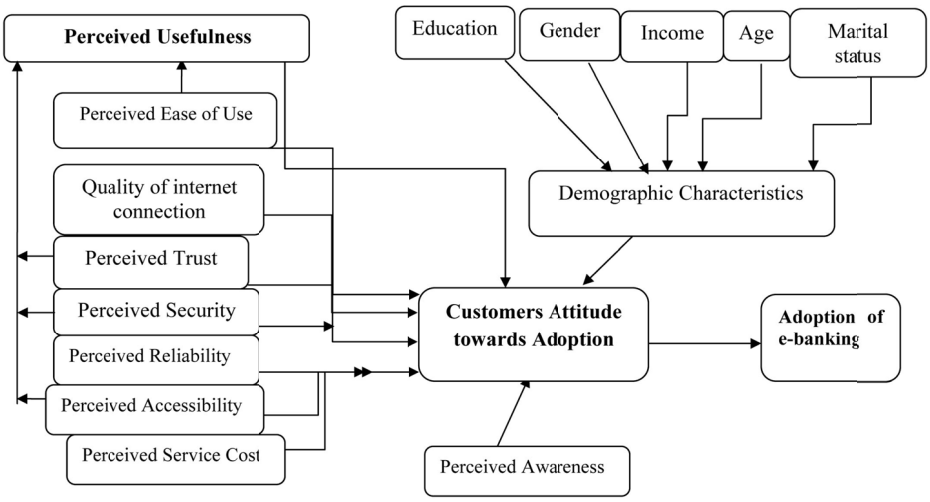

Figure 1. Extended TAM Model for E-Banking Adoption in Cameroon

The above framework modifies the original TAM by incorporating both the Behavioural Intention towards e-banking and the actual adoption of e-banking. In addition, demographic characteristics are considered vital in influencing customers' attitudes towards adoption and thus also included in the model. The variables used in the extended TAM are explained below.

3.2 Definition of Variables in the Model

Customers Attitude (CA) refers to users' positive or negative feeling towards the adoption of e-banking (Davis et al., 1989; Taylor and Todd, 1995). That is, a person's desirability to use the system or his/her perception about electronic banking credibility and reliability.

Perceived Reliability (PR) refers to the extent to which e-banking services are reliable to influence its adoption by customers.

Perceived Ease of Use (PEOU) refers to the degree to which the users perceived that using this electronic banking would be free of effort, that is, the ease of learning and using electronic banking (Davis et al., 1989).

Perceived Usefulness (PC) is the degree to which the users believed that adopting electronic banking will improve their bank transactions.

Perceived Security (PS) is defined as users' perception of protection of their transaction details and personal data against unauthorized access. Security refers to the protection of information or systems from an unauthorized intrusion, that is, the degree to which the customer perceives e-banking to be easily susceptible to fraud.

Perceived Trust (PT) refers to the belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a spirit of goodwill and in a benign fashion toward the trust. Trust has three characteristics: ability, benevolence, and integrity (Mayer et al., 1995).

Perceived Cost of Service (PCS) refers to the degree to which the customers believe that the cost of using the e-banking services is expensive.

Perceived Accessibility (PA) is the extent to which customers can have access to e-banking services at anytime and anywhere. Accessibility to electronic-based services such as: cash withdrawal, deposits, check balances, transfer funds, loan applications, and other complementary services should be performed from anywhere at any time.

Perceived Awareness (PAw) refers to the degree to which the users are informed about the existence of the new technological innovation. That is the amount of information a customer has about electronic banking as well as its benefits and challenges.

Quality of Internet Connection (QIC) refers to the degree to which internet connection will enable the completion of e-banking transactions. This is seen to be an essential component for any internet-based application. Since internet banking is considered as the most prominent e-banking distribution channel, we obviously need a good internet connection to ensure completion of its transactions.

