



Factors Influencing the Adoption of E-Banking in Somalia

Mohamed Ismail Mohamed

Faculty of Management Science, Mogadishu Somalia, ISIMAD University, Malaysia

Yurita Yakimin Abdul Talib

Tunku Puteri Intan Safinaz School of Accountancy (TISSA), Universiti Utara, Malaysia

Ahmad Haruna Abubakar, Abdullahi Bala Ado*

Faculty of Business and Management Sciences, Universiti Sultan Zainal Abidin, Malaysia

Abstract

The electronic banking concept has been in practice worldwide, especially in developed nations, compared to developing countries where Somalia is no exception to this trend. The purpose of this study is to identify the factors that determine e-banking adoption in Somalia. Since the introduction of e-banking, several studies have explored diverse e-banking concepts in developing nations. This study identified four main determinants of e-banking adoption, which include internet speed, trust, perceived ease of use, and perceived usefulness. This study's findings show that internet speed, trust, perceived ease of use, and perceived usefulness played a significant role in determining e-banking adoption. The method employed in this study involved primary data through an online survey questionnaire. The study's limitation is basically quantitative research; hence, future research should include other geographical areas such as other Somalia cities, meeting the findings' generalization. This study also suggests that future research should implement a longitudinal study where recurring measurement on respondents is done, thereby understanding the e-banking adoption behavior over time.

Keywords: E-banking, Internet speed, Trust, Perceive ease of use, Perceive usefulness, Technology

***Corresponding Author:** Faculty of Business and Management Sciences, Email: abdallahkmata@yahoo.com



1. Introduction

The electronic banking concept has been in practice worldwide, especially in developed nations, compared to developing countries where Somalia is no exception to this trend (Mohamad 2011). E-banking is a relatively new concept in Somalia and still in its early stage even though the adoption process is swiftly increasing in developing countries (Sayid, & Echchabi, 2012). In recent years the rapid development of IT (information technology) such as e-banking has brought several changes, especially in the way banks provide services to their customers. Financial service providers such as the banking sector are perceived to be the most important IT-intensive service industry because they are the largest IT service providers who spend a tremendous amount of money on IT systems (Alkafagi, 2015). Nowadays, a bank's customers are much more interested in getting an e-service quality experience.

Studies have shown that e-banking innovation saves time and money and provides bank customers with minimal risk (e.g., loss and theft), lower service charges, convenience, instant accessibility, and payment (Bacinello, Carmona, Tomelim, Da Cunha, & Tontini, 2017). Hamid, Razak, Bakar, and Abdullah (2016) highlighted that internet banking improves customer's job performance. Adams, Bashiru, and Abdulai (2016) argued that e-banking is more beneficial to banks than its customers. The impact of the internet of a thing (IoT) era on the banking sector has made away with the brick and mortar banking system. This means that bank customers need not visit the bank to make any transaction due to the contactless nature of e-banking, its 24/7 convenience, accessibility, and flexibility, among other benefits (Donovan, 2012; Auta, E. M. 2010; Lee and Chung, 2009).

However, the major issue is how to use the technology (i.e., computer) coupled with slow internet speed, customer trust, perceive usefulness, and perceive ease of use have constituted a major issue despite the willingness to adopt e-banking by some good number of Somalians (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). However, there is a steady increase in e-banking adoption in Somalia, which has been attributed to its ease of use and mobile phone users' rate, which is consistent with Au and Kauffman's (2008) theory of "consumer choice and demand." This theory stipulates that consumers may choose to use any particular banking technology, such as e-banking, based on the ease of use and other related attractive features that they perceive.

The issues regarding e-banking adoption concern poor service quality and customer (Amin, 2016; Calisir and Gumussoy, 2008). According to Bhattacharjee (2017), the primary cause of customer's dissatisfaction with e-banking is a lack of trust. Studies have also identified some e-banking adoption issues that are common in developing countries, which includes slow internet speed, internet experience, lack of government support, security and privacy, customer's trust (Sánchez-Torres, Canada, Sandoval, and Alzate, 2018; Bacinello, Carmona, Tomelim, Cunha, & Tontini, 2017; Rahman, Saha, Sarker, Sultana, and Prodhan, 2017; Daniel, and Jonathan, 2013; Ibok, and Ikoh, 2013).

Since the introduction of e-banking, several studies have explored diverse issues of e-banking concept in the developing nations (Courchane et al., 2002; Pikkarainen et al., 2004; Mattila and Mattila, 2005; Roussos, 2007; Forrester Research, 2009; The World Bank, 2009; Yousafzai and Yani-de-Soriano, 2012; Devi Juwaheer, Pudaruth, & Ramdin, 2012). Many studies have attempted to identify the factors (such as perceive ease of use, perceive usefulness, income level, educational level, age, etc.) that determine e-banking adoption in the developing country by using several types of theories such as the technology acceptance model (TAM) (Davis, 1989), a theory of reasoned action (TRA) (Fishbein and Ajzen, 1975) and theory of planned behavior (TPB) (Ajzen, 1991). However, a limited study has focused on customer trust and the internet's speed and perceives ease of use and perceives usefulness as predictors of e-

banking adoption, especially in Somalia (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). Thus, the study aims to fill this gap by further providing evidence that constitutes the issues mentioned above, such as lack of usage, people resistance, lack of up-to-date services, etc.

