

EXAMINING THE ROLE OF TRUST IN SHAPING
CUSTOMER SATISFACTION OF MOBILE
BANKING

MUNA ABDI YOUSUF

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**EXAMINING THE ROLE OF TRUST IN SHAPING CUSTOMER
SATISFACTION OF MOBILE BANKING**

MUNA ABDI YOUSUF

SUPERVISOR:
ASSOC. PROF. DR. ETA BTE WAHAB

A thesis submitted in
fulfillment of the requirements for the award of
Degree of Master of Technology Management

Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia

NOVEMBER 2016

ACKNOWLEDGEMENT

In the name of Allah, most gracious and most merciful.

All praises and thanks to Allah and peace and blessings be upon to his messenger Muhammad (S.A.W).

Upon the successful completion of this project, I would like to express my sincere thanks to my dear supervisor Assoc. Prof. Dr. Eta Bte Wahab for her encouragement, guidance and advice. She corrected all my mistakes patiently and taught me everything that I need in the successful completion of this project.

My sincere appreciation also goes to my dear husband for his continual support, encouragement and inspiration not only to my study but also for my life and career. Big thanks to Telesom Company for allowing me to collect my survey form their customers. Last but not least my utmost thanks goes to my parents for their love, everlasting patience that gave the strength through the will of Allah (S.W.T) to face all challenges and obstacles during my study.

ABSTRACT

Mobile banking is the latest technology offered by service providers that allows customers to conduct banking transactions via mobile terminals. Mobile banking like other online transactions involve great uncertainty and risk, thus, customers need to build trust to alleviate perceived risk and facilitate their transactions. Owing to its significant role, trust has received considerable attention in information systems (IS) research, especially in the e-commerce context. However, little research has been done on the success of this technology, especially when investigating customer satisfaction. In this study, some modifications to the DeLone and McLean Model (2003) of IS Success are proposed whereby the model may be applicable to post adoption customer satisfaction. The target population is the users of mobile banking in Somaliland where mobile banking is at peak prevalence. Quantitative research method is deemed to be the suitable way of study. Partial Least Square (PLS) is the research instrument used to examine the role of trust in mediating the effects of independent variables on customer satisfaction. The findings suggest that quality factors and structural assurance have significant direct effect on both trust and customer satisfaction. Meanwhile, company reputation positively affects trust but not customer satisfaction. Trust is also shown to fully mediate the interrelationships of information quality, system quality and company reputation on customer satisfaction. Theoretical contributions of the findings are discussed and suggestions for future research are presented.

ABSTRAK

Perbankan mudah alih adalah teknologi terkini yang ditawarkan oleh penyedia perkhidmatan bagi membolehkan pelanggan untuk menjalankan transaksi perbankan melalui terminal mudah alih. Perbankan mudah alih turut mempunyai ketidakpastian dan risiko seperti urus niaga dalam talian yang lain, oleh itu pelanggan perlu membina kepercayaan bagi mengurangkan risiko yang dapat dilihat dan memudahkan transaksi mereka. Disebabkan peranannya, kepercayaan telah mendapat perhatian yang besar dalam penyelidikan sistem maklumat (IS), terutamanya dalam konteks e-dagang. Namun demikian, tidak banyak penyelidikan yang dilakukan terutamanya dalam mengkaji kepuasan pelanggan. Berdasarkan Model DeLone dan McLean IS, kajian ini mengkaji kesan faktor kualiti (i.e. kualiti maklumat, kualiti sistem dan kualiti perkhidmatan), reputasi syarikat dan jaminan struktur ke atas kepuasan pelanggan yang mana kepercayaan merupakan sebagai pengantera utama. Populasi kajian adalah tertumpu kepada pengguna perbankan mudah alih di Somaliland di mana perbankan mudah alih sedang rancak digunakan. Kaedah penyelidikan secara kuantitatif adalah dianggap sebagai cara yang sesuai bagi kajian ini. Partial Least Square (PLS) ialah instrumen kajian digunakan untuk mengkaji peranan kepercayaan dalam pengantaraan kesan pembolehubah kajian terhadap kepuasan pelanggan. Hasil kajian mencadangkan bahawa faktor-faktor kualiti dan jaminan struktur mempunyai kesan langsung terhadap kepercayaan dan kepuasan pelanggan. Dalam masa yang sama, reputasi syarikat secara positifnya mempengaruhi kepercayaan pelanggan berbanding kepuasan pelanggan. Kepercayaan juga mampu menjadi pengantara sepenuhnya terhadap hubungan antara kualiti maklumat, sistem kualiti dan reputasi syarikat pada kepuasan pelanggan. Sumbangan teori penemuan dibincangkan dan cadangan untuk kajian akan datang juga dibentangkan.

TABLE OF CONTENTS

TITLE	i
DECLARATION	ii
ACKNOWLEDGMENT	iii
ABSTRACT	iv
ABSTRAK	v
CONTENTS	vi
LIST OF TABLES	xi
LIST OF FIGURES	xiii
LIST OF SYMBOLS AND ABBREVIATIONS	xiv
LIST OF PUBLICATIONS	xvi
CHAPTER 1 INTRODUCTION	1
1.1 Research Background	1
1.2 Research Problem	4
1.3 Research Questions	6
1.4 Research Objectives	7
1.5 Scope of the Research	7
1.6 Significance of the Research	7

CHAPTER 2 LITERATURE REVIEW	9
2.1 Overview of Mobile Banking	9
2.2 Mobile Banking in Somaliland	11
2.2.1 Challenges to Mobile Banking Growth in Somaliland	13
2.3 Trust	14
2.3.1 Definition of Trust	14
2.3.2 Overview of Trust in Online Businesses	16
2.3.3 Theoretical Background of Customer Trust	18
2.3.4 Trust in Mobile Banking	21
2.4 Trust and Customer Satisfaction in Mobile Banking	25
2.5 Elaboration Likelihood Model (ELM)	27
2.5.1 Central Cues	28
2.5.1.1 Information Quality	29
2.5.1.2 System Quality	31
2.5.1.3 Service Quality	22
2.5.2 Peripheral Cues	34
2.5.2.1 Company Reputation	34
2.5.2.2 Structural Assurance	36
2.6 Concluding Remarks based on previous studies	36
2.7 Hypotheses Development	37
2.7.1 Quality Factors and Trust	38
2.7.1.1 Information Quality and Trust	38
2.7.1.2 System Quality and Trust	39
2.7.1.3 Service Quality and Trust	39
2.7.2 Quality Factors and Customer Satisfaction	40
2.7.3 Company Reputation	41
2.7.3.1 Company Reputation and Trust	41
2.7.3.2 Company Reputation and Customer Satisfaction	42
2.7.4 Structural Assurance	42
2.7.4.1 Structural Assurance and Trust	43
2.7.4.2 Structural Assurance and Customer Satisfaction	44

2.7.5	Trust and Customer Satisfaction	44
2.7.6	Trust as a Mediator	45
2.8	Proposed Model	47
CHAPTER 3 RESEARCH METHODOLOGY		56
3.1	Introduction	49
3.2	Research Design	50
3.2.1	Selecting Research Method	52
3.3	Sampling Procedure	53
3.3.1	Population	54
3.3.2	Determination of Sampling Size	54
3.3.3	Sampling Method	56
3.4	Data Collection	56
3.5.	Questionnaire Development	57
3.5.1	Pilot Study	60
3.6	Data Analysis Technique	60
3.6.1	Analysis Method	61
3.7	Evaluating Measurement and Structural Models using PLS	62
3.7.1	Measurement Model	62
3.7.1.1	Internal Consistency	62
3.7.1.2	Average Variance Extracted	63
3.7.1.3	Discriminant Validity	63
3.7.2	Structural Model	64
3.7.2.1	Coefficient of Determination (R^2)	65
3.7.2.2	Path Coefficients	66
3.8	Mediating Relationship	67
CHAPTER 4 RESEARCH FINDINGS		69
4.1	Introduction	69
4.2	Sample Size and Response Rate	70
4.3	Demographic Variables	70
4.3.1	Gender of Respondents	70
4.3.2	Age Group	71
4.3.3	State of Origin	72
4.3.4	Education Background	73

4.3.5	Occupational Status	73
4.3.6	Usage Time	74
4.4	Preliminary Analysis	75
4.4.1	Multicollinearity Testing	75
4.5	Factor Structure of the Constructs	76
4.6	Measurement Model Assessment	80
4.6.1	Composite Reliability and Average Variance Extracted	81
4.6.2	Discriminant Validity	82
4.7	Structural Model	83
4.7.1	Coefficient of Determination (R^2)	84
4.7.2	Path Coefficients	86
4.7.3	Hypothesis Testing	87
4.8	Mediation Testing	89
4.8.1	Trust Mediating Information Quality and Customer Satisfaction	89
4.8.2	Trust Mediating System Quality and Customer Satisfaction	91
4.8.3	Trust Mediating Service Quality and Customer Satisfaction	93
4.8.4	Trust Mediating Company Reputation and Customer Satisfaction	96
4.8.5	Trust Mediating Information Quality and Customer Satisfaction	98
CHAPTER 5 DISCUSSION AND CONCLUSIONS		102
5.1	Discussion	102
5.1.1	Do the Quality Factors Affect Trust among Mobile Banking Customers?	103
5.1.2	Does Company Reputation Affect Trust among Mobile Banking Customers?	104
5.1.2	Does Structural Assurance Affect Trust among Mobile Banking Customers?	105
5.1.3	Does Trust Mediate the Effect of Quality Factors, Company Reputation and Structural Assurance	

	on Customer Satisfaction of Mobile Banking?	106
5.2	Implications	108
5.3	Limitations	109
5.4	Recommendations for Future Studies	110
5.5	Conclusions	111
REFERENCES		113
APPENDICES		133

LIST OF TABLES

2.1	Mobile banking users (International Telecommunication Union, 2011)	11
2.2	Zaad Service at a Glance (Penicaud & McGrath, 2014)	12
2.3	Comparison of Somaliland with Saudi Arabia, Kuwait and Russia (Mohseni-Cheraglou, 2013)	12
2.4	Summary of Previous Studies on Trust in Mobile Banking	23
2.5	Terminology of Company Reputation (Brown et al., 2006)	35
3.1	Sample Sizes for Different Populations (Krejcie and Morgan, 1970)	55
3.2	How the Research Questionnaire was generated	59
3.3	Guidelines for Reliability and Validity of Measurement Model	64
3.4	Summaries of Validity for Assessing Reflective Structural Model	66
4.1	Response Rate	70
4.2	Gender of Respondents	71
4.3	Age Group	72
4.4	State of Origin	72
4.5	Educational Background	73
4.6	Occupational Status	74
4.7	Duration of Usage	75
4.8	Multicollinearity Test for Predictor Variables	76
4.9	Cronbach's Alpha of Variables Measured	78
4.10	Cronbach's Alpha of Variables after Items Deletion	79
4.11	Composite Reliability and Average Variance Extracted for all Variables	82
4.12	Results of Discriminant Validity	83
4.13	Path Coefficients of Structural Model	87
4.14	Summary of Hypothesis Testing	88