Demographic characteristics

Many studies have investigated the effects of the customers' demographic characteristics such as age, gender, income and educational level on their attitude towards different banking technologies and individual adoption of new technology.

Education refers to the degree to which users or non-users are educated, since it is believed to play a significant role with regards to attitude towards technology adoption and usage. According to (Burke, 2002) higher educated customers such as university graduates are more comfortable in using technology given that education is often positively correlated with an individual's level of internet literacy.

Gender illustrates the difference in attitudes between male and female towards the adoption and usage of new technology. It is hard to say if males or females may be more likely to adopt e-banking.

Customer's income is another demographic factor of interest. It refers to the extent to which the level of income of users or non-users will influence their attitudes to adopt e-banking. It has not featured prominently in empirical studies on the adoption and diffusion of technology. We believe that it can exert a positive impact on customer's attitude towards e-banking adoption, given that high income earners are more likely to use these services.

Age will capture the attitudes towards adoption of new technology amongst different age groups. Previous studies on technology acceptance propose that there is a strong relationship between age and the adoption of new technology. That is, it is observed that older customers are found to have negative attitude towards technology

and innovation as compared to younger adults who are more interested in using these new technologies. Thus, older customers are less likely to adopt e-banking.

Marital status refers to whether the respondent is single or not. This variable is not popular in the literature. It is expected that customer's attitudes towards e-banking adoption will be higher in singles than couples.

3.3 Hypotheses Development

From the theoretical model developed above, the following research hypotheses are formulated;

H1: Customers' Attitude positively influences the intention to adopt e-banking

H2: Perceived Usefulness has a positive influence on Customers' Attitudes

H3: Perceived Ease of Use has a positive influence on Customers' Attitude

H4: Perceived Trust influences Customers' Attitude positively

H5: Perceived Reliability influences Customers' Attitude positively

H6: Perceived Security has a positive influence on Customers' Attitude

H7: Quality of Internet Access influences Customers' Attitude positively

H8: Perceived Accessibility influences Customers' Attitude positively

H9: Perceived Cost of Service exerts a negative influence on Customers' Attitude, hence adoption of e-banking

H10: Perceived Awareness has a positive influence on Customers' Attitude

H11: Perceived Accessibility has a positive influence on Perceived Usefulness

H12: Perceived Reliability has a positive impact on Perceived Usefulness

H13: Perceived Trust has a positive influence on Perceived Trust

H14: Perceived Security has a positive influence on Perceived Usefulness

H15: Perceived Ease of Use influences Perceived Usefulness positively

3.4 Data Collection

The data in this study is collected using self-administered questionnaires that were distributed to 210 customers of commercial banks in three main cities notably – Bamenda, Douala and Yaounde considered to be the best representative communities which reflect the different live pattern in Cameroon. The main aim of using questionnaires was dedicated to capture respondent experience and perception about e-banking services offered. To ensure the validity and reliability of the questionnaire, a two-stage validation was conducted. First, whenever possible, items selected for the constructs were mainly adapted from prior studies with minor changes to fit the e-banking context in Cameroon. Second, a pre-test (pilot) of the questionnaire was administered to a sample of 20 bank customers randomly chosen in order to correct any issues related to language and response options. The appropriate changes were made in the survey questions before the final distribution and administration process.

4. Data Analysis, Quality Assessment and Discussion of Results

The data obtained was analyzed using both descriptive and quantitative techniques. Descriptive techniques involved the use of descriptive statistics while quantitative technique will involve two steps. Step one assessed the variables in our models for internal consistency, reliability and validity. Then based on our satisfactory results in step one, the data is analysed in step two using the Structural Equation Modelling (SEM) technique. This technique enables the assessment of the proposed relations among the variables in the model. This technique is considered adequate because of its ability to test causal relationships between constructs with multiple measurement items (Jöreskog and Sörbom, 1993).