Additionally, this study aims to look into how customer trust influences e-banking adoption among Somalia in some selected universities' students of Mogadishu, to reflect the contextual issues of e-banking adoption in Somalia. Moreover, these predictors of e-banking adoption have been a lingering issue for some time now in Somalia. In sum, significant studies have provided evidence on the extensive adoption of e-banking in developing nations. However, there is a limited study on e-banking adoption in developing nations, especially in Somalia. The need to identify the factors that will encourage and improve internet banking services adoption becomes paramount for the present study. The remaining part of the paper is designed as follows. Section one deals with the introduction, and the next section reviews the pertinent literature and hypothesis development evidence from prior researches. Section three describes the methodology adopted in this research, followed by section four, which summarizes the results. Finally, section five offers the conclusive part of the study.

2. Literature Review and Hypothesis Development

The advent of internet banking technology such as e-banking in Somalia has led to changes in how financial services and banking services are offered to customers (Madulu, 2014 cited in Gas 2016). This is because e-banking facilitates internet banking facilities such as ATMs, computers, and money transfers. Following the collapse of Somalia's government since 1991, as led by the former president Siyad Barre, the financial system has undergone several reforms, especially in the Central Bank and the entire Somalia banking system (Sayid, & Echchabi, 2013). Thus, towards the end of 2006, the central bank managed to restore its offices in Mogadishu and other main cities. As a result, the Money Transfer Companies, known as the "Hawaleh System," was implemented to deliver some essential banking services such as e-banking.

The Hawaleh System (remittance providers) has its agencies worldwide, making it a famous financial player in Somalia coupled with the faster and lower service charges they offered and thereby increased public trust and reliability (Sayid, & Echchabi, 2013). Also, the central role of the Hawaleh system is to transfer money between foreign countries and within the country. For example, this platform of e-banking (money transfer) enables Somali students to study in Malaysia to efficiently carry out their e-banking transactions at any point in time, provided they have a computer or IT Technology linked with the internet. Moreover, there are other e-banking facilities such as ZAAD (launched by Telsom company in 2009 as the first money transfer system in Somaliland) and e-Dahab (launched by Dahabshiil in 2014) (Gas, 2016). Despite the popularity of these e-banking facilities, there are still issues of lack of usage due to people's resistance.

The electronic banking concept has been in practice worldwide and is rapidly growing globally, especially in developed nations compared to developing ones. Nowadays, the internet of things (IoT) era has led to e-commerce adoption, such as e-banking as a competitive advantage to the banking sector because it provides a flexible and convenient banking platform that boosts customer's trust and satisfaction. Globally, e-banking is widely accepted concerning customer service quality, banking securities, and customers' perceived usefulness and ease of use, and customers' trust. Additionally, e-banking is gaining more momentum over traditional banking, and winning customers' loyalty and gaining their continuous patronage requires providing e-service quality that will earn their trust.

Mainly, the TAM constructs, especially perceived usefulness and ease of use, were developed by Davis (1989) to tackle the issues of e-mail. For example, according to Davis (1989), TAM's proposed model is primarily developed to understand users' acceptance of adopting IS such as e-banking through perceived usefulness and perceived ease of use constructs to evaluate bank customers' intention to adopt e-banking. There are many definitions of electronic banking postulated by several authors. Mainly, these definitions cover areas like the services offered, advantages of e-banking, and the various levels of e-banking (Mutengezanwa, and Mauchi, 2013).

The technology acceptance model is used in the study as the underpinning theory to explain the intention to adopt e-banking. TAM is a philosophy that explains the user's acceptance or refusal of information system applications such as e-banking. TAM was born out of prior work on the "Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975) and Theory of Planned Behaviors (TPB) proposed by Cunningham, Taylor, and Todd (1985)". During his Doctoral thesis at MIT Sloan School of Management in Cambridge, Massachusetts, USA, Fred Davis developed the TAM model. The TAM constructs, especially perceived usefulness and ease of use, were mainly developed by Davis (1989) to tackle e-banking adoption issues.

In applying this theory to internet banking adoption, studies have indicated that customer's trust (which is regarded as an element of performance expectancy) and internet speed (which is regarded as one of the vital facilitating condition for e-banking adoption) significantly influence users' intention to adopt Venkatesh, Morris, Davis, and Davis (2003). In other words, a poor internet connection with high cases of an internet security breach that leads to questioning the reliability and ingenuity of the services provided by the bank will eventually not stimulate user's behavior to adopt e-banking. Also, Gunaratnam et al. (2017) studies on "the influence of e-banking practices" in Jaffna city, Sri Lanka, found that among the four predictors of e-banking practice (content and website layout, speed of delivery, privacy and security, convenience and accessibility), internet speed had the most substantial influence on e-banking practice. Internet speed also allows customers to easily purchase by credit card, thereby making the customer comfortable as delivery is free and affordable (Gounaris & Koritos, 2008).