4.15	Summary of Trust Mediating the Relationship between Information Quality and Customer Satisfaction	91
4.16	Summary of Trust Mediating the Relationship between System Quality and Customer Satisfaction	93
4.17	Summary of Trust Mediating the Relationship between Service quality and Customer Satisfaction	95
4.18	Summary of Trust Mediating the Relationship between Company Reputation and Customer Satisfaction	98
4.19	Summary of Trust Mediating the Relationship between Structural Assurance and Customer Satisfaction	100
4.20	Summary of Mediation Results	101

LIST OF FIGURES

2.1	A Model Depicting Trust as a Moderator (Chung and Kwon, 2009)	25
2.2	Theoretical Model (Koo and Wati, 2010)	26
2.3	Updated IS success model (Mclean and DeLone, 2002)	29
2.4	The Proposed Model	48
3.1	Research Design	51
3.2	Process of Questionnaire Development (Churchill, 1999)	58
3.3	Mediating Model (Kenny, 2011)	68
4.1	Results of Structural Model	85
4.2	Relationships between Information Quality, Trust and Customer Satisfaction	90
4.3	Relationships between System Quality, Trust and Customer Satisfaction	92
4.4	Relationships between Service Quality, Trust and Customer Satisfaction	94
4.5	Relationships between Company Reputation, Trust and Customer Satisfaction	97
4.6	Relationships between Structural Assurance, Trust and Customer Satisfaction	99

LIST OF SYMBOLS AND ABBREVIATIONS

ATM	-	Automated Teller Machine
AVE	-	Average variance extracted
CA	-	Cronbach's Alpha
CEO	-	Chief Executive Officer
CR	-	Company Reputation
CS	-	Customer Satisfaction
d	-	Degree of Accuracy
df	-	Degree of freedom
E-Money	-	Electronic Money
ELM	-	Elaboration Likelihood Model
Findex	-	Financial Inclusion Database
GDP	-	Gross Domestic Product
GSM	-	Global System for Mobile Communications
GSMA	-	<i>Groupe Speciale</i> Mobile Association
H	-	Hypothesis
ICT	-	Information and Communication Technology
IDT	-	Innovation Diffusion Theory
IQ	-	Information Quality
IS	-	Information Systems
IT	-	Information Technology
KMO	-	Kaiser-Meyer-Olkin
M	-	Mean
MAX	-	Maximum
MIN	-	Minimum
MMU	-	Mobile Money for Unbanked
MNO	-	Mobile Network Operator

M-PESA	-	M for mobile, Pesa is Swahili for money
N	-	Population size
P	-	Population proportion
PBC	-	Perceived behavioral control
PDA	-	Personal Digital Assistants
PEOU	-	Perceived Ease of Use
PLS	-	Partial Least Square
PU	-	Perceived Usefulness
S	-	Sample size
SA	-	Structural Assurance
SD	-	Standard deviations
SEM	-	Structural Equation Modeling
ServQ	-	Service Quality
SPSS	-	Statistical Package for Social Science
SRO	-	Somali Remittance Organizations
SysQ	-	System Quality
T	-	Trust
TAM	-	Technology Acceptance Model
Telesom	-	Telecommunications Somaliland
TRA	-	Theory of reasoned action
US	-	United States
UTAUT	-	Unified Theory of Acceptance and Use of Technology
VIF	-	Variance Inflation Factor
WAP	-	Wireless Application Protocol

LIST OF PUBLICATIONS

1. Yousuf, M. A. and Wahab, E. (2015). The Mediating Role of Trust in Interrelationship between Quality Factors and Customer Satisfaction in Mobile Banking: A Conceptual Framework. Malaysian Technical Universities Conference on Engineering and Technology (MUCET). October, 2015. Johor, Malaysia.
2. Yousuf, M. A. and Wahab, E. (2016). Adopting Delone and McLean's Model: The Case of Mobile Banking Customer Satisfaction in Somaliland. Information and Management. Under Review.
3. Yousuf, M. A. and Wahab, E. (2016). Trust of Mobile Money in Developing Country: Case of Somaliland Mobile Banking. International Graduate Conference on Engineering, Science and Humanities (IGCESH). August, 2016. Skudai, Malaysia.
4. Yousuf, M. A. and Wahab, E. (2016). Modeling Customer Satisfaction in Mobile Banking in Somaliland: A Review of Theories on Technology Acceptance. International Graduate Conference on Engineering, Science and Humanities (IGCESH). August, 2016. Skudai, Malaysia.

CHAPTER 1

INTRODUCTION

1.1 Research Background

Mobile banking is among the latest in a series of recent mobile technological wonders. Although automated teller machine (ATM) and Internet banking offer effective delivery channels for traditional banking products, but as the modern delivery channel established by retail and banks in many developed and developing countries, mobile banking is likely to have significant effects on the market (Safeena et al., 2012). In particular, the expanded uses of smartphones has increased demand for mobile banking services, prompting many more banks, software houses and service providers to offer this innovative service. It comes with new sets of products and applications designed to extend their client reach (including to unbanked populations), improve customer retention, enhance operational efficiency, increase market share, and provide new employment opportunities (Shaikh, 2013).

Despite such benefits, the use of mobile phones or tablets to conduct banking transactions or access financial information is not as widespread as might be expected (e.g., Dineshwar and Steven, 2013; Shih et al., 2010). Juniper Research (2013) has revealed that more than 1 billion people are expected to use mobile banking globally by 2017, but that level represents only 15% of the global mobile subscription base—a base that accounts for approximately 96% of the world's population (International Telecommunication Union, 2011). In addition, approximately half of all mobile subscribers remain unbanked, with limited access to traditional financial services. Porteous (2006) distinguishes “additive” mobile banking models from the transformational models, and defines transformational mobile banking services as “those in which the financial product linked to the use of the phone is targeted at the unbanked, who are largely low income people”. Transformational mobile banking services have increasingly been regarded as the tool for bringing financial services to the largely unbanked population of developing countries, the hope being that by having access to financial services, the life of the people will be completely transformed.

Interestingly, apart from continued violence and instability, there has been a fascinating experiment underway in mobile banking in Africa, and especially in the Somali territories (Sayid et al., 2012). Many countries in the region face crumbling infrastructure and weak government, yet even in the absence of strong legal and regulatory frameworks, Information and Communications Technology (ICT) companies, including mobile phone and Internet companies, are investing and innovating in unprecedented ways. Some of the most new platforms to emerge have facilitated the use of mobile banking, a system that allows users to transfer money to accounts, pay for goods and services, and store money in e-wallets, all through the mobile phone (Stremlau and Osman, 2015).

Eastern Africa is leading the world in the use and penetration of mobile banking. In Kenya, where mobile money originated with Safaricom's M-PESA, an estimated 70 per cent of adults use their mobiles for payments; neighboring Uganda and Somalia are close behind (Penicaud and McGrath, 2013). While much has been written about M-PESA in Kenya (Hughes and Lonie, 2007; Morawczynski, 2009), far less attention has

been given to the Somali territories where the world's most ambitious experiment in mobile money is taking place, filling a gap in the banking sector and reducing a reliance on cash. This growth is driven by telecoms companies, some of the territories' most powerful and wealthy businesses, and it is closely intertwined with the profitable remittance sector that is estimated to account for up to 40 per cent of Somalia's GDP (Stremlau and Osman, 2015).

The focus in this study is on Somaliland, the self-declared independent region of northwestern Somalia, which is a fascinating case not only for mobile banking but also for its unique process of state-building. Recently, the World Bank's Global Financial Inclusion Database (Findex) revealed that Somalia was one of the most active mobile money markets. The number of population in Somalia reported using mobiles to pay bills, send and receive money is among the highest rates in the world. Most of the mobile activity has been driven by Zaad service offered by Telesom which is based in Somaliland. Their broader vision was to bring financial services to Somaliland's population, while on a strategic level the service was initially designed as a customer retention tool (Penicaud & McGrath, 2013).

Despite failed efforts to gain international recognition, Somaliland has adeptly crafted a relatively peaceful and democratic society (Harper, 2012). After declaring independence from the war-torn south-central regions of Somalia in 1991, Somaliland has held competitive elections several times, even electing an opposition party over an incumbent by a small margin and subsequently effecting a peaceful transfer of power. Somaliland has established its own government institutions that issue passports and currency (the Somaliland Shilling) and provide some services such as education and policing. In spite of these successes, Somaliland's lack of international recognition imposes significant limitations, particularly when it comes to participation in the global economy. Without easy access to international banking, large lenders, or the ability to integrate with international financial institutions, the government and the people of Somaliland have been further marginalized. The adoption of mobile money in Somaliland has helped to mediate this isolation (Stremlau and Osman, 2015).

1.2 Research Problem

For customers, mobile banking offers a secure and convenient alternative to cash. By giving consumers secure and immediate access to all their funds on demand, Telesom in Somaliland has significantly improved the ability of customers to make better buying decisions by launching Zaad (Stremlau and Osman, 2015). Moreover, for central banks digitizing transactions brings greater transparency, reduced production costs and better visibility into the economic environment (Shaikh, 2013). However, mobile banking like other online transactions involves great uncertainty and risk due to the virtuality, anonymity and temporal and spatial separation. Thus, customers need to build trust to alleviate perceived risk and facilitate their transactions. Owing to its significant role, trust has received considerable attention in information systems research, especially in the e-commerce context (Varnali and Toker, 2010).

As noted earlier, mobile banking industry in Somaliland is relatively in its infancy, yet growing almost at an exponential rate (Mohseni-Cheraglou, 2013). Similar to other innovation diffusion contexts, mobile banking adoption can be also be studied at two levels: initial mobile banking adoption and post mobile banking adoption (Kang et al., 2012). Contrary to the initial adoption of mobile banking which is well-studied, the existing knowledge of the satisfaction of the current customers and in turn their retention is limited. This important existing evidence within the literature suggests that similar to other service industries, lack of understanding on determinants of customer satisfaction can be costly to service providers which have made considerable amount of investments to provide mobile banking services and technological support (Shaikh, 2013). In Somaliland context, the problem lies that only 40% of Telesom subscribers are Zaad service users. In order to retain its customers, Telesom faces a daunting task to attract all to Zaad service in the face of emerging competing telecommunication companies.

Typically, trust exerts great influence on customer satisfaction in e-commerce services. Balasubramanian et al., (2003) found that perceived trustworthiness of an online broker is directly related to online investor's satisfaction. Yoon (2002) posited that satisfaction is an outcome of trust and pointed out that trust correlates positively with end user satisfaction. In addition, scholars have regarded trust as the central construct in

customer loyalty and repurchase intentions (Sirdeshmukh et al., 2002). Moreover, under relationship marketing theory, trust is identified as a key mediator that influences company actions on customer behaviours (Morgan and Hunt, 1994). The above line of reasoning leads to the belief that trust is most likely to play a mediating role for customer satisfaction in mobile banking. Therefore

The role of trust in mobile banking has been investigated by a few number of research articles (Shaikh and Karjaluoto, 2015) of which fewer still were dedicated to role of trust in customer satisfaction of mobile banking. Despite the limited understanding of determinants of customer satisfaction in mobile banking context, the existing literature on corresponding research contexts (e.g. internet banking) revealed that instead of perceptual-cognitive factors which are important to initial adoption, the technical characteristics of the e-service in addition to peripheral cues such as company reputation and structural assurance are key determinants of post adoption behaviour (satisfaction) of existing customers (Chiu et al., 2012). The elaboration likelihood model (ELM) proposes that users change their attitude via a dual route including central route and peripheral route. Information quality, system quality and service quality act as central cues, whereas company reputation and structural assurance act as peripheral cues (Zhou, 2012).