4.1 Respondents Profile

The qualitative results revealed that 57.5% of the respondents were male and the largest proportion (47%) of respondents by age group, were those in the 20-30 years old category, followed by those in the 30-40 year category (40%) and 13% of the respondents were above the age of 40. The surveyed respondents were generally well educated with over 30% holding an advanced degree, 43% having a first degree and 27% having a Masters degree and above. On the basis of monthly income level, the majority of the respondents (32%) had monthly income level between 100,001 and 250,000FCFA while 22% had monthly income levels between 50,001 and 100,000FCFA; 14% had income levels of between 250,001 and 350,000FCFA; 17 percent had income levels less than 50,000FCFA, 15 percent of respondents had a monthly income greater than 350,000FCFA. The results

also showed that 28.33% of the respondents indicated internet banking as their preferred method for performing banking transactions and up to 57% of the respondents visited the bank to conduct their banking transactions 1 to 4 times in a month. ATM usage prevailed as the main means of carrying out banking transactions, followed by the internet and telephone banking respectively.

With regards to factors that could motivate customers toward the adoption of e-banking, we observed that respondents had more than one motive for adopting and using these e-banking services. The majority of the respondents indicated positive ratings thus, 48.3% of the respondents reported high perceptions of convenience, 40% of the respondents indicated high perceptions of accessibility, 32.5% of the respondents indicated high perceptions of queue management and 29.17% of the respondents had high perceptions of ease of use as factors that motivated them to adopt and use these services. However, as concern indicators that could pose as barriers for the adoption of e-banking services, some respondents indicated personal reasons, while a majority of the respondents indicated lack of trust, poor security and privacy corcern. Others highlighted poor internet connection. Lastly, some respondents felt they need time to learn about the new system before using it.

4.2 Reliability and Validity Test

Reliability and validity were tested for each set of the items which had a construct, that is, for variables that were captured by more than one question. Both the Cronbach's Alpha and the Composite Reliability were used to test for constructs reliability and validity, respectively. All reliability measures were well above the recommended level of 0.70 as an indicator for adequate internal consistency. The results are presented in Table 1 below.

The constructs also illustrated satisfactory convergent and discriminant validity. As suggested by Fornell and Larcker (1981), convergent validity is adequate when constructs have an Average Variance Extracted (AVE) of at least 0.5. Also, convergent validity can be examined when items loading are well above 0.5 on their associated factors as an indicator of adequate reliability (Hair et al., 1992). Table 1 also lists the psychometric properties of the constructs.

Table 1. Reliability Results

Variables	Items	Loading	Cronbachs' Alpha	Composite Reliability	Average Variance Extracted
Quality of internet connection (QOI)	QOI1	0.876	0.793	0.884	0.718
	QOI2	0.840			
	QOI3	0.825			
Perceived Security (PS)	PS1	0.782	0.756	0.847	0.583
	PS2	0.778			
	PS3	0.849			
	PS4	0.628			
Perceived Trust (PT)	PT1	0.858	0.724	0.846	0.648
	PT2	0.727			
	PT3	0.825			
Perceived Accessibility (PA)	PA1	0.796	0.701	0.870	0.634
	PA2	0.796			
Perceived Awareness (PAw)	PAw1	0.709	0.722	0.846	0.646
	PAw2	0.822			
	PAw2	0.873			
Perceived Reliability (PR)	PR1	0.879	0.700	0.872	0.772
	PR2	0.879			
Customer Attitude (CA)	CA1	0.773	0.820	0.884	0.656
	CA2	0.854			
	CA3	0.811			
	CA4	0.799			
Perceived Ease of Use (PEOU)	PEOU1	0.875	0.810	0.888	0.726
	PEOU2	0.867			
	PEOU3	0.812			
Perceived Usefulness (PU)	PU1	0.739	0.804	0.869	0.572
	PU2	0.762			
	PU3	0.615			
	PU4	0.850			
	PU5	0.796			
	PU6	0.796			

Source: Computed from data collected from field survey, 2011

As observed from the table above, all the constructs satisfy the conditions for internal consistency and convergent validity. Table 2 below gives the results for the discriminant validity of the constructs, with correlation among constructs and the square root of average variance extracted (AVE) on the diagonal. All indicators load more highly on their own constructs than on other constructs. Moreover, the correlation between the various construct is very low, indicating that multicollinearity is not a problem among the variables. All these results point to the fact that the convergent and discriminate validity of our instruments items are valid.