Internet speed plays a vital role in customers' comfort because it is available 24 hours a day and 365 days in a year, which is not possible through e-commerce. Previous studies (see, for example, Chavan, 2013; Haque, Ismail, & Daraz, 2009; Al-Somali et al., 2009) found a significant relationship between internet speed and intention to use e-banking, while other researchers like (Amin, 2016; Floh & Treiblmaier, 2006; Poon, 2007), did not establish a significant relationship between internet speed and intention to use e-banking. In order to reconcile the conflicting results shown in the literature, it is appropriate to utilize the following hypothesis that explains the relationship between internet speed and the intention to adopt e-banking in Somalia. Thus, this study developed the following hypothesis:

H₁: There is a significant relationship between internet speed and e-banking adoption.

Trust is the customers' willingness to use internet banking to expect the bank to perform their service obligation regardless of the customers' ability to monitor or control the service provider's activities. Trust is an essential resource that influences user thoughts, and it establishes the achievement of new technology adaptation, like e-banking, e-commerce. (Chen and Barnes, 2007). Besides, several researchers like (Bhattacharjee 2017; Maduku, 2014) have shown that the trust construct was found to be the primary driver for e-banking adoption (Bhattacharjee 2017; Maduku, 2014). Therefore, to put to rights the different outcomes revealed in the literature, it is suitable

to use the following hypothesis that elaborates on the relationship between trust and the intention to adopt e-banking in Somalia. Thus, this study developed the following hypothesis:

H₂: There is a significant relationship between trust and e-banking adoption.

Perceived Ease of Use refers to the level at which users believe that a specific method will be effective regarding its transfers and utilization (Davis, 1989). Therefore, whenever a customer feels that e-banking is secure and easy to adopt and free of the bundle, the customers' possibilities to use new Technology will be high. Many studies (Saidi et al., 2016; Maduku, 2014; Mazuri, Samar, Norjaya, and Feras, 2017) have revealed that e-banking is significantly influenced by perceived ease of use, primarily in the developing nations. While some researchers like Sayid and Echchabi (2012) disputed that perceived ease of use did not significantly affect internet banking adoption. Somalia culture has a propensity to motivate risk taken instead of risk aversion. In the same way, Yuan, Liu, Yao, and Liu (2016) establish related results. However, this study improved the hypothesis to validate these conflicting results, the following hypothesis:

H₃: There is a significant relationship between perceived ease of use and e-banking adoption.

The key element identified by Davis (1989) that drives e-banking adoption is Perceive Usefulness. It refers to the level by which individuals using e-banking believe that it will develop his/her financial services and banking transactions. However, most previous studies have indicated that perceived usefulness has a significant positive influence on e-banking adoption (Al-shbiel & Ahmad, 2016; Al-smadi, 2012). Additionally, Tran and Corner (2016), studies in New Zealand established perceive usefulness to have the most substantial influence on e-banking adoption. On the other side, some studies have revealed that perceived usefulness has a negative impact on the adoption of the new Technology of e-banking. In their study, Aboelmaged and Gebba (2013) found that perceive usefulness does not influence mobile banking adoption in the United Arab Emirates (UAE). Therefore, in order to hypothesize the literature as mentioned above, the following hypothesis will be;

H₄: There is a significant relationship between perceived usefulness and e-banking adoption.

3. Research methodology

This study's targeted population comprises SIMAD University students, Somali National University students, and Benadir University students. The present study also utilizes primary sources via a questionnaire distributed online to reach the respondents of interest. The sample used in this study involves students studying in three Universities of Mogadishu, namely SIMAD University (3796 students), Somali National University (7500 students), and Benadir University (1613 students), comprising total students of 12909 students. The information gathered from the universities' authorities responsible for keeping the records of students' enrollment. The researcher believes that this is sufficient to ensure a good representative of the entire population of Somalia students studying in Mogadishu Universities because Mogadishu is the capital city of Somalia. It has a good number of universities. These institutions are highly regulated in the country. The selected sample comprises of both degree and postgraduate students studying in the said universities. According to Krejcie and Morgan (1970), a population of 12909, a sample size of 377 is required. Therefore, the suitable sample size chosen for this study is 377. This population's sample size was ascertained using Krejcie and Morgan's (1970) table for determining for a given population. The present study employs a convenience sampling technique because the

research seeks the factors influencing selected university students to adopt e-banking in Somalia. As the sample size of the targeted population is 377, the convenience sampling technique is used to select the potential respondents. The data collected were analyzed using the SPSS software (version 25) to test the study's significance. The researcher outlined the following operational definitions shown in Table 1, which will exhibit the terminology and acronyms for the investigation variables.