Central cues in this study are the quality factors enlisted in DeLone and McLean's Information Systems Success Model (1992, 2003). Through this model, the causal relationships between quality factors, trust and customers' satisfaction in mobile banking can be grasped. In summary, if the quality of the service is up to the desired standard, customer tend to trust the service provider and their level of satisfaction will be increased (Koo and Wati, 2010). In comparison, peripheral cues include company reputation and structural assurance. Regardless of the privacy and security concerns, one factors that users of mobile banking noted to be crucial for initial adoption is the company's reputation (Beldad et al., 2010). Customers trusted Telesom with their money because they knew the company from their previous dealings. However, given the lack regulatory guarantees in Somaliland, there are significant concerns about the security of the funds. Users show far less trust in the mobile banking in the event of absence of strong formal dispute resolution procedures (Stremlau and Osman, 2015). Here is where the second component of

peripheral cue, structural assurance, comes into play. Structural assurance of the security of the money kept in Zaad can be in the form of company management, government police and courts and traditional elders. In any case, structural assurance plays an active role in resolving conflicts that result from Zaad transactions.

Hence, the principal goal of this study is threefold: First, it investigates the role by trust in shaping the customer satisfaction of mobile banking. Meanwhile, it contributes to the body of literature by using an elaboration likelihood perspective to explain the key determinants of customer satisfaction in mobile banking via central and peripheral routes. Second, the study attempts to validate the significant role of quality factors on trust and customer satisfaction (Lee and Chung, 2009). Third, this research critically examines the effect company reputation and structural assurance on trust and customer satisfaction in mobile banking in a developing country where formal dispute resolution procedures do not exist.

1.3 Research Questions

- i. Does the quality factors (information, system and service qualities) affect trust among mobile banking customers?
- ii. Does company reputation affect trust among mobile banking customers?
- iii. Does structural assurance affect trust among mobile banking customers?
- iv. Does trust mediate the effect of quality factors and customer satisfaction?
- v. Does trust mediate the relationship between company reputation and customer satisfaction?
- vi. Does trust mediate the relationship between structural assurance and customer satisfaction?

1.4 Research Objectives

- i. To identify the direct effect of quality factors on trust among mobile banking customers.
- ii. To identify the direct effect of company reputation on trust among mobile banking customers.
- iii. To identify the direct effect of structural assurance on trust among mobile banking customers.
- iv. To examine the mediating role of trust in the relationship between quality factors and customers satisfaction in mobile banking.
- v. To examine the mediating role of trust on relationships between company reputation and customers satisfaction in mobile banking.
- vi. To investigate the mediating role of trust on relationships between structural assurance and customers' satisfaction in mobile banking.

1.5 Scope of the Research

This study uses elaboration likelihood model (ELM) to investigate the key determinants of customer satisfaction in mobile banking. Furthermore, the research attempts to examine the mediating role of trust between the interrelationships of quality factors, company reputation and structural assurance with customer satisfaction in mobile banking. The target populations are the active customers of Zaad service in Somaliland provided by Telesom Company.

1.6 Significance of the Research

The results of this study helps Telesom in Somaliland to recognize the status of its customers' satisfaction in Zaad. Also, it also assists Telesom to identify the level of the quality (as indicated by information, service and system qualities) of Zaad service. As

a consequence, Telesom and other similar companies can use the research to attract new users. Overall, the study helps to enhance the understanding of the factors determining customer satisfaction in mobile banking, thereby assisting the marketing department of service providers to target customers who didn't adopt mobile banking yet.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview of Mobile Banking

Mobile banking is when users adopt mobile terminals to access various payment services, such as account balance enquiry, transference, bill payment and financial management (Shaikh, 2013). Mobile networks have freed users from temporal and spatial constraints, and enabled them to use mobile banking services at anytime from anywhere. This provides great convenience to users. Certainly, mobile banking technology has the potential to improve people's quality of life and bring efficiency to banks and financial service providers (Malaquias and Hwang, 2016). However, mobile banking also involves great uncertainty and risk. For example, mobile networks are vulnerable to hacker attack and information interception. Viruses and Trojan horses may also exist in mobile terminals. These problems increase users' concern about payment security and decrease their trust in mobile banking, which may further affect their usage intention and behavior (Zhou, 2012).

Mobile banking, which is also referred to as cell phone banking is “the use of mobile terminals such as cell phones and personal digital assistants (PDAs) to access banking networks via the wireless application protocol (WAP)” (Zhou et al., 2010). The mobile banking is similar to Internet banking in that it provides a fast and convenient way of performing common banking transactions.

In order to enjoy the benefits of mobile banking, a user needs a mobile phone that equipped with the features required by the bank that provides this service. Once a user obtained a registered account for mobile banking from the banking institution, the user would be able to do banking transactions from anywhere (Sagib, 2014). The mobile banking can be done either by accessing the bank’s web page through the web browser on the mobile phone, via text messaging, or by using an application downloaded to the mobile phone. Mobile banking allows customers to perform three fundamental transactions (Shaikh and Karjaluo, 2015):

- storing money in an account that is accessible by the mobile device
- completing cash-in and cash-out transactions with the stored account
- transferring money among different accounts.

Despite such benefits, the use of mobile phones or tablets to conduct banking transactions or access financial information is not as widespread as might be expected (Dineshwar and Steven, 2013; Luarn and Lin, 2005; Shih et al., 2010), as demonstrated by popular media reports. Juniper Research (2013) has revealed that more than 1 billion people are expected to use mobile banking globally by 2017, but that level represents only 15% of the global mobile subscription base - a base that accounts for approximately 96% of the world’s population (International Telecommunication Union, 2011) as in Table 2.1.

Table 2.1: Mobile banking users (International Telecommunication Union, 2011).

	Number (Billions)	Percentage (%)
Global population	7.100	100
Mobile phone subscription	6.835	96
Mobile banking users	0.590	8.6

Table 2.1 reflects that only 8.6% of the global population have access to mobile banking, which is relatively small considering that approximately half of all mobile subscribers remain unbanked, with limited access to traditional financial services (Shaikh, 2013). However, mobile banking has proven to be viable and sustainable in some countries including Somaliland and Kenya. Mobile operators in those countries offer to their unbanked base subscribers convenient and affordable financial services.

2.2 Mobile Banking in Somaliland

Somaliland is a small territory located in the Horn of Africa its population is estimated 3.85 million in 2010 while 55% of the population are nomads and 700.000 people live in the capital city Hargeisa (Ministry of National Planning, 2013). In May 1991, after years of civil war, the people of Somaliland declared unilateral independence from Somali Democratic Republic. Although Somaliland is not recognized as a country by the international community, it has developed its own governing institutions and currency and it functions independently from the rest of Somalia. Constitutionally, the Republic of Somaliland is a democratic country with a multi-party system (Penicaud & McGrath, 2013).

Since its launch in Somaliland, Zaad has gained significant traction: in June 2012, almost 40% of Telesom GSM subscribers were active users of Telesom Zaad (Table 2.2). What is most striking about the service is the level of activity on the mobile money platform. Active Telesom Zaad users perform over 30 transactions per month on average, far above the global average of 8.5 per month. Telesom Zaad is one of the 14 GSMA

Mobile MoneySprinters and is recognized as one of the most successful mobile money services in the world (Penicaud & McGrath, 2013).

Table 2.2: Zaad Service at a Glance (Penicaud & McGrath, 2013).

Active users	400,000 (30-day basis)
Active rate	73%
Transaction volume	11.4 million (all products , march 2013)
Product offering	Air top-up, money transfer, bill payment

To understand how enormous Zaad service is Somaliland, the statistics of Somaliland are compared with those of Saudia Arabia, Kuwait and Russia (a developed country) in Table 2.3. Though Somaliland has the lowest rate of mobile subscribers per 100 people, it has the highest per cent of adults, using mobile phones to pay bills (26.2%) or send and receive money (31.5%).

Table 2.3: Comparison of Somaliland with Saudi Arabia, Kuwait and Russia (Mohseni-Cheraglou, 2013)

Country	Mobile subscribers (per 100 people)	Mobile phone used to pay bills (% adults)	Mobile phone used to send/receive money (% adults)
Saudi Arabia	191.2	15.0	6.5
Kuwait	160.8	9.5	0.5
Russia	179.3	2.2	1.5
Somaliland	26.0	26.2	31.5

The spread of mobile phones across the developing is one of the most significant

stories of the past decade. However, many of these embryonic mobile users live in cash economies, without access to financial service that others take for granted (Tobbin, 2010). Indeed, across the developing world, there are probably more people with mobile handsets than with bank accounts. Similarly, scholarly research on the adoption and socioeconomic impacts of mobile banking in the developing world is scarce (Maurer, 2008).

2.2.1 Challenges to Mobile Banking Growth in Somaliland

Service providers like Telesom in Somaliland use mobile banking as a tool of customer retention. In the face of fierce competition in the market, Telesom has a daunting task to attract as much of its base subscribers to Zaad service, its mobile banking application. Currently, about 60% of Telesom mobile users didn't adopt Zaad service (Penicaud and McGrath, 2013). Some of the customers who adopted Zaad indicated that they had no choice but to trust in Zaad, particularly in a business environment where the majority of the population uses Zaad and the alternative mobile money platforms are not as widely used (Stremlau and Osman, 2015).

At the same time, given the lack of government or regulatory guarantees and the absolute liquidity of mobile banking money, there are significant concerns about the security of the funds. The more ambitious banking features of Zaad have encouraged skepticism and concern about how precarious the system as a whole may be (Stremlau and Osman, 2015). For example, most Somalis recall the rapid closure of Al Barakat after September 11, 2001, when the U.S. government accused it of supporting terrorism. While the accusation was later revealed to be unfounded, many Somalis not only lost an important path for remittances but they also lost significant sums of money that was being held within Al Barakat (Ali, 2013).

There are also significant privacy concerns that affect the relationship users have with Zaad, including who has access to users' accounts and transactions (Sayid et al., 2013). These privacy concerns are not ungrounded. Companies in the Somali territories clearly have fewer privacy regulations, particularly when it comes to digital technologies,

and money transfer companies have, in the past, shared data with security services (Popham 2013). International regulations are certainly becoming more restrictive and there are growing pressures on telecoms and remittance companies to collect and share more data from users with international government and intelligence organizations.