Table 2. Discriminant Validity Results

Variables	QOI	PS	PT	PR	CA	PEOU	PU	PA	PAw
QOI	0.847								
PS	0.511	0.763							
PT	0.478	0.281	0.805						
PR	0.357	-0.109	0.445	0.878					
CA	0.116	0.205	0.404	0.449	0.810				
PEOU	0.188	0.367	0.313	0.188	0.258	0.852			
PU	0.236	0.399	0.466	0.390	0.662	0.452	0.756		
PA	0.384	0.284	0.462	0.666	0.414	0.334	0.472	0.796	
Paw	0.231	0.354	0.562	0.126	0.213	0.196	0.285	0.328	0.669

Source: Computed from data collected from field survey, 2011

4.3 Results of Hypotheses Testing Using SEM

Table 3 presents the result of testing the structural links of the proposed extended TAM using a SEM analysis.

Table 3. Partial Least Square Results

Regression path		**Path coefficient (β)**	**R^2**	**P-Value**	**Remarks**
Dependent variable	**Path variable**				
Adoption	CA	0.249	0.166	0.098*	Significant
Customers' attitudes towards e-banking adoption	Age	-0.072	0.572	0.042*	Significant
	Income	-0.030		0.140	Not Significant
	Gender	0.007		0.889	Not Significant
	Marital status	0.069		0.098*	Significant
	Education	0.052		0.069*	Significant
	PU	0.011		0.101*	Significant
	PEOU	0.236		0.090*	Significant
	PT	0.023		0.082*	Significant
	PR	0.012		0.582	Not Significant
	PS	0.001		0.083*	Significant
	QOI	0.056		0.644	Not Significant
	PA	0.027		0.092*	Significant
	PCS	-0.050		0.065**	Significant
	Paw	0.163		0.086*	Significant
Perceivd Usefulness	PA	1.086	0.352	0.006***	Significant
	PR	0.689		0.100*	Significant
	PT	0.781		0.005***	Significant
	PS	0.285		0.081*	Significant
	PEOU	0.206		0.098*	Significant

NB: *, ** and *** denotes statistical significance at 10%, 5% and 1% levels, respectively.

The estimated path coefficients are given along with the associated p-values. Most of the coefficients are significant at the 10% level of statistical significance providing strong support for most of the hypothesized relationships. The results actually show that H1, H2, H3 H4, H6, H8, H9, H10, H11, H12, H13, H14 and H15 are

statistically significant while H5 and H7 are statistically insignificant. These results represent another confirmation of the appropriateness of the TAM for explaining voluntary individual behaviour. The results also provide support for the new links added to the extended TAM representing the effects of Trust (T), security (Se), perceived cost of services (PCS), perceived accessibility (PA), perceived reliability (PR), quality of internet connection (QIC), perceived awareness (PAw), demographic characteristics and costumer's attitude (CA) towards the adoption of e-banking.

From the results in Table 3, it is noted that the overall adoption of e-banking is predicted by customer's attitude which explained 16.6% of the variation in the adoption of e-banking. The path has a positive effect, with a coefficient of 0.249 indicating that the higher the customer's attitude towards adoption, the more likely the customers are to adopt e-banking.

As concern the drivers of customer's attitude, it is statistically explained by variables such as age, marital status, education, perceived usefulness, perceived trust, perceived reliability, perceived security, perceived accessibility, perceived awareness, perceived ease of use and perceived cost of service. These variables jointly explain 57.2% of the variation in customer's attitude towards e-banking adoption. All of these variables except age and perceived cost of service have a positive influence on customer's attitude towards e-banking adoption. However, the variables - gender, income and perceived reliability are statistically insignificant drivers of customer's attitude. The results of this study are consistent with some of the findings of Baraghani (2008) and Wu and Chen (2005).