Table 1. Operational Definition of Key Variables

S/N	Variables	Measurements	Proxies	Sources
Dependent Variable:				
1.	E-banking Adoption	E-banking adoption refers to an undertaking to sign a contract by acknowledging full usage of an electronic banking gateway or channel that promotes banking transactions such as checking account balance, fund transfer, standing order, payment of bills, etc.	EBA	Gbadebo (2016)
Independent Variables				
1.	Internet Speed	Internet speed is regarded as a facilitating condition because, according to Venkatesh (2003), any technical infrastructure that supports the use of a system is regarded as a facilitating condition.	IS	Venkatesh (2003)
2.	Trust	Trust refers to users' willingness to adopt internet banking with the hope that the bank will fulfill their service obligation regardless of the customers' ability to monitor or control the service provider's activities.	TR	Yousafzai, Pallister, & Foxall (2009)
3.	Perceived ease of use	Perceived Ease of Use refers to the level at which a user believes that using a new specified system will be devoid of both mental and physical efforts, especially in terms of transfer and utilization	PE	(Davis, 1989)
4.	Perceived usefulness	Perceived usefulness refers to the degree by which a person using e-banking believes that it will enhance his/her financial service or banking transactions.	PU	(Davis, 1989)

3.1 Variable measurement

The present study measures five variables: internet speed, trust, perceived ease of use, perceived usefulness, and intention to adopt E-banking. All five items are considered to have strong construct validity and highly reliable, as shown in Table 2

Table 2. Measurement and Instruments of Variable

Variables	Sources	No of Items	Modified Items	Original Items
Internet Speed (IS)	Tan and Teo (2000) Poon, W. C. (2007)	6	1. Faster Internet access speed is important for electronic banking.	1. Faster Internet access speed is important for Internet banking.
			2. Frequent connection breakdown affects the speed of the electronic banking service.	2. Frequent connection breakdown.

			3. Easy navigation of the electronic banking site due to internet speed.	3. Easy to navigate the bank site due to a smooth speed.
			4. Electronic banking facilitates an efficient transition (no waiting time).	4. Transition is efficient/no waiting time.
			5. Speedy response to the customer's complaint in electronic banking is satisfactory.	5. Response speed to a complaint is satisfactory.
			6. The internet speed of the electronic banking transaction flow is faster compared to traditional banking.	6. Speed of transactions flow is faster than traditional banking channels.
Trust (TR)	Suh and Han (2002)	5	1. The electronic banking site is trustworthy.	1. This Internet banking site is trustworthy.
			2. The electronic banking site keeps its promises and commitments.	2. This Internet banking site keeps its promises and commitments.
			3. I trust the electronic banking site.	3. I trust this Internet banking site.
			4. The electronic banking site would do the job right, even if not monitored.	4. This Internet banking site would do the job right, even if not monitored.
			5. The electronic banking site keeps customers' best interests in mind.	5. This Internet banking site keeps customers' best interests in mind.
Perceived ease of use (PEOU)	Ho and Ko (2008)	5	1. I find electronic banking easy to use.	1. I find this Internet banking site easy to use.
			2. It is easy for me to learn how to utilize an electronic banking site.	2. It is easy for me to learn how to utilize this Internet banking site.
			3. My interaction with the electronic banking site is clear and understandable.	3. My interaction with this Internet banking site is clear and understandable.
			4. It is easy to remember how to use an electronic banking site.	4. It is easy to remember how to use this Internet banking site.
			5. I find it easy to get an electronic banking site to do what I want it to do.	5. I find it easy to get this Internet banking site to do what I want it to do.
Perceived usefulness (PU)	Lai and Li (2005)	5	1. I can accomplish my banking tasks more easily using electronic banking.	1. I can accomplish my banking tasks more easily using Internet Banking.
			2. I can accomplish my banking tasks more quickly using electronic banking.	2. I can accomplish my banking tasks more quickly using Internet Banking.

			3. Electronic banking enhances my efficiency in utilizing banking services.	3. Internet Banking enhances my efficiency in utilizing banking services.
			4. Electronic Banking enhances my effectiveness in utilizing banking services.	4. Internet Banking enhances my effectiveness in utilizing banking services.
			5. Overall, I find electronic banking useful.	5. Overall, I find Internet Banking useful.
Intention to Adoption E-banking (IBA)	Davis et al. (1989)	5	1. I will always try to use e-banking in my daily life.	1. I will always try to use telebanking in my daily life
			2. I intend to use e-banking in the next month.	2. I intend to use telebanking in the future.
			3. I predict I would use banking in the future.	3. I predict I would use telebanking in the future.
			4. I plan to use e-banking in the future.	4. I plan to use telebanking in the future.
			5. I will recommend peers to use e-banking.	5. I will recommend peers to use Internet banking.

4. Results and Discussion

4.1. Analysis of response rates

A total of 377 questionnaires was distributed online, and the number of response received is 193. It represents about a 51 percent response rate. As represented, the response rate is due to a lack of a good internet system and adequate electricity. These factors are responsible for the low response rate. The table below (3) shows how the questionnaires were distributed among selected university students in Mogadishu, Somalia.

Table 3. Analysis of Response Rate

Description	Outcome	Rate (%)
Questionnaires distributed	377	100
Questionnaire Responses returned	193	51.2
Excluded questionnaire and outlier that is not applicable	(32)	
Usable Responses	161	43

4.2. Descriptive statistics

Table 4 presented the general mean scores and standard deviation for both dependent and independent variables in this study. All the items for the variables were measured based on five Likert scales. The result shows that the respondent's mean value for acceptance level on the intention to adopt e-banking is 4.174, with a standard deviation (SD) of 0. 0.555. This shows that most of the respondents agreed and accepted that the statement in the instruments. Also, the descriptive statistic for the independent's variables was measured based on a five Likert-scale in which the outcome reveals that perceived ease of use has the highest mean score and standard deviation of 4.140 and 0.511, respectively, while trust has the lowest mean score and standard deviation of 3.704 and 0.718 respectively. This revealed that perceived ease of use has the highest positive response, while trust has the least response. This is clearly shown in Table 4 below.