Therefore, the problems for Telesom in Somaliland are the steps to be taken in order to attract new users and retain/satisfy current customers (Kang et al., 2012). In order to achieve this, trust within mobile banking environment and how vital it is to the understanding of determinants of mobile banking customer satisfaction must be explored. In a country with unique customs and environment as Somaliland, careful examination of the determinants of customer satisfaction and the role played by trust as a mediator is necessary.

2.3 Trust

2.3.1 Definition of Trust

In this study, trust is defined as a willingness to be in vulnerability based on the positive expectations towards another party's future behavior (Koo and Wati, 2010). In other words, trust enables users to believe that mobile service providers have enough ability and benevolence to provide useful services to them (Zhou, 2011). Trust is an essential element in any social and business relationship whenever risk and uncertainty exist (McKnight and Chervany, 2001); trust enables people to be able to live in an uncertain and risky environment (Zhou, 2011). It helps to provide ways to diminish complexity in a complex environment by decreasing the number of options that a person has to consider in a given situation.

Trust has been studied and explored in several disciplines, each focusing on common and diverse themes (Komiak and Benbasat, 2004). In the area of psychology for example, trust is viewed as a personality-based trait, which is a deep internal feeling that is based on a variety of experiences in the individual's life (Wang & Emurian). Psychologists believe that these experiences shape the individual's disposition on trust, and are commonly referred to as dispositional trust (Tan and Sutherland; 2004).

Sociologists, on the other hand, view trust as a social structure which is situationally constructed; this is commonly referred to as institutional trust. Social psychologists see trust as the expectations, willingness, and risk of one party to another; this perception examines trust in another party and is often referred to as interpersonal trust (Tan & Sutherland). Several researchers have examined trust from a multi-dimensional perspective, and have integrated the varied trust dimensions - dispositional, institutional, and interpersonal trust as construct in an effort to determine an individual's intention to trust, and ultimately their online purchase behavior (Gefen, 2002).

Trust is a complex and abstract concept (Ba and Pavlou, 2002). This had led to several definitions of trust across different disciplines. Due to the abstract nature of trust, the term is often interchanged with other similar concepts such as credibility, reliability or confidence, and often incorporates cognitive, emotional, and behavioral components. Long before the emergence of the Internet or e-commerce, the issue of trust has been conceptualized and studied by researchers in various areas. Trust is an essential component in getting and in maintaining customers' interaction with an information system especially when this interaction is with a machine, a Website or an electronic device (Gefen et al., 2003). Online trust can be defined as "an Internet user's psychological state of risk acceptance, based upon the positive expectations of the intentions or behaviors of an online merchant" (Wang and Emurian, 2005).

While the literature is replete with various definitions of trust, the salient theme throughout is centered on the attributes of competence, benevolence, predictability, and integrity (Tan and Sutherland, 2004). Competence focuses on the other parties' abilities, skills, and expertise, while benevolence is the belief that the other party wants to do well. Predictability examines consistent behavior, while integrity is the belief that the other party will act fairly and in an honest manner (Ba and Pavlou, 2002). The many definitions of trust in the literature can be contributed to two primary reasons. First, because trust is an abstract concept, the term is often used interchangeable with other related concepts such as credibility, reliability or confidence. Second, the trust concept is a multi-faceted one that includes cognitive, emotional, and behavioral dimensions (Wang and Emurian, 2005).

2.3.2 Overview of Trust in Online Businesses

Trust in IS has recently become an active research area and researchers believe that the extent to which e-commerce will succeed is directly dependent on the level of trust that consumers have in the technology (Ba and Pavlou, 2002; Gefen et al., 2003). Lack of consumer trust is still believed to be a major impediment to the success of e-commerce (Wang and Emurian, 2005). If consumers are not able to develop some degree of confidence, predictability, benevolence, and trust in the vendor, it is likely that they will abort their purchase and look elsewhere for a more trustworthy alternative (Koufaris and Hampton-Sosa, 2004; Tan and Sutherland, 2004).

Unlike the traditional brick-and-mortar transactions where interaction is with a person, online transactions create an additional challenge in that transaction processing is carried out remotely and with no human interaction (Ba and Pavlou; 2002). In the traditional physical environment, a consumer's decision to trust is often influenced by intrinsic cues such as color, music, store layout, or similar past experiences gathered from the physical surrounding (Koufaris and Hampton-Sosa, 2004; Wang and Emurian, 2005). Other external sources such as recommendations from others may also impact the decision to trust (Wang and Emurian, 2005). In remote environments, however such as the Internet, the perceived risk to carry out a transaction must be based on a trustworthy assessment by the consumer (Koufaris and William-Sosa, 2004).

There is a consensus among scholars in the IS literature that trust is a complex issue, and it is not yet well understood how it can be cultivated in the online environment (Wang and Emurian, 2005). Requirements relating to trust are often viewed from different perspectives by different stakeholders and often expressed in a variety of terms such as consumer privacy, risk, and security (Tan and Sutherland, 2004; Wang and Emurian, 2005). In order to gain a better understanding of trust, it is, therefore, necessary to examine how trust is defined in both the offline and online context, as well as the characteristics, elements, antecedents, dimension, and determinants of trust (Wang and Emurian, 2005).

Trust has been identified as a critical factor for the success of electronic finance due to the open and global nature of the internet or other networks as a transaction

infrastructure where uncertainty arises and risk in online transactions makes trust a vital element of e-finance (Wang, 2010). A number of researchers have examined the role trust in e-finance and have found that trust directly or indirectly affects customers' intention to engage in online activities.

Understanding the meaning of trust in the e-finance is an important step in order to identify its dimensions and antecedents that will be used to develop a trust model for the mobile banking domain. Several researchers have recognized the importance of the trust issue in different contexts, such as philosophy, psychology, information science, marketing and management. However, there is no agreement about its definition, dimensions, antecedents and outcomes. There are many reasons that justify this disagreement among researchers. The first is that every discipline views trust from its own perspective based on its research domain (McKnight and Chervany, 2001). This definition draws attention to the importance of confidence in the concept of trust. Second, many researchers have treated the conceptualization of trust as an one-dimensional construct, ignoring the huge body of literature suggesting that it is a multi-dimensional construct (Gefen et al., 2002). This often causes researchers to focus narrowly on specific aspects of trust, failing to fully identify its multi-dimensional nature.

2.3.3 Theoretical Background of Customer Trust

A number of studies have examined the notion of trust in various domains over the years, such as in bargaining (Schurr & Ozanne, 1985), industrial buyer-seller relationships (Doney & Cannon, 1997), distribution channels (Dwyer et al., 1987), the use of market research (Moorman et al., 1993) and partner cooperation in strategic alliances (Das, 1998). The research streams used in these studies can be classified into four categories, namely personality theories, institution-based trust, interpersonal and relationship marketing theories. These streams have conceptualized trust in different ways as discussed below.

Personality theory, also known as dispositional trust, has conceptualized trust as an individual characteristic. It views trust as a belief, expectancy or feeling that is deeply rooted in the personality and originates in the individual's early psychological

development (Lee & Turban, 2001). Mayer et al. (1995) state that a disposition to trust will influence how much trust an individual has for a trustee prior to data on that particular party being available. One individual exhibits propensity to trust to the extent that he or she demonstrates a consistent tendency to be willing to be dependent on others across situations or persons (Chen & Dhillon, 2003). Therefore, people vary in their disposition to trust based on their differences of developmental experiences, personality types and cultural backgrounds. However, some researchers, such as Lewicki & Bunker (1995) state that personality traits are less predictive of specific behaviour, because they cannot differentiate between different situations. For example, the dispositional trust construct may not properly explain why a customer who has a high propensity to trust may have less trust towards a new internet or mobile banking service provider. Furthermore, this perspective of trust cannot be influenced by the internet vendor, because it is an uncontrollable factor (Yousafzai et al., 2009). Based on the above reasons, this theoretical perspective of trust will not be included in this study.

Institution-based trust views trust as a phenomenon within and between institutions (Lewicki & Bunker, 1995; Lee & Turban, 2001). Authors working from this perspective have investigated how institutions and incentives are created to reduce anxiety and uncertainty associated with exchange among relative strangers (Granovetter, 1985; Zucker, 1986). Institution-based trust is defined as being where a customer believes that the requisite conditions are in place to enable the customer to act with the anticipation of a successful future endeavor (Luhmann, 1979; Lewis & Weigert, 1985). Institutional trust is divided into two parts, namely situational normality and structural assurance. Situational normality is referred to as a customer's beliefs that success is likely because the situation is normal (McKnight et al., 1998) or because 'everything seems in proper order' (Lewis & Weigert, 1985, p. 974). McKnight & Chervany (2001) point out that when customers believe that the internet situation is normal and their role and the vendor's roles in the situation are appropriate, then the customer has a basis for trusting the vendor in this situation. However, when an internet vendor requires customers to follow unexpected procedures, the internet will be under suspicion and then the customer will not trust that website. This view is also compatible with the situation in the internet banking domain. If a customer finds that the bank website follows normal procedures, he or she will be

inclined to trust it. Since it is very difficult for customers to determine if their bank website follows normal procedures like other banks' websites, because most of them have accounts with one bank and most banks allow their customers only to have full access for their websites, situational normality will not be included in the present study.

The second part of institution-based trust is structural assurance, which is defined as an individual's belief that success is likely because guarantees, contracts, regulations, promises, legal resources, processes or procedures are in place that assures success (Shapiro, 1987). In the context of e-finance, this type of trust refers to customers' perception about certain conditions, such as safety and security of the internet environment (McKnight et al., 2002) or legal and technical protection (Tan & Sutherland, 2004). Since structural assurance is important component of e-finance transactions, it will be included in this study.

Furthermore, interpersonal trust which treats trust as a social tie between a specific trustor and trustee is the most common approach to trust (Mayer et al., 1995). This category looks at trust as the expectation and willingness of the trusting party in a transaction, the risk associated with acting on such expectations and focusing on the contextual factors that either enhance or inhibit the development and maintenance of trust (Lee & Turban, 2001). It refers to an individual's trust in another specific party that one trusts (McKnight & Chervany, 2001). Some researchers, such as Lewis & Wiegert (1985) divide interpersonal trust into two streams, cognitive trust and emotional trust. Cognitive trust that also refers to trusting beliefs is defined as a trustor's rational expectation that a trustee will have the necessary attributes, such as competence and benevolence to be relied upon (Komiak & Benbasat, 2004), while emotional trust is defined as the extent to which a trustor feels secure and comfortable about relying on the trusted party (Swan et al., 1999). There is a difference between these streams. Cognitive trust focuses on reasoning or cognition. It is an individual's cognition grounded on good rational reasons (Lewis & Wiegert, 1985). When a trustor believes that good reasons to trust are identified, cognitive trust will be developed (Lewis & Wiegert, 1985). For example, in working relationships, when a manager believes that one of their subordinates has certain qualities, such as skills and competencies to do his or her assignments properly, the manager's cognitive trust will

develop towards that employee. This is similar in the e-finance domain, such as mobile banking. When customers believe that their banking service providers has some desirable attributes, such as ability and integrity that enable the bank to deliver its services in accordance with their expectations, their cognitive trust will be developed towards the mobile banking.

