

A LITERATURE REVIEW OF THE DETERMINANTS OF CUSTOMER TRUST IN  
ELECTRONIC AND MOBILE BANKING: IMPLICATIONS FOR THE M-PESA  
SYSTEM IN KENYA

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## APPROVAL

Approval of the Institute of Social Sciences

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## ABSTRACT

### A LITERATURE REVIEW OF THE DETERMINANTS OF CUSTOMER TRUST IN ELECTRONIC AND MOBILE BANKING: IMPLICATIONS FOR THE M-PESA SYSTEM IN KENYA

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This thesis aims to discover the determinant factors of customer trust in mobile and electronic banking taking the case study of M-Pesa in Kenya. It will also illustrate the opportunities as well as unseen challenges of mobile and electronic banking thereby improving use and acceptance of the technology. Customer trust is considered a critical factor for mobile and electronic banking or electronic commerce success. Trust significantly predicts the customers' intention to use or adopt technology, especially that which is sensitive as involving money transfers. The purpose of this study is to understand the factors that enable users gain trust in the technology which lead to the rapid adoption of the technology. This thesis examines the rise of mobile and electronic banking, since the invention of computers and mobile phone technology, especially in developing countries. The thesis also study's the advantages and disadvantages of this technology, by

specifically focusing on the importance of the technology and the impact it has had on various industries, firms, businesses and peoples' lives. It also focuses on the challenges that face customers when using mobile and electronic banking. The methodology used is a review of literature written on mobile and electronic banking and trust.

The findings of this study indicate that the outstanding factors that influence prospective users to trust the technology and adopt it are Security, Structural assurances, Ease of use, Quality, Personal traits and other relative benefits. These findings are also evident in the case study of M-Pesa system usage. This study can be used to expand the knowledge of mobile and electronic banking adoption by customers and mobile banking in Kenya via the M-Pesa system. It may also be used by scholars to do further research and also by mobile phone operators to improve their services or expand their services in a way geared to economic empowerment to all sectors involved.

**Key words:** Mobile banking, Electronic banking, Trust, M-Pesa,

**DEDICATON PAGE**



To My Beloved Parents:

Mr. & Mrs. P. Koech.

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## **LIST OF ABBREVIATIONS**

ATM	Automated Teller Machine
DRC	Democratic Republic of Congo
GSM	General Service Mobile
ICT	Information Communication Technologies
IMT	International Money Transfer
IT	Information Technology
MFI	Micro Finance Institutions
MTN	Mobile Technology Network
PIN	Personal Identification Number
PDA	Personal Digital Assistance
SIM	Subscriber Identity Module
SMS	Short Messaging Service
SSA	Sub- Sahara Africa
TA	Technology Associates
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
WAP	Wireless Application Protocol

## **DEFINITION OF OPERATIONAL TERMS**

**Trust:** The act of two parties voluntarily relying on each other's actions or information based on their expectation to perform their obligation.

**Customer Trust:** A person or a group of people, or an individual willing to be vulnerable to the actions and information provided by the company or service provider, based on the expectations that the latter will act accordingly irrespective of lack of monitoring or control.

**Mobile Banking:** It refers to using a mobile handset to access bank accounts and conduct financial transactions such as money transfer.

**Float:** The electronic value of money stored through exchange with cash issued by the network or service provider or account holder and is ready to be used for transfers, withdrawal, buying air time or bill payments.

**M-Pesa:** "M" for mobile and "PESA" for money in Swahili. It is a mobile banking service promoted by Safaricom, the leading mobile network operator in Kenya. The service provides a unique mode of electronic payment accessible without internet connection through mobile phones.

**M-Pesa Agents:** They are non-employed but authorized Safaricom dealers, who individually work in various parts of the country. They could be situated at retailer stores, petroleum stations, distributions, supermarkets or registered at small and medium sized enterprises.

## **CHAPTER 1: INTRODUCTION**

### **1.1 Introduction**

The advancement of Information Communication Technologies (ICT) sector over the years has led to improved payment systems and easier ways to do shopping, business and banking, by use of debit cards, visa credit cards, mobile phones for payment among others. Banking today can occur anywhere and anytime with the use of an electronic device to access one's account and transfer funds. With the ubiquitous Automated Teller Machines (ATM) around the world people can do banking without necessarily being served by a teller at the branch of the bank.

In the 1980's there was a continued use of cheques as a form of payment until the mid 1990s where there was a drastic fall with the introduction of smart cards. About 3% of card transactions were made via the internet in 2002 and by 2012 there was a forecasted growth of up to 10%. Shelagh H. (2005).

When discussing financial matters we cannot fail to mention about trust because money is a very sensitive aspect. Trust is very vital for any business relationship whether it is a strategic alliance, joint venture, buyer–seller relationship, etc.

According to Moorman, et al. (1992), trust is the willingness of one party to rely on an exchange partner in whom one has confidence in, to perform their obligation towards the other.

This definition highlights some aspects of trust. Firstly, a trust relationship involves two parties where both rely on each other for mutual benefit. It also involves uncertainty and risk because there is no guarantee that either one of them will live up to their expectation. Finally, both parties have faith that none will betray the other. (Keng, 2003).

Trust also predicts customers' intention to use electronic online banking. When customers trust a technology, there is a higher probability for them to use the service and to continue to use the service over some time. "Research has found that trust exerts positive effect on credibility of mobile or electronic banking and behavioral intentions leading to acceptance

of internet banking and customer loyalty