Table 4. Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
IS	161	4.060	0.584	2.50	5.00
TRUST	161	3.704	0.718	1.80	5.00
PE	161	4.140	0.511	2.80	5.00
PU	161	4.048	0.592	1.40	5.00
IBA	161	4.174	0.555	2.80	5.00

4.3. Discriminant validity

The discriminant validity is carried out by calculating the square root of the AVE of each variable and comparing it with the variable's correlations. It provides evidence that a variable has discriminant validity; AVE's square root should be higher than the correlation. Table 5 shows the results of AVE, CR, SD, mean average, square roots of AVE, and the correlation coefficient. The results indicate that the variables of this study have achieved appropriate discriminant validity.

Table 5. Descriptive statistics, Inter-Correlation and Internal Consistency

Variables	Mean	SD	AVE	CR	IBA	IS	PE	PU	TR
IBA	4.060	0.584	0.570	0.799	0.755				
IS	3.704	0.718	0.523	0.763	0.517**	0.723			
PE	4.140	0.511	0.617	0.829	0.364**	0.373**	0.786		
PU	4.048	0.592	0.513	0.805	0.408**	0.177**	0.301**	0.716	
TR	4.174	0.555	0.504	0.835	0.461**	0.441**	0.456**	0.285**	0.710

Note: IBA= Intention to adopt e-banking, IS= internet speed, PE=perceive ease of use, PU=perceive usefulness, TR= trust, SD= Standard deviation, AVE= Average variance extraction, CR= Composite reliability.

** . Correlation is significant at the 0.01 level (2-tailed).

*P< .05, **P< .01 (2-tailed)

From Table 6, it is clear that all the independent variables in the current study are not affected by the multicollinearity problem, as a result of the VIF for all the independent variables (internet speed, trust, perceive ease of use, perceive usefulness) are less than 10 and the tolerance values are also more than 0.10. Thus, since the value of VIF and tolerance for all the independent variables are within the acceptable range, there is no multicollinearity problem in this study.

Table 6. Collinearity Diagnostics

Variables	Collinearity Statistics	
	Tolerance	VIF
IS	0.686	1.457
TR	0.629	1.589
PE	0.602	1.662
PU	0.881	1.134

a. Dependent Variable: IBA

4.4. Multiple regression results

Multiple regressions are employed to measure the effects of various independent variables on a dependent variable concurrently. This processing helps the researcher understand the extent to which a set of independent variables explains the discrepancy in the dependent variable (Cavana et al., 2001). In this research, the relationship between the adoption of e-banking and its determinant was analyzed using standard regression analysis, as suggested by Sekaran and Roger (2013). Standard regression enables the whole variables of the study to be put into the model simultaneously and

evaluated based on the variance contribution. The result shows that the model's overall r^2 is significantly based on (F-value =28.116, $P < 0.001$).

Table 7. Summary of Results

NO.	Hypotheses	Beta	P-value	Results
H ₁	There is a significant relationship between internet speed and e-banking adoption.	0.343	0.000	Supported
H ₂	There is a significant relationship between trust and e-banking adoption.	0.200	0.010	Supported
H ₃	There is a significant relationship between Perceive's ease of use and e-banking adoption.	0.134	0.090	Supported
H ₄	There is a significant relationship between Perceived usefulness and e-banking adoption.	0.184	0.005	Supported

Dependent variable= IBA, *P value $\leq .01$, ***P value $\leq .05$

Table 7 above clearly presents the R^2 of 40.4%, which means that the variables (internet speed, trust, perceived ease of use, and perceived usefulness) as the determinants of adoption of e-banking can explain 40.4 percent of the variance. Base on Table 7, hypothesis 1 stated that internet speed relates to the adoption of e-banking. Table 4.5 shows that internet speed was positively related to the adoption of e-banking ($B=0.343$, $p < 0.05$). The findings support hypothesis 1. This result suggests that a high degree of internet speed tends to increase one's adoption of e-banking. This is supported by Erkin (2014) findings, who suggest that internet banking facilities such as internet speed should be easily accessible to customers. Hypothesis 2 stated that trust relates to the adoption of e-banking. Table 4.5 shows that trust was positively related to the adoption of e-banking ($B=0.200$, $p < 0.01$). The findings support hypothesis 2. This result suggests that a high degree of trust tends to increase one's adoption of e-banking. Therefore, this result is consistent with past studies by Koenig-Lewis et al. (2010). The outcomes showed that Trust and Credibility were two main key indicators in decreasing the general perceived risk of e-banking adoption in Germany.