However, emotional trust focuses on feeling. It is an emotional security which enables a trustor to go beyond the available evidence and feel assured and comfortable about relying on a trusted party (Holmes, 1991; Komiak & Benbasat, 2004). In order for emotional trust to play an important role in understanding individuals' trust, the relationships between a specific trustor and a trustee should be personal and close (Rempel et al., 1985). Therefore, this stream plays an important role in some situations, such as the organisational context where the relationships between the staff are typically personal and close. However, in the context of electronic finance, such as mobile banking, the distance and impersonal nature of the online environment make relationships between customers and financial providers impersonal and therefore not close. Thus emotional trust will not be included in the present study.

Finally, the role of trust in developing successful relationships is focused in the relationship marketing theory. Morgan and Hunt (1994) argue that trust is 'key' because it encourages marketers to work at preserving relationship investments by cooperating with exchange partners and resist attractive short-term alternatives in favour of the expected long-term benefits of staying with existing partners. Trust, they argue, is the cornerstone of relationship commitment, without it commitment flounders. Relationship marketers have attempted to bond customers to their companies in a number of ways (Xiong, 2013). Social, technological, legal, economic and cultural bonds all serve as exit barriers, discouraging customers from seeking alternative suppliers. Customers may therefore remain ostensibly loyal, even though they are not satisfied with the service they receive. Bonding which is not based on trust and commitment is unlikely to persist. Under relationship marketing theory, trust is identified as a key mediator that influences company actions on consumer behaviours (Morgan and Hunt, 1994). To say that trust "mediates" the effects of these variables on consumer decisions and behaviours is to argue that trust

plays an important “middleman” function in market exchange (Johnson 2007). Hence, since the above theory justifies the mediating role of trust, this study will adapt the mediation phenomenon of trust.

2.3.4 Trust in Mobile Banking

Compared to the abundant research on online trust, mobile banking trust has just begun to receive attention from researchers. Siau and Shen (2003) noted that mobile trust includes initial trust and continuous trust, which are affected by the factors associated with two aspects: mobile merchants and technologies. Lin and Wang (2006) revealed that trust has significant effects on mobile user satisfaction and loyalty.

Li and Yeh (2010) argued that design aesthetics affect mobile trust through ease of use, usefulness and customization. Vance et al. (2008) examined the effect of system quality including visual appeal and navigational structure on mobile user trust (Tao Zhou 2012). Similar to online transactions, mobile commerce also involves great uncertainty and risk. Thus trust is critical to facilitating mobile user behavior. However, compared to the abundant research on online trust, there exists less research on mobile trust. Siau and Shen (2003) divided mobile trust into initial trust and continuous trust, both of which are affected by the factors related to mobile vendor and technology. Li and Yeh (2010) noted that design aesthetics affect mobile trust through perceived usefulness, perceived ease of use and customization. Lee (2005) examined the effect of mobile interactivity on user trust. Mobile interactivity includes user control, responsiveness, personalization, connectedness, ubiquitous connectivity and contextual offer. Chandra et al. (2010) reported the effect of trust on user adoption of mobile payment systems.

In Table 2.4, some of the previous studies done on trust in mobile banking have been summarized. Recently, Malaquis and Hwang (2015) explored the determinants of trust of mobile banking in a developing country, Brazil. They found that trust in mobile banking has same determinants as previously pointed out in the literature. In a similar developing country setting, Kanthawongs et al., (2015) indicated that trust has a significant effect on customer satisfaction. Xiong (2013) suggested a model of mobile banking

adoption from value perspective and argued that trust and perceived value have significant impact on behavior intention of adoption of mobile banking. They also opined that bank managers should not pay attention to the value experience of banking clients but also improve trust in order to attract or retain customers. Zhou (2011) indicated that structural assurance and information quality are the main factors affecting initial trust, whereas both information quality and system quality affected perceived usefulness. In another work, Zhou (2012) posited that trust has a significant effect flow experience, and both factors determine usage intention, which in turn affects actual usage. Luo et al. (2010) argued that trust belief is a construct that positively affects customers' behavioral intention. Their results highlighted the potential influence and appropriateness of employing personal trait factors in analyzing emerging technology acceptance. Gefen et al. (2003) concluded that structural assurance in the mobile banking system is the strongest antecedent of trust, which could increase behavioral intention. Moreover, they pointed out that trust is a construct which positively affects perceived usefulness and behavioral intention.

In short summary, the clear consensus of the previous studies is the significance role of trust in the adoption of mobile banking. Trust is recognized as the central construct of determinants of mobile banking adoption. In addition, the substantial effect of trust in determining and shaping the satisfaction of mobile banking customers was reported.

Table 2.4: Summary of Previous Studies on Trust in Mobile Banking

Reference	Other Constructs	Results	Role of Trust in Model
Malaquis and Hwang (2016)	Risk perception Task characteristics Social influence Personal innovativeness Undergraduate area	In this study, determinants of trust had similar behaviour when compared to determinants of trust previously pointed out in the literature. The authors indicated a kind of information asymmetry that could be mitigated in order to build trust in mobile banking.	Trust is the central construct of determinants of mobile banking adoption
Kathawongs et al. (2015)	Word of mouth intentions Customer satisfaction Information quality	The results of the research suggest that if mobile banking service providers promote information quality, word-of-mouth intentions and trust, the customers would be satisfied with the services.	Trust has a significant effect on customer satisfaction
Xiong (2013)	Perceived benefits Perceived sacrifices Perceived value	The results showed that perceived value and trust have significant effect on behavior intention of mobile banking adoption.	Trust is a construct that positively affects intention
Zhou (2012)	Structural assurance Ubiquity and flow Perceived ease of use Personal innovativeness Usage Intention	The results indicate that structural assurance is the main factor affecting trust, whereas ubiquity and perceived ease of use are the main factors affecting flow experience. Trust has a significant effect on flow experience and both factors determine usage intention.	Trust has a significant effect on flow experience

Table 2.4: Summary of Previous Studies on Trust in Mobile Banking (Continued)

Reference	Other Constructs	Results	Role of Trust in Model
Zhou (2011)	Structural assurance Information quality System quality Perceived usefulness Usage intention	The results indicate that structural assurance and information quality are the main factors affecting initial trust, where both information quality and system quality affect perceived usefulness. Initial trust affects perceived usefulness and both factors predict usage intention.	Trust propensity positively affects initial trust which in turn positively influences perceived usefulness.
Koo and Wati (2010)	Information quality System quality Perceived usefulness Customer satisfaction	The results indicated that trust mediated the effects of information quality and perceived usefulness and system quality and end-user satisfaction were partially mediated by trust.	Trust acts as a mediator between information, system quality, perceived usefulness and customer satisfaction
Chung and Kwon (2009)	Information quality System quality Information presentation Customer satisfaction	The results reveal that information quality and system quality influence customer satisfaction, whereas information presentation does not have an effect on customer satisfaction.	Trust is moderating the effect of information quality and system quality and information presentation with customer satisfaction.

REFERENCES

- Abbink, G. J. (2003). Dervishes, 'moryaan' and freedom fighters: Cycles of rebellion and the fragmentation of Somali society. In: Abbink, G J, de Bruijn, M E and van Walraven, K (Eds.) *Rethinking Resistance: Revolt and Violence in African History*. Brill, 328–65.
- Abdulah, D. N. M. A., and Rozario, F. (2009). Influence of service and product quality towards customer satisfaction: A case study at the staff cafeteria in the hotel industry, world academy of science. *Engineering and Technology*. 53:185-190.
- Abdullahi, I. A. (2013). Telecommunication development of Somalia and its challenges. 2013. Retrieved on March 2, 2015.
- ACMA. (2007). *Telecommunications today: Consumers attitudes to take-up and use*. Australian Communications and Media Authority. The Australian Government.
- Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. Berlin: Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. 50: 179-211.
- Ajzen, I. and Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ, Prentice-Hall.
- Ajzen, I., and Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*. 22 (5): 453 – 474.
- Al-Ghazali, B. M., Rasli, A. M. and Yusoff, R. M. (2015). A review of theories on technology acceptance: The case of mobile banking user retention in Saudi Arabia. *Jurnal Teknologi*, 72 (5): 19 – 26.

- Al-Hawari, M. A. (2011). Do online services contribute to establishing brand equity within the retail banking context? *Journal of Relationship Marketing*. 10 (3): 145-166.
- Ali, A. Y. S. (2013). Factors influencing mobile money transfer adoption among Somali students. *International Journal of Business, Economics and Law*, 3 (1): 1-9.
- Al-Majali, M. and Mat, N. K. N. (2011). Modeling the antecedents of internet banking service adoption (IBSA) in Jordan: A structural equation modeling (SEM) approach. *Journal of Internet Banking and Commerce*, 16 (1): 1-15
- Al-Rasheed, I. (2000). Shopping habits and store selection in food retailing: An empirical study of consumer buying behaviour in Saudi Arabia. Postgraduate School of Studies in Management and Administration Management Center. University of Bradford.
- Alsajjan, B. and Dennis, C. (2010). Internet banking acceptance model: Cross-market examination. *Journal of Business Research*. 63: 957-963.
- Anastasi, A. and Urbina, S. *Psychological Testing*. (1997). 7th Ed. New Jersey: Prentice-Hall.
- Au, N., Ngai, W. T., and Cheng, T.C. (2008). Extending the understanding of end user satisfaction. *MIS Quarterly*. 32(1): 43-66.
- Ba, S., and Pavlou, P. A. (2002). Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior. *MIS Quarterly*. 26 (3): 243-268.
- Bagozzi, R. (1980). *Causal Models in Marketing*. New York, Wiley.
- Balasubramanian, S.; Konana, P., and Menon, N.M. (2003). Customer satisfaction in virtual environments: A study of online investing. *Management Science*, 49 (7): 871-889.
- Baumgartner, H. and Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: a research. *International Journal of Research in Marketing*. 13 (4): 139 – 161.
- Beldad, A., de Jong, M., Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behaviour*, 26 (5): 857-869.
- Bennett, R. (1983). *Management research: Guide for institutions and professional*.

Switzerland. International Labour Organisation.