The results also showed that perceived accessibility, perceived reliability, perceived trust, perceived security and perceived ease of use influenced perceived usefulness of e-banking services. These variables jointly explained 35.2 percent of the variation in perceived usefulness.

4.4 Discussion of Results

This study has made an attempt to describe the e-banking adoption of customers in Cameroon by extending the TAM. The results in this study reveal that customers' attitude has a positive effect on e-banking adoption. This implies that if customers have a positive attitude; feel more confident about e-banking and think adopting it will add more value to them then their desire to use and even encourage others to use it will increase. This result is in line with Al-Somali et al., (2012) contention that there is a significant relation between Customer's Attitude and internet banking adoption. In terms of the role of Perceived Ease of Use, our results show that Perceived Ease of Use affects both the perceived usefulness and the attitudes towards the adoption of e-banking. This result is contrary to the results obtained by Liu et al. (2003) who found out that that Perceived Ease of Use affects Perceived Usefulness but does not impact on Attitude towards adoption.

This study provides additional empirical evidence that supports the notion that, perceived trust, perceived ease of use, perceived awareness and perceived usefulness are useful predictors of customer's attitude towards e-banking adoption. Hence, based on the above results, if customers are aware and perceive learning to use these services to be free of efforts and have an added value in terms of time saving and security in performing their transactions, they will develop a positive attitude towards its adoption. If they also feel e-banking is trustworthy given that online transactions contain sensitive information and they are certain that the bank will ensure limited access to their critical files and information, they will be motivated to adopt and use these e-banking services. Furthermore, the results provide facts that perceived security significantly influences customers' attitude towards e-banking adoption. However, there is evidence to show that perceived cost of e-banking services has a negative and statistical significant influence on customer's attitudes towards e-banking. A result indicating that customer's attitude towards e-banking adoption will decrease with increases in the cost of the service being provided. Thus, banks providing e-banking services should ensure that the cost of the services is affordable to an average income earner in Cameroon.

In addition, customers' demographic characteristic such as age was found to have a negative effect on customers' attitude towards e-banking adoption. This result implies that older customers have a negative attitude towards technology innovation as a whole and e-banking in particular as compared to younger adults who are more interested in using this new technology. This view is consistent with Alagheband (2006) who also asserts that young individuals are more likely to adopt internet banking. The result for marital status shows that the customer's attitude towards e-banking adoption is higher for singles. A result that potential shows that singles are more likely to adopt and use e-banking services than couples. It may simply indicate that it is more convenient for singles to use e-banking than couples. Education also proves to be a very important determinant of customer's attitude towards e-banking adoption. This implies that the more educated a customer is, the more likely they are to adopt e-banking services. Specifically, being educated will facilitate the learning process and

will influence the ability of the customer to adopt e - banking as compared to an uneducated customer. However, other demographic characteristics of customers such as income level and gender were statistically insignificant in influencing customer's attitude towards adoption.

The results also provide statistical evidence to show that reliability, trust, accessibility, ease of use and security will significantly influence customer's perception of the usefulness of e-banking services. The results illustrate that banks should ensure that e-banking distribution channels are always reliable; secured, accessible, easy to use and trustworthy. These results put together imply that banks should provide more security measures such as firewalls that can be used to protect the internal network of banks. For if banks can ensure these security measures, customers will turn to have confidence in adopting and using these e-banking services without any hesitations.