Hypothesis 3 stated that perceive ease of use relates to the adoption of e-banking. Table 4.5 shows that perceived ease of use was positively related to the adoption of e-banking ($B=0.134$, $p < 0.01$). The findings support hypothesis 3. This result suggests that a high degree of perceived ease of use tends to increase one's adoption of e-banking. This result is supported by past studies that showed a significant relationship between perceived ease of use and e-banking adoption, especially in developing nations (Saidi et al., 2016). Hypothesis 4 stated that perceive usefulness relates to the adoption of e-banking. Table 4.5 shows that perceive usefulness was positively related to the adoption of e-banking ($B=0.184$, $p < 0.01$). The results support hypothesis 4. This finding suggests that a degree of perceived usefulness tends to increase one's adoption of e-banking. Overall, all hypotheses of this are supported. This study's findings are consistent with the result of much research, which states that e-banking adoption is significantly influenced by perceived usefulness, particularly in less developed countries (Maduku, 2014).

5. Conclusions

The main objective of the research is to investigate the factors influencing the adoption of e-banking in Somalia. Given this objective, the research responds to the research questions raised above. These replies are presented in detail and supported by the correlation and regression analysis results. There are four independent variables, such as Internet speed, trust, perceived ease of use, and Perceptive usefulness, which

have been tested to recognize which is the most significant factor influencing the adoption of e-banking. It was found that Internet speed is significantly related to e-banking adoption. Hence, this reveals that internet speed does affect the adoption of e-banking in Somalia. The result of this study revealed that there is a significant relationship between trust and the adoption of e-banking. This study supports the hypothesis that there is a significant relationship between Perceived Ease of Use and e-banking adoption. The study's result supports the hypothesis; the finding revealed a significant positive relationship between perceived usefulness and the adoption of e-banking. The finding of this research increases the body of knowledge in the area of banking in Somalia. Future researchers can try the variables tested in this research with a more extensive sample size to see if consistency can be identified. Future research is also suggested to include other geographical areas such as other Somalia cities, meeting the findings' generalization. Hence, this study suggests that future research to implement a longitudinal study where recurring measurement on respondents is done, thereby understanding the e-banking adoption behavior over time.

References

- Aboelmaged, M., and Gebba, T.R. (2013). Mobile banking adoption: an examination of the technology acceptance model and the theory of planned behavior. *International Journal of Business Research and Development*, 2(1), 35-50. Doi: [10.24102/ijbrd.v2i1.263](https://doi.org/10.24102/ijbrd.v2i1.263)
- Adams, A.M. Bashiru, M. and Abdulai, I.A. (2016). Customer satisfaction in the banking industry in Ghana: A case of GCB bank limited in WA Municipality. *Journal of Social Science Studies*, 3(2), 217-235. <https://ideas.repec.org/a/mth/jsss88/v3y2016i2p217-235.html>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Alkafagi, A.A.C. (2015). Understanding internet banking services and customer's adoption in Iraqi public universities (Doctoral dissertation, Universiti Utara Malaysia). Ph.D. thesis, Universiti Utara Malaysia, <http://etd.uum.edu.my/5435/>
- Al-Shbiel, S.O. and Ahmad, M.A. (2016). A Theoretical discussion of electronic banking in Jordan by integrating technology acceptance model and theory of planned behavior. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(3), 272-284. DOI: [10.6007/IJARAFMS/v6-i3/2275](https://doi.org/10.6007/IJARAFMS/v6-i3/2275)
- Al-Smadi, M.O. (2012). Factors affecting adoption of electronic banking: An analysis of the perspectives of banks' customers. *International Journal of Business and Social Science*, 3(17).
- Al-Somali, S.A. Gholami, R. and Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. *Technovation*, 29(2), 130-141. <https://doi.org/10.1016/j.technovation.2008.07.004>
- Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. *International journal of bank marketing*, 34(3), 280-306.
- Au, Y.A. and Kauffman, R.J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic Commerce Research and Applications*, 7(2), 141-164. <https://doi.org/10.1016/j.elerap.2006.12.004>
- Auta, E.M. (2010). E-Banking in developing economy: empirical evidence from Nigeria. *Journal of applied quantitative methods*, 5(2), <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.470.7440>