- Bhattacharjee, A. (2002). Individual trust in online firms: scale development and initial test. *Journal of Management Information Systems*. 19(1): 211-241.
- Brown, T. J., Dancin, P. A., Pratt, M. G., and Whetten, D. A. (2006). Identity, intended image, construed image, and reputation: An interdisciplinary framework and suggested terminology. *Academy of Marketing Science. Journal*. 34 (2): 99-106.
- Bryman, A. (2001). *Social Research Methods*. Oxford University Press, England.
- Bryman, A. and Bell, E. (2007). *Business Research Methods*. 2nd Ed. Oxford University Press, England.
- Bulmer, M. and Warwick, D. (1993). *Social Research in Developing Countries, Surveys and Censuses in the Third World*. London, Routledge.
- Burns N, and Grove S.K. (2005). *The Practice of Nursing Research: Conduct, Critique, and Utilization*. 5th Ed. St. Louis, Elsevier Saunders.
- Byrne, B.M. (2001). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. New Jersey: Lawrence Erlbaum Associates.
- Camhi, J. (2012). Customers want it all: Balancing simplicity and security in mobile banking. www.banketch.com. Retrieved on September 16, 2015.
- Campbell, D. T., and Fiske, D.W. (1959). Convergent and discriminant validation by the multi trait-multi method matrix. *Psychological Bulletin*, 56(2): 81-105.
- Carrier, N. and Lochery, E. (2013). Missing states? Somali trade networks and the Eastleigh transformation. *Journal of Eastern African Studies*. 7(2): 334–52.
- Chan, S. C. and Lu, M. t. (2004). Understanding Internet banking adoption and use behavior: A Hong Kong perspective. *Journal of Global Information Management*, 12 (3): 21-43.
- Chandra, S., Srivastava, S.C. and Theng, Y.-L. (2010). Evaluating the role of trust in consumer adoption of mobile payment systems: an empirical analysis. *Communications of the Association for Information Systems*. 27: 561-88.
- Chang, H. H. (2008). Intelligent agent's technology characteristics applied to online auctions' task: a combined model of TTF and TAM. *Technovation*. 28: 35-48.

- Chen, C. (2006). Identifying significant factors influencing consumer trust in an online travel site. *Information Technology and Tourism*. 8: 197–214.
- Chen, S. and Dhillon, G. (2003). Interpreting dimensions of consumer trust in e-commerce. *Information technology and management*. 4: 303-318.
- Chin, W. W. (1998). The partial least squares approach to structural equation modelling. In Marcoulides. *Modern Methods for Business Research*. Mahwah. Lawrence Erlbaum Associates.
- Chin, W. W. (2010). How to write up and report PLS analyses. *Handbook of Partial Least Squares*. New York Springer: 655-690.
- Chiu, C. M., Hsu, M. H., Lai, H., and Chang, C. M. (2012). Re-examining the influence of trust on online repeat purchase retention: The moderating role of habit and its antecedents. *Decision Support Systems*, 53 (4): 835 – 845.
- Chung, N. and Kwon, S. J. (2009). Effect of trust level on mobile banking satisfaction: a multigroup analysis of information system success instruments, *Behaviour and Information Technology*. 28(6): 549-562
- Churchill, G. A. (1999). *Marketing Research: Methodological Foundations*. 7th Ed. Fort Worth, the Dryden Press.
- Chuttur, M. Y. (2009). *Overview of the Technology Acceptance Model: Origins Development and Future Directions*. Indiana University, USA.
- Clemes, M. D., Gan, C., and Zhang, D. (2010). Customer switching behaviour in the Chinese retail banking industry. *The International Journal of Bank Marketing*. 28 (7): 519-546.
- Coakes, S. J., Steed, L., and Ong, C. (2010). *SPSS: analysis without anguish: version 17 for Windows*, John Wiley and Sons, Australia.
- Cockayne, J. and Shetret, L. (2012). *Capitalizing on Trust: Harnessing Somali Remittances for Counterterrorism, Human Rights and State Building*. Centre on Global Counterterrorism Cooperation. Available at <http://www.globalcenter.org/>. Retrieved on October 12, 2015.
- Cronbach, L. J. (1971). Test validation. *Educational measurement. Issues and Practice* 2:

443-507.

- Curran-Everett, D. and Benos, D. J. (2004). Guidelines for reporting statistics in journals published by the American Physiological Society. *Advanced Physiology Education*, 28 (1-4): 85-87.
- Das, T. K. and Teng, B. (1998). Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances. *Academy of Management Review*. 23: 491-512.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3): 319-340.
- De Vaus, D. A. (2001). *Research Design in Social Research*. London, SAGE Publications Ltd.
- DeLone, W. H. and McLean, E. R. (1992). Information systems success: the quest for the dependent variable. *Information systems research*. 3(1): 60-95.
- DeLone, W. H. and McLean, E. R. (2002). Information Systems Success Revisited. *Proceedings of the 35th Hawaii International Conference on System Sciences (HICSS)*. Big Island, Hawaii: 238-249.
- DeLone, W. H. and McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*. 19(4): 9-30.
- Dineshwar, R. and Steven, M. (2013). An investigation on mobile banking adoption and usage: a case study of Mauritius. *Proceedings of the 3rd Asia-Pacific Business Research Conference*, Kuala Lumpur, Malaysia.
- Dishaw, M. and Strong, D. (1999). Extending the technology acceptance model with task-technology fit variables. *Information Management*. 36: 9-21.
- Doll, W. J. and Gholamreza T. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly*. 12(2): 259-274.
- Doney, P. and Cannon, J. (1997). An examination of the nature of trust in buyer-seller relationships. *The Journal of Marketing*. 61: 35-51.

- Donner, J. and Tellez, C. (2008). Mobile banking and economic development: Linking adoption, impact, and use. *Asian Journal of Communication*. 18(4): 318-322.
- Dwyer, F. and Oh, S. (1987). Output sector munificence effects on the internal political economy of marketing channels. *Journal of Marketing Research*. 24: 347-358.
- Fecikova, I. (2004). Index method of measurement of customer satisfaction, *TMQ Magazine*. 16(1): 57-66.
- Field, A. P. (2009). *Discovering statistics using SPSS*. London, England. SAGE.
- Floropoulos, J. Spathis, C., Halvatzis, D., and Tsiouridou, M. (2010). Measuring the success of the Greek taxation information system. *International Journal of Information Management*. 30 (1): 47.
- Foon, Y. S. and Fah, B. C. Y. (2011). Internet banking adoption in Kuala Lumpur: An application of UTAUT model. *International Journal of Business and Management*. 6 (4): 161 – 167.
- Fornell, C. and Larcker, D. F. (1981). Evaluating structural equation models with unobservable and measurement error. *Journal of Marketing Research*. 34 (2): 161 – 188.
- Gay, L. R. (1992). *Educational Research: Competencies for Analysis and Application*. 4th Ed. New York, Macmillan Publishing Company.
- Gefen, D., Karahanna, E., and Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1): 51-90.
- Gefen, D., Straub, D.W. (2002). Managing user trust in e-services. *e-Service Journal*, 2(1).
- Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American journal of sociology*. 91: 481-510.
- Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2009). *Multivariate data analysis (7th Edition)*: Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C., and Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*: SAGE Publications.
- Hair, J. F., Ringle, C. M., and Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal*

of Marketing Theory and Practice. 19 (2): 139 – 151.

- Hair, J. F., Sarstedt, M., Ringle, C. M., AND Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.
- Hair, J., Anderson, R., Tatham, R. and Black, W. (1998). *Multivariate Data Analysis with Readings*. Englewood Cliffs, NJ, Prentice Hall.
- Harper, M. (2012). *Getting Somalia Wrong? Faith, War and Hope in a Shattered State*. London: Zed.
- Henning-Thurau, T. and Klee, A. (1997). The impact of customer satisfaction and relationship quality on customer retention: a critical reassessment and model development. *Psychology and Marketing*. 14 (8): 737–764.
- Henseler, J., Ringle, C. M. and Sinskovics, R. (2009). The use of partial least squares path modeling in international marketing. *International Marketing*. 20: 277 – 319.
- Hoffman, D.K., and Bateson, J.E.G. (1999). *Essentials of service marketing*, Dryden press, New York.
- Holmes, J. (1991). Trust and the appraisal process in close relationships In: Jones, W. and Perlman, D. (Eds.). *Advances in personal relationships*. 2: 57-104.
- Huber, F., Herrmann, A., and Morgan, R. E. (2001). Gaining competitive advantage through customer value oriented management. *Journal of Consumer Marketing*. 18 (1): 41 – 53.
- Hughes, N. and Lonie, S. (2007). M-PESA: mobile money for the “unbanked” turning cellphones into 24-hour tellers in Kenya. *Innovations*, 2(1–2): 63–81.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*. 20: 195.- 204.
- Hussey, J. and Hussey, R. (1997). *Business Research: A practical guide for undergraduate and postgraduate students*. Macmillan, Basingstoke.
- Hwang, Y., and Jeong, J. (2014). Electronic commerce and online consumer behavior research: a literature review. *Information Development*.
- Igbaria, M., Guimaraes, T., and Davis, B.D. (1995). Testing the Determinants of

- Microcomputer Usage via a Structural Equation Model. *Journal of Management Information Systems*, 11 (4): 87-114
- International Telecommunication Union, (2011). ICT facts and figures: the world in 2011. <http://itu.int/ITU-D/ict/facts/2011/material/ICTFactsFigures2011.pdf>. Retrieved January 1, 2014.
- Ja-Chul, G., Lee, S. C. and Suh, Y. H.. (2009). Determinants of Behavioural Intention to Mobile Banking. *Expert Systems with Applications*.
- Jamal, A. and Nazer, K. (2002). Customer satisfaction and Retail Banking, an Asssment of some if the key antecedents of customer satisfaction in Retail Banking. *International journal of Bank Marketing*. 20(4):146-160.
- Johnson, D. S. (2007). Achieving customer value from electronic channels through identity commitment, calculative commitment, and trust in technology. *Journal of interactive marketing*, 21 (4): 2-22.
- Joreskog, K.G. and Sorbom, D. (2002). LISREL 8: User's reference guide. Chicago: Scientific Software International. *Journal of Management Information Systems*. 19(1): 211-241.
- Josang, A., Ismail, R., and Boyd, C. (2007). A survey of trust and reputation systems for online service provision. *Decision Support Systems*, 43, 618–644.
- Juniper Research (2013). Mobile banking handset and tablet market strategies 2013–2017. http://www.juniperresearch.com/reports/mobile_banking. Retrieved on December 21, 2014.
- Kaiser, H.F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*. 20: 141-151.
- Kang, H., Lee, M. J., and Lee, J. K. (2012). Are you still there? A study of the post-adoption determinants of sustained use of mobile banking services. *Journal of Organizational Computing and Electrical Commerce*, 22 (2): 132 – 159.
- Kanthawongs, P., and Jabutay, F. A. (2015). Information quality, word-of-mouth intentions and trust towards customer satisfaction of mobile banking service of Bank C in Thailand. *IMSCI 2015, Proceedings*.
- Kassim, N., and Abdullah, N. A. (2010). The effect of perceived service quality dimensions

- on customer satisfaction, trust and loyalty in e-commerce settings. *Asia Pacific Journal of Marketing and Logistics*, 22 (3): 351-371.
- Kenny, D. A. (2011). Mediation. Retrieved from <http://davidakenny.net/cm/mediate.htm>, last accessed on 15 January, 2016.
- Kim, C. (2009). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*.
- Kim, H., and Hock, C. C. (2007). and Sumeet, G. Value-based Adoption of mobile internet: an empirical investigation, *Decision support system*. 43: 111-126.
- Kim, H.W., Xu, Y. and Koh, J. (2004). A comparison of online trust building factors between potential customers and repeat customers. *Journal of the Association for Information Systems*. 5 (10): 392-420.
- Kim, K. K., and Prabhakar, B. (2004). Initial trust and the adoption of B2C e-commerce: the case of Internet banking. *Database for Advances in Information Systems*, 35 (2): 50-64.
- Kinncar, C. and Taylor, J. (1996). *Marketing Research: An Applied Approach*. New York, McGraw-Hill.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling*. New York: The Guilford Press.
- Komiak, S. and Benbasat, I. (2004). Understanding customer trust in agent-mediated electronic commerce, web-mediated electronic commerce, and traditional commerce. *Information technology and management*. 5: 181-207.
- Koo, C. and Wati, Y. (2010). Toward an Understanding of the Mediating Role of “Trust” in Mobile Banking Service: An Empirical Test of Indonesia Case, *Journal of Universal Computer Science*, 16 (13): 1801-1824.
- Kotler, P. (1991). *Marketing Management: Analysis, Planning Implementation And Control*. 7th Ed. Prentice- Hall, Englewood Cliffs, NJ.
- Koufaris, M., and Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers. *Information and Management*. 41: 377-397.
- Krejcie, R. V. and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607 – 610.