5. Conclusion and Policy Implications

The challenge of the 21st century is enormous in the financial markets. The quest for efficiency amidst global competition has changed the entire platform of financial services and face to face financial services are fast declining, as more financial institutions open their doors to technological transformation aimed at implementing e-banking services. It is therefore of supreme importance for these institutions to identify factors that would influence customers' perception and attitude towards e-banking adoption and usage. The primary objective of this study was to understand those drivers and barriers that influence customer's attitudes and perception towards e-banking adoption in Cameroon in the light of the extended TAM. By extending TAM, this study reveals results that support arguments made by other researchers claiming that perceived usefulness and perceived ease of use were not sufficient to determine the consumers' behavioural intention to use information technology systems.

Accordingly, the study proposed that the adoption of electronic banking could be modelled in terms of the TAM by selecting other control constructs namely; perceived accessibility, perceived trust, perceived security, perceived reliability, perceived cost of services, perceived awareness, perceived ease of use and demographic characteristics, such as age, income level, gender and marital status. Moreover, the results of the statistical analysis revealed that the above mentioned constructs employed prove to have a significant influence on customers' attitude towards e-banking adoption, though variables such as; age, income, and cost of service have a negative relation with customers' attitude towards e-banking adoption.

In conclusion, this study provides evidence that clearly reflect that customers perceive e-banking in terms of its usefulness, ease of use, trustworthiness, cost effectiveness, reliability, convenient, and accessibility. Electronic banking is seemingly becoming a matter of need and holds the key that will help the banking industry to formulate their marketing strategy as well as continue to compete in the globalized network and gain market competitive advantage in the 21st century. Cameroon is at its infancy stage of e-banking adoption and usage, thus there is need for bankers to adopt strategies that will encourage customers' attitudes towards e-banking adoption, such as emphasizing the positive safety features in any marketing campaign. It is also important to improve on the security features of the system being used, since this could re-assure the customers that e-banking is a safe mode to perform transactions. There is need to promote trust, reliability, accessibility and awareness of e-banking services. Banks should also offer proper education and training to the customers emphasizing the relative ease and safety in using e-banking services so as enhance their overall confidence in the use of electronic banking services in the long term. Finally, the results provide evidence that there is need to make e-banking in Cameroon user friendly since many users in Cameroon are yet to become technically equipped in using these services.

References

Ajzen, I. (1991). *The Theory of Planned Behavior Organizational Behavior and Human Decision Processes, 50*, 179-211. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Alagheband, P. (2006). Adoption of electronic banking Services by Iranian Customers. Master thesis. Sweden, Luleå University of technology.

Al-Gahtani, S. (2001). The applicability of TAM outside North America: an empirical test in the United Kingdom. *Information Resource management Journal, 14*(3), 37-46. http://dx.doi.org/10.4018/irmj.2001070104

Al-Somali, S. A., Roya Gholami, & Ben Clegg. (2012). Internet Banking Acceptance in the Context of Developing Countries: An Extension of the Technology Acceptance Model. http://www.scribd.com/doc/77515106/1-Internet-Banking-Final-Copy

Bandura, A. (1982). Self-efficacy Mechanism in Human Agency. *American Psychologist, 33*, 344-358.

http://dx.doi.org/10.1037/0003-066X.33.4.344

Baraghani, S. N. (2008). Factors Influencing the Adoption of Internet Banking. Master Thesis, Lulea University of Technology.

Burke, R. R. (2002). Technology and the Customer Interface: What Consumers Want in the Physical and Virtual Store? *Journal of the Academy of Marketing Science, 30*(4), 411-32. http://dx.doi.org/10.1177/009207002236914

Daniel, E. (1999). Provision of Electronic Banking in the UK and the Republic of Ireland. *International Journal of Bank Marketing, 17*(2), 72-82. http://dx.doi.org/10.1108/02652329910258934

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 318-339. http://dx.doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35*(8), 982-1003. http://dx.doi.org/10.1287/mnsc.35.8.982

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Addison-Wesley, Reading, MA.