- Bacinello, E. Carmona, L.J.D.M. Tomelim, J. Da Cunha, H.C. and Tontini, G. (2017). Nonlinear antecedents of consumer satisfaction on e-banking portals. *The Journal of Internet Banking and Commerce*, 1-21. <https://www.icommercecentral.com/open-access/nonlinear-antecedents-of-consumer-satisfaction-on-ebanking-portals.php?aid=85700>
- Bhattacharjee, K. (2017). Satisfaction of E-banking: A comparative study on degree holder & non-degree-holder customers. *Management Research*, 4(12).
- Calisir, F. and Gumussoy, C.A. (2008). Internet banking versus other banking channels: Young consumers' view. *International journal of information management*, 28(3), 215-221. <https://doi.org/10.1016/j.ijinfomgt.2008.02.009>
- Cavana, R.Y. Delahaye, B.L. and Sekaran, U. (2001). Applied business research: Qualitative and quantitative methods. John Wiley & Sons Australia, ISBN: [0471341266, 9780471341260](https://doi.org/10.1016/0471341266.9780471341260)
- Chavan, J. (2013). Internet banking-benefits and challenges in an emerging economy. *International Journal of Research in Business Management*, 1(1), 19-26.
- Chen, Y.H. and Barnes, S. (2007). Initial trust and online buyer behaviour. *Industrial management & data systems*, 107(1), 21-36. Doi:[10.1108/02635570710719034](https://doi.org/10.1108/02635570710719034)
- Courchane, M. Nickerson, D. and Sullivan, R. (2002). Investment in internet banking as a real option: theory and tests. *Journal of Multinational Financial Management*, 12(4-5), 347-363. [https://doi.org/10.1016/S1042-444X\(02\)00015-4](https://doi.org/10.1016/S1042-444X(02)00015-4)
- Cunningham, W.C. Taylor, T.H. and Ford, D. (1985). Crime and protection in America: A study of private security and law enforcement resources and relationships. Washington, DC: US Department of Justice, National Institute of Justice.
- Daniel, P.E.Z. and Jonathan, A. (2013). Factors affecting the adoption of online banking in Ghana: Implications for bank managers. *International Journal of Business and Social Research*, 3(6), 94-108. <https://thejournalofbusiness.org/index.php/site/article/view/49>
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Devi Juwaheer, T. Pudaruth, S. and Ramdin, P. (2012). Factors influencing the adoption of internet banking: A case study of commercial banks in Mauritius. *World Journal of Science, Technology and Sustainable Development*, 9(3), 204-234. Doi: [10.1108/20425941211250552](https://doi.org/10.1108/20425941211250552)
- Donovan, K. (2012). Mobile money for financial inclusion. *Information and Communications for development*, 61(1), 61-73. https://doi.org/10.1596/9780821389911_ch04
- Erkin, K. (2014). Internet banking adoption in Uzbekistan (Doctoral dissertation, Universiti Utara Malaysia). Masters thesis, Universiti Utara Malaysia, <http://etd.uum.edu.my/4118/>
- Fishbein, M. and Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. Addison-Wesley, ISBN: [978-0201020892](https://doi.org/10.1016/0195-0686(75)90001-9)
- Floh, A. and Treiblmaier, H. (2006). What keeps the e-banking customer loyal? A multi group analysis of the moderating role of consumer characteristics on loyalty in the financial service industry. available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2585491
- Forrester Research (2009). Internet banking is booming. available at: www.internetbanking.com/tag/gartner-group/ (accessed March 2010).
- Gas, M.A. (2016). Communities Perception of electronic banking in Somaliland.
- Gbadebo, S.M. (2016). The influences of e-satisfaction, e-trust and hedonic motivation on the relationship between e-banking adoption and its determinants in Nigeria

- (Doctoral dissertation, Universiti Utara Malaysia). Ph.D. thesis, Universiti Utara Malaysia, <http://etd.uum.edu.my/6396/>
- Gounaris, S.P. and Koritos, C.D. (2008). Using the extended innovation attributes framework and consumer personal characteristics as predictors of internet banking adoption. *Journal of Financial Services Marketing*, 13(1), 39-51. <https://link.springer.com/article/10.1057/fsm.2008.4>
- Gunaratnam, A. Kajenthiran, K. Ratnam, U. and Sivapalan, A. (2017). Factors influencing on e-banking practices: Evidence from Sri-lanka. *Journal of Sociological Research*, 9(1), 1-14. Doi: [10.5296/jsr.v9i1.11989](https://doi.org/10.5296/jsr.v9i1.11989)
- Hamid, A.A. Razak, F.Z.A. Bakar, A.A. and Abdullah, W.S.W. (2016). The effects of perceived usefulness and perceived ease of use on continuance intention to use e-government. *Procedia Economics and Finance*, 35, 644-649. [https://doi.org/10.1016/S2212-5671\(16\)00079-4](https://doi.org/10.1016/S2212-5671(16)00079-4)
- Haque, A.K.M. Ismail, A.Z. and Daraz, A.H. (2009). Issues of e-banking transaction: an empirical investigation on Malaysian customers perception. *Journal of Applied Sciences*, 9(10), 1870-1879. DOI: [10.3923/jas.2009.1870.1879](https://doi.org/10.3923/jas.2009.1870.1879)
- Ho, S.H. and Ko, Y.Y. (2008). Effects of self-service Technology on customer value and customer readiness: The case of internet banking. *Internet Research*, 18(4), 427-446. Doi: [10.1108/10662240810897826](https://doi.org/10.1108/10662240810897826)
- Ibok, N.I. and Ikoh, I.M. (2013). Determinants of customer satisfaction with internet banking services. *Journal of Arts and Social Sciences*, 14(2), 178-186.
- Koenig-Lewis, N. Palmer, A. and Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International journal of bank marketing*. 28(5), 410-432. Doi: [10.1108/02652321011064917](https://doi.org/10.1108/02652321011064917)
- Krejcie, R.V. and Morgan, D.W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Lai, V.S. and Li, H. (2005). Technology acceptance model for internet banking: An invariance analysis. *Information & management*, 42(2), 373-386. <https://doi.org/10.1016/j.im.2004.01.007>
- Lee, K.C. and Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. *Interacting with Computers*, 21(5-6), 385-392. <https://doi.org/10.1016/j.intcom.2009.06.004>
- Maduku, D.K. (2014). Customers' adoption and use of e-banking services: The South African perspective. *Banks and Bank Systems*, 9(2), 78-88. https://www.academia.edu/8288027/Customers_adoption_and_use_of_e_banking_services_the_South_African_perspective
- Mattila, A. and Mattila, M. (2005). How perceived security appears in the commercialisation of internet banking. *International Journal of Financial Services Management*, 1(1), 89-101. Doi: [10.1504/IJFSM.2005.007986](https://doi.org/10.1504/IJFSM.2005.007986)
- Mazuri, A.G. Samar, R. Norjaya, M.Y. and Feras, M.A. (2017). Adoption of internet banking: Extending the role of technology acceptance model (TAM) with e-customer service and customer satisfaction. *World Applied Sciences Journal*, 35(9). [10.5829/idosi.wasj.2017.1918.1929](https://doi.org/10.5829/idosi.wasj.2017.1918.1929)
- Mohamad Ghazali, N. (2011). A survey of critical success factors in the Malaysia e-Banking: A Perspective of UUM Postgraduate Students (Doctoral dissertation, Universiti Utara Malaysia).
- Mutengezanwa, M. and Mauchi, F.N. (2013). Socio-demographic factors influencing adoption of internet banking in Zimbabwe. Department of Banking and Finance, <https://ir.buse.ac.zw/handle/11196/463>