- Kuan, H. H., and Bock, G. W. (2007). Trust transference in brick and click retailers: An investigation of the before-online-visit phase. *Information and Management*, 44: 175–187.
- Le Sage, A. (2005). *Stateless Justice in Somalia: Formal and Informal Rule of Law Initiatives*. Geneva, Switzerland: Henry Dunant Centre for Humanitarian Dialogue. PMCID: PMC3217462.
- 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: 385-392.
- Lee, K. C., Kang, I., and McKnight, D. H. (2007). Transfer from offline trust to key online perceptions: an empirical study, *IEEE Transactions on Engineering Management*, 54 (4), 729-741.
- Lee, M. and Turban, E. (2001). A trust model for consumer Internet shopping. *International Journal of Electronic Commerce*. 6: 75-91.
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*. 8(3): 130-141.
- Lee, S. M., and Lee, S. H. (2012). Success factors of open-source enterprise information systems development. *Industrial Management – Data Systems*, 112 (7): 1065 – 1084.
- Lee, T. The impact of perceptions of interactivity on customer trust and transaction intentions in mobile commerce. *Journal of Electronic Commerce Research*. 2005.
- Leonard, D. K. and Samantar, M. S. (2011). What Does the Somali Experience Teach Us about the Social Contract and the State? *Development and Change*, 42: 559–84.
- Lewicki, R. and Bunker, B. (1995). Trust in relationships: A model of development and decline In: Bunker, B. and Rubin, J. (Eds.). *Conflict, cooperation, and justice: Essays inspired by the work of Morton Deutsch*. San Francisco. Jossey-Bass.
- Lewis, J. and Weigeet, A. (1985). Trust as a social reality. *Social Forces*. 63: 967-985.
- Li, Y.M. and Yeh, Y.S. (2010). Increasing trust in mobile commerce through design aesthetics. *Computers in Human Behaviour*. 26(4): 673–684.

- Liao, C., Palvia, P., and Lin, H. N. (2006). The roles of habit and website quality in ecommerce. *International Journal of Information Management*, 26: 469–483.
- Liljander, V. and Roos, I. (2002). Customer-relationship levels – from spurious to true relationships. *The Journal of Services Marketing*. 16 (7): 593 – 614.
- Lin, H. F. (2008). Determinants of successful virtual communities: Contributions from system characteristics and social factors. *Information Management*, 45 (8): 522.
- Lin, H. H. and Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information Management*. 43(3): 271–282.
- Luarn, P. and Lin, H.H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*. 21 (6): 873–891.
- Luhmann, N. (1979). *Trust and Power*. New York, John Wiley.
- Luo, X., Li, H., Zhang, J. and Shim, J.P. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: an empirical study of mobile banking services, *Decision Support Systems*, 49 (2): 222-234.
- MacKinnon, D. P., Lockwood, C. M., and Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*. 39: 99–128
- Malaquias, R. F. and Hwang, Y. (2016). An empirical study on trust in mobile banking: A developing country perspective. *Computers in Human Behavior*, 54, pp. 453-461.
- Mallat, N., Ross, M., and Tuunainen, V. K. (2004). Mobile banking services. *Communication of the ACM*. 47 (5).
- Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behaviour. *Information Systems Research*. 2 (3): 173-191
- Maurer, B. (2008). Retail electronic payments systems for value transfers in the developing world. Department of Anthropology, University of California.
- McKinney, V., Yoon, K., and Zahedi, F. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information Systems Research*. 13 (3): 296 – 315.

- Mcknight, D. and Chervany, N. (2001). What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology. *International Journal of Electronic Commerce*. 6: 35-59.
- McKnight, D. H. and Chervany, N. L. (2002). What trust means in e-commerce customer relationships: An interdisciplinary conceptual typology. *International Journal of Electronic Commerce*. 6(2): 35-59.
- McKnight, D. H., Choudhury, H., and Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *Journal of Strategic Information Systems*. 11: 297–323.
- McKnight, D. H., Choudhury, V., and Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*. 13(3): 334–359.
- McKnight, D.H., Cummings, L. L., and Chervany, N.L. (1998). Initial Trust Formation in New Organizational Relationships”; *Academy of Management Review*. 23 (3): 473-490.
- Melone, N.P. (1990). A theoretical assessment of the user satisfaction construct in information systems research. *Management Science*. 36 (1).
- Menkhaus, K. (2007). Governance without Government in Somalia: Spoilers, State Building, and the Politics of Coping. *International Security*, 31(3): 74–106.
- Menkhaus, K. (2014). State Failure, State-Building, and Prospects for a “Functional Failed State” in Somalia. *The Annals of the American Academy of Political and Social Science*, 656(1): 154–172.
- Michel, R., Ashill, N. J., Shao, J., and Carruthers, J. (2009). An examination of the relationship between service quality dimensions, overall internet banking service quality and customer satisfaction. *Marketing Intelligence and Planning*. 27 (1): 103-126.
- Miremedi, A., Babakhani, N., Yousefian, M., and Fotoohi, H. (2011). Importance of the corporate reputation in B2B context in Iran: An empirical study. *International Journal of Marketing Studies*. 3 (4): 146-157.
- Mohseni-Cheraglou, A. (2013). Mobile banking: who is at the driver’s seat? Available at blog.worldbank.org. Last accessed at 19 January 2016.

- Moorman, C., Deshpande, R. and Zaltman, G. (1992). Factors affecting trust in market research relationships, *Journal of marketing*. 57 (1): 80-101.
- Moorman, C., Deshpandé, R. and Zaltman, G. (1993). Factors Affecting Trust in Market Research Relationships. *Journal of Marketing*. 57: 81-101.
- Morawczynski, O. (2009). Exploring the usage and impact of “transformational” mobile financial services: The case of M-PESA in Kenya. *Journal of Eastern African Studies*, 3(3): 509–525.
- Morgan, R. M., and Hunt, S. D. (1994). The commitment-trust theory of relationship marketing”; *Journal of Marketing* 58: 20-38.
- Neuman, W. L. (2003). *Social Research Methods: Qualitative and Quantitative Approach*. Sydney, Person Education Inc.
- Nicolaou, A. I, and McKnight, D. H. (2006). Perceived Information Quality in Data Exchanges: Effects on Risk, Trust, and Intention to Use. *Information system research*, 17 (4): 332-351.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.
- Nunnally, J. C. and Bernstein, I. H. (1994). *Psychometric Theory*. New York: McGraw-Hill.
- Oliveira, T. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management*. 34:689–703.
- Pallant, J. (2007). *SPSS Survival Manual: A step by step guide to data analysis using SPSS for Windows*. 3rd Edition. Open University Press.
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model”; *International journal of electronic commerce*, 7 (3): 69-103.
- Pavlou, P. A., and Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research*. 15(1): 37–59.
- Pénicaud, C. (2013). *State of the Industry: Results from the 2012 Global Mobile Money Adoption Survey, GSMA Mobile Money for the Unbanked Programme*. Retrieved on 21 December 2015.

- Penicaud, C. and McGrath, F. (2014). Innovative Inclusion: How Telesom ZAAD Brought Mobile Money to Somaliland. GSMA - Mobile Money for the Unbanked.
- Peter, T. (2012). Towards a model of adoption in mobile banking by the unbanked: a qualitative stud. *Info* 14(5): 74 – 88.
- Petter, S., Delone, W., and McLean, E. (2008). Measuring information systems success: Models, dimensions, measures and interrelationships. *European Journal of Information Systems*. 17 (3): 236 – 263.
- Pitt L. F., Watson, R. T., and Kavan, C. B. (1995). Service Quality: A Measure of Information Systems Effectiveness,” *MIS Quarterly*, 19 (2): 173-188.
- Popham, P. (2013). Why Barclays wants to cut Somalia’s ‘money transfer’ lifeline. *The Independent*. Available at <http://www.independent.co.uk/>. Retrieved on 15 December 2015.
- Porteous, D. (2006). The enabling environment for mobile banking in Africa. *Bankable Frontier Associates*. Retrieved from <http://bankablefrontier.com> on 15 September 2015.
- Püschel, J., Jose Afonso, M., and Hernandez, J. M. C. (2010). Mobile banking: Proposition of an integrated adoption intention framework. *The International Journal of Bank Marketing*, 28 (5), 389-409.
- Rai, A., Lang, S. S., and Welker, R. B. (2002). Assessing the validity of IS success models: An empirical and theoretical analysis. *Information Systems Research*, 13 (1): 50-69.
- Ramseook-Muhurrun, P., and Naidoo, P. (2011). Customers’ perspectives of service quality in Internet banking. *Services Marketing Quarterly*. 32 (4): 247-264.
- Rempel, J., Holmes, J. and Zanna, M. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*. 49: 95-112.
- Resnick, P., Zeckhauser, R., Friedman, E., and Kuwabara, K. (2000). Reputation systems. *Communications of the ACM*. 43(12), 45–48.
- Robson, C. (1993). *Real world research: a resource for social scientists and practitioner-researchers*. Oxford: Blackwell.
- Rogers, E. M. (1962). *Diffusion of innovations*. New York: the free press.

- Rotter, J. (1971). Generalized expectancies for interpersonal trust. *American Psychologist*, 26:443-452
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., and Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management*, 23(3): 393-403.
- Sabate, J. M. d. I. F., and Puente, E. d. Q. (2003). The concept and measurement of corporate reputation: An application to Spanish financial intermediaries. *Corporate Reputation Review*, 5 (4): 280-301
- Safeena, R., Abdullah and Data, H. (2010). Customer perspectives on e-business value: Case study of Internet banking. *Journal of Internet Banking and Commerce*, 15 (1), 1 – 13.
- Safeena, R., Date, H., Kammani, A., Hundewale, N. (2012). Technology adoption and Indian consumers: study on mobile banking. *International Journal of Computing Theory Engineering*, 4 (6): 1020– 1024.
- Sagib, G. K. and Zapan, B. (2014). Bangladeshi mobile banking service quality and customer satisfaction and loyalty. *Management and Marketing*, 9 (3): 331-346.
- Sanayei, A., Shaemi, A., and Jamshidi, H. (2011). An analysis of the factors affecting customers' satisfaction and trust in mobile banking (Case study: Branches of bank Mellat in Isfahan). *Interdisciplinary Journal of Comtemporary Research in Business*, 3 (7), 440 – 452.
- Saunders, M., Lewis, P. and Thornhill, A. A. (2007). *Research Methods for Business Students*. 4th Ed. Prentice Hall, England.
- Sayid, O., Echechabi, A., and Aziz, A. H. (2012). Investigating mobile money acceptance in Somalia: An empirical study. *Pakistan Journal of Commercial Social Science*, 6 (2): 269 – 281.
- Schlee, G. (2013). Customary law and the joys of statelessness: Idealised traditions versus Somali realities. *Journal of Eastern African Studies*, 7(2): 258–71.
- Schneiderman, B. (1998). *Designing the user interface: Strategies for effective human-computer interaction* (3rd Edition). Addison-Wesley: Reading, MA.
- Schurr, P. and Ozanne, J. (1985). Influences on exchange processes: Buyers' preconceptions of a seller's trustworthiness and bargaining toughness. *Journal of Consumer*

Research. 11: 939-953.