Fornell, C., & Larcher, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Errors. *Journal of marketing Research, 18*(1), 39-50. http://dx.doi.org/10.2307/3151312

Gonzalez, M. E. (2008). An Alternative Approach in Service Quality: An E-Banking Case Study. *Quality Management, 15*.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1992). *Multivariate Data Analysis.* (3rd ed.) New York: Macmillan Publishing Company

Jahangir, Nadim, & Noorjahan Begum. (2008). The Role of Perceived Usefulness, Perceived Ease of Use, Security And Privacy, and Customer Attitude to Engender Customer Adaptation In The Context Of Electronic Banking. *African Journal of Business Management, 2*(1)

Jöreskog, K., & Sörbom, D. (1993). LISREL 8: Structural Equation Modelling with the SIMPLIS Command Language. Chicago, IL: Scientific Software International Inc.

King, W. R., & He, J. (2006). A Meta-Analysis of the Technology Acceptance Model. *Information & Management, 43*(6), 740-755. http://dx.doi.org/10.1016/j.im.2006.05.003

Laforet, S., & Li, X. (2005) Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing, 23*(5), 362-380. http://dx.doi.org/10.1108/02652320510629250

Liu, S., Tucker, D., Koh, C. E., & Kappelman, L. (2003). Standard user interface in e-commerce sites. *Industrial Management & Data Systems, 103*, 600-610. http://dx.doi.org/10.1108/02635570310497648

Mahdi, S., & Mehrdad, A. (2010). E-Banking in Emerging Economy: Empirical Evidence of Iran. *International Journal of Economics and Finance, 2*(1).

Mann, C. L. (2000). Electronic Commerce in Developing Countries: Issues for Domestic Policy and WTO Negotiations. In Stern, R. (Ed) Services in the International Economy: Measurement, Modelling, Sectorial and Country studies and issues in the World Services Negotiations, Institute for International Economics.

Mathieson, K. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behaviour. *Information Systems Research, 2*(3), 173-191. http://dx.doi.org/10.1287/isre.2.3.173

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review, 20*, 709-734.

Moutinho, L., & Smith, A. (2000). Modelling Bank Customers' Satisfaction Through Mediation of Attitudes Towards Human and Automated Banking. *International Journal of Bank Marketing, 18*(3), 124-34. http://dx.doi.org/10.1108/02652320010339699

Muniruddeen, L. (2007). An Examination of Individual's Perceived Security and Privacy of the Internet in Malaysia and the Influence of This on Their Intention to Use E-Commerce: Using An Extension of the Technology Acceptance Model. *Journal of Internet Banking and Commerce, 12*(3).

Qureshi, S., & Davis, A. (2007). Overcoming the Digital Divide through Electronic Commerce: Harnessing

Opportunities in IT for Development. 40th Hawaii International Conference on System Sciences, Hawaii

Siu-Cheung C., & Ming-te Lu. (2004). Understanding of Internet Banking Adoption and Use Behaviour: A Hong Kong Perspective. *Journal of Global Management.*

Taylor, S., & Todd, P. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research, 6*(2), 144-176. http://dx.doi.org/10.1287/isre.6.2.144

Venkatesh, V., & Davis, F. D. (1996). A model of the Antecedents of Perceived Ease of Use: Development and Test. *Decision Sciences, 27*(3), 451-481. http://dx.doi.org/10.1111/j.1540-5915.1996.tb01822.x

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 46*(2), 186-204. http://dx.doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User Acceptance of Information Technology: Toward A Unified View. *MIS Quarterly, 27*(3) 425- 478.

Wang,Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of User Acceptance of Internet Banking: an Empirical Study. *International Journal of Service Industry Management, 14*(5), 501-519. http://dx.doi.org/10.1108/09564230310500192

Wu, J. H., & Cheng Wang, S. (2005). What Drives Mobile Commerce? An Empirical Evaluation of the Revised Technology Acceptance Model. *Information & Management, 42*, 719-729. http://dx.doi.org/10.1016/j.im.2004.07.001