- Pikkarainen, T. Pikkarainen, K. Karjaluo, H. and Pahnla, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research*, 14(3), 224-235.
- Poon, W.C. (2007). Users' adoption of e-banking services: The Malaysian perspective. *Journal of Business & Industrial Marketing*, 23(1), 59-69.
- Rahman, M. Saha, N.K. Sarker, M.N.I. Sultana, A. and Prodhan, A.Z.M.S. (2017). Problems and prospects of electronic banking in Bangladesh: A case study on Dutch-Bangla bank limited. *American Journal of Operations Management and Information Systems*, 2(2), 42-53. doi: [10.11648/j.ajomis.20170202.13](https://doi.org/10.11648/j.ajomis.20170202.13)
- Roussos, P. (2007). The Greek computer attitudes scale: construction and assessment of psychometric properties. *Computers in Human Behavior*, 23(1), 578-590. <https://doi.org/10.1016/j.chb.2004.10.027>
- Saidi, N.A. Azib, N.A. Amran, N.A. Sulham, N.E.S. Anuar, N.F.F. and Saidi, N. (2016). Determinants for adoption of e-banking among bank's customers. *International Journal of Accounting, Finance and Business*, 1(2), 37-44. https://www.academia.edu/35551611/DETERMINANTS_FOR_ADOPTION_OF_E_BANKING_AMONG_BANKS_CUSTOMERS
- Sánchez-Torres, J.A. Canada, F.J.A. Sandoval, A.V. and Alzate, J.A.S. (2018). E-banking in Colombia: factors favouring its acceptance, online trust and government support. *International Journal of Bank Marketing*, 36(1), 170-183.
- Sayid, O. Echchabi, A. and Aziz, H.A. (2012). Investigating mobile money acceptance in Somalia: An empirical study. *Pakistan Journal of Commerce and Social Sciences*, 6(2), 269. <https://www.econstor.eu/handle/10419/188057>
- Sekaran, U. and Bougie, R. (2013). *Edisi 6. Research Methods for Business*. Science Studies, ISBN: [978-1-119-26684-6](https://doi.org/10.1016/S1567-4223(02)00017-0)
- Suh, B. and Han, I. (2002). Effect of trust on customer acceptance of Internet banking. *Electronic Commerce Research and Applications*, 1(3-4), 247-263. [https://doi.org/10.1016/S1567-4223\(02\)00017-0](https://doi.org/10.1016/S1567-4223(02)00017-0)
- Tan, M. and Teo, T. (2000). Factors influencing the adoption of Internet banking. *Journal of the Association for Information Sciences*, 1(5), 1-42. http://130.18.86.27/faculty/warkentin/SecurityPapers/Leigh/ZafarClark2009%20Other%20References/TanTeo2000_JAIS1_FactorsInfluencingInternetBankingAdoption.pdf
- The World Bank (2009). The infinite potential of mobile banking. Available at: <http://psdblog.worldbank.org/psdblog/2009/11/the-infinite-potential-of-mobile-banking.02291575>.
- Tran, H.T.T. and Corner, J. (2016). The impact of communication channels on mobile banking adoption. *International Journal of Bank Marketing*, 34(1), 78-109. Doi: [10.1108/IJBM-06-2014-0073](https://doi.org/10.1108/IJBM-06-2014-0073)
- Venkatesh, V. Morris, M.G. Davis, G.B. and Davis, F.D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Yousafzai, S. and Yani-de-Soriano, M. (2012). Understanding customer-specific factors underpinning internet banking adoption. *International Journal of Bank Marketing*, 30(1), 60-81. Doi: [10.1108/02652321211195703](https://doi.org/10.1108/02652321211195703)
- Yousafzai, S. Pallister, J. and Foxall, G. (2009). Multi-dimensional role of trust in Internet banking adoption. *The Service Industries Journal*, 29(5), 591-605. <https://doi.org/10.1080/02642060902719958>
- Yuan, S. Liu, Y. Yao, R. and Liu, J. (2016). An investigation of users' continuance intention towards mobile banking in China. *Information Development*, 32(1), 20-34. Doi: [10.1177/0266666914522140](https://doi.org/10.1177/0266666914522140)