Sekaran, U. (2000). *Research Methods for Business: A Skill-Business Approach*. New York, Wiley.

Sekaran, U. (2003). *Research methods for business: A skill building approach (4th Ed.)*. New York: John Wiley and Sons, Inc.

Shaikh, A. (2013). Mobile banking adoption issues in Pakistan and challenges ahead. *J. Inst. Bankers Pak.* 80(3): 12–15.

Shaikh, A. and Karjaluo, H. (2015). Mobile banking adoption: A literature review, *Telematics and Informatics.* 32: 129–142.

Shamdasani. P., Mukherjee, A., and Malhotra, N. (2008). Antecedents and consequences of service quality in consumer evaluation of self-service internet technologies. *Service Industries Journal.* 28 (1): 117 – 138.

Shapiro, S. (1987). The social control of impersonal trust. *American journal of Sociology.* 93: 623.

Shaw, N. (2014). The Mediating Influence of Trust in the adoption of the mobile wallet. *Journal of Retailing and Consumer Services.* 21 (4): 449-459.

Shih, K., Hung, H., and Lin, B. (2010). Assessing user experiences and usage intentions of m-banking service. *Int. J. Mobile Commun.* 8 (3): 257–277.

Shrout, P. E. and Bolger, N. (2002). Mediation in Experimental and Nonexperimental Studies: New Procedures and Recommendations. *Psychological Methods,* 7 (4): 422-445

Siau, K. and Shen Z. (2003). Building customer trust in mobile commerce. *Communications ACM* 46(4):91–94.

Siu, N. Y. M., and Mou, J. C. W. (2005). Measuring service quality in Internet banking: The case of Hong Kong. *Journal of International Consumer Marketing,* 17 (4): 99 – 116.

Snoj, B., Korda, A., and Mumel, D. (2004). The relationships among perceived quality, perceived risk and perceived product value. *Journal of Product Brand Management* 13: 156-167.

Staff writer (2012). Dahabashiil denies Anonymous behind cyber-attack. *News.com.au.* 25

July. Available at <http://www.news.com.au/>

- Straub, D. (1989). Validating instruments in MIS research. *MIS Quarterly*. 13: 147-169.
- Stremlau, N. (2012). Somalia: Media law in the absence of a state. *International Journal of Media and Cultural Politics*, 8(2-3): 159-74.
- Stremlau, N. (2013). Towards a diagnostic approach to media in fragile states: Examples from the Somali territories. *Media, War and Conflict*, 6: 279-293.
- Stremlau, N. and Osman, R. (2015). Courts, clans and companies: mobile money and dispute resolution in Somaliland. *Stability: International Journal of Security and Development*, 4(1): 43, pp. 1-15.
- Suoranta, M. and Mattila, M. Mobile banking and consumer behaviour: new insights into the diffusion pattern. *Journal of Financial Services Marketing*. 2004. 8 (4): 354- 366.
- Swan, J., Bowers, M. and Richardson, L. (1999). Customer trust in the salesperson: an integrative review and meta-analysis of the empirical literature. *Journal of Business Research*. 44: 93-107.
- Tan, F. B., and Sutherland, P. (2004). Online consumer trust: A multi-dimensional model. *Journal of Electronic Commerce in Organizations*, 2(3), 40-58.
- Teo, T. S. H., and Liu, J. (2007). Consumer trust in e-commerce in the United States, Singapore, and China. *Omega*, 35, 22-38.
- Teo, T. S. H., Shirish, C., and Srivastava, L. J. (2009). Trust and electronic government success: an empirical study"; *Journal of Management Information System*, 9, 3 99-131.
- The world's most admired companies. (2013, March 18). *Fortune*, 137.
- Tobbin, P. (2010). Modeling Adoption of Mobile Money Transfer: A Consumer Behavior Analysis, *Mobile 4 Development*, Kampala.
- Urbach, N., and Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least square. *Journal of Information Technology Theory and Application*. 11(2): 5 - 40.
- Van Maanen, J. (1979). Reclaiming qualitative methods for organizational research: a preface. *Administrative Science Quarterly*. 24: 520-526.

- Van Notten, M. (2005). *The Law of the Somalis: a Stable Foundation for Economic Development in the Horn of Africa*. Trenton, NJ: Red Sea Press. PMID: 15965004
- Vance, A., Christophe, E. D.C, and Straub, D. W. (2008). Examining trust in information technology artifacts: the effects of system quality and culture. *Journal of Management Information Systems*. 24(4):73– 100.
- Varnali, K. and Toker, A. Mobile marketing research: the-state of- the-art. *International Journal of Information Management*. 2010. 30(2):144–151.
- Veloutsou, C., Gilbert, G.R. and Moutinho, L.A. (2005). Measuring transaction specific satisfaction in service: are the measures transferable across cultures? *European Journal of Marketing*. 39(5/6): 606-628.
- Venkatesh, V., Morris, M., Davis, G., Davis, F. (2003). User acceptance of information technology toward a unified view. *MIS Quarterly*. 27: 425-478.
- Walczuch, R., and Lundgren, H. (2004). Psychological antecedents of institution-based consumer trust in e-retailing. *Information and Management*. 42: 159–177.
- Walker, R. H., Johnson, L. W. (2006). Why Consumers Use and Do Not Use Technology-enabled Services. *Journal of services Marketing*. 20 (2): 125-135.
- Walls, M. (2009). The emergence of a Somali state: Building peace from civil war in Somaliland. *African Affairs*, 108(432): 371–89.
- Walsh, G., and Beatty, S. E. (2007). Customer-based corporate reputation of a service firm: Scale development and validation. *Academy of Marketing Science, Journal*, 35 (1), 127-143.
- Walsh, G., Mitchell, V. W., Jackson, P. R. and Beatty, S. E. (2009). Examining the antecedents and consequences of corporate reputation: A customer perspective. *British Journal of Management*, 20 (2). 187-203.
- Wang, R. W. and Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers? *Journal of Management Information Systems*. 12 (4): 5-33.
- Wang, W. H. (2010). Diffusions of innovation, perceived security and experience: The case of online banking service adoption in Taiwan. *The Business Review, Cambridge*. 15 (2): 247 – 252.
- Wang, Y. D., and Emurian, H. H. (2005). An overview of online trust: Concepts, elements,

- and implications. *Computers in Human Behavior*. 21: 105-125.
- Wang, Y., Lin, H. H. and Luarn, P. (2006). Predicting customer intention to use mobile service. *Information System Journal*. 16: 157-179.
- Wessels, L. and Drennan, J. (2010). An investigation of consumer acceptance of m-banking. *The International Journal of Bank Marketing*. 28 (7): 547 – 568.
- West, C. K., Farmer, J.A., and Wolff, P. M. (1991). *Instructional Design: Implication from Cognitive Science*. Englewood Cliffs, NJ: Prentice Hall.
- Westbrook, R.A. and Oliver, R.L. (1991). The dimensionality of consumption emotion patterns and customer satisfaction. *Journal of Consumer Research*. 18 (1): 84-91
- Wetzels, M., Odekerken-Schroder, G., and van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*. 33 (1): 177 – 195.
- Wixom, B. H. and Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16 (1), 85 – 102.
- Wixom, H. Barbara, Peter A. Todd. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information System Research*. 16 (1): 85-102.
- Wray, B., Palmer, A., and Bejou, D. (1994). Using neural network analysis to evaluate buyer-seller relationship. *European Journal of Marketing*. 28 (2): 32.
- Xiong, S. (2013). Adoption of mobile banking model based on perceived value and trust. 6th International Conference on Information Management, Innovation Management and Industrial Engineering.
- Yaghoubi, N. M. and Bahmani, E. (2010). Factors affecting the adoption of online banking: An integration of technology acceptance model and theory of planned behavior. *International Journal of Business and Management*. 5(9): 159-165.
- Yang, Z., Jun, M., AND Peterson, R. T. (2004). Measuring customer perceived online service quality: Scale development and managerial implications. *International Journal of Operations and Production Management*. 24 (11/12), 1149-1174.
- Yonck, R. (2010). The age of the interface. *The Futurist*, 44 (3), 14 -19.
- Yoon, C. (2010). Antecedents of customer satisfaction with online banking in China: the

- effects of experience. *Computers in Human Behavior*, 26 (6), pp. 1296-304.
- Yoon, S. J. (2002). The antecedents and consequences of trust in online purchase decision"; *Journal of Interactive Marketing*. 16 (2): 47-63.
- York, G. (2013). How mobile phones are making cash obsolete in Africa. *The Globe and Mail*, 21 June. Available at <http://www.theglobeandmail.com/> Retrieved on 22 October 2015.
- Yousafzai S. Pallister J.G. and Foxall G.R. (2009). Multidimensional role of trust in Internet banking adoption, *The Service Industries Journal*, 29 (5): 591-605.
- Yu, C. S. (2008). Assessing and differentiating the quality of Internet-based services: A case of online banking in Taiwan. *Service Industries Journal*. 28 (5), 581-602.
- Yuen, Y. Y., Yewo, P. H. P., Lim, N. and Saylani, N. (2010). Internet banking adoption: Comparing developed and developing countries. *The Journal of Computer Information Systems*. 51 (1): 52 – 61.
- Zhou, T. (2012). Understanding user's initial trust in mobile banking: an elaboration likelihood perspective. *Computers in Human Behavior*. 28: 1518-1525.
- Zhou, T., Lu, Y., and Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior*. 26 (4): 760-767.
- Zhou, T., Lu, Y., and Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior*. 26 (4): 760-767.
- Zhou. T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*. 21(5): 527 – 540.
- Zikmund, W. G. (2003). *Business Research Methods*. Australia, South Western.
- Zucker, L. (1986). Production of trust: Institutional sources of economic structure, 1840-1920. *Research in Organizational Behavior*. 8: 53-111.
- Zviran, M. and Erlich, Z. (2003). Measuring IS user satisfaction: review and implications. *Communications of the AIS*. 12 (5): 81–104.
- Zviran, M., Glezer, C., and Avni, I. (2006). User satisfaction from commercial web site: the effect of design and use. *Information and Management*. 43 (2): 157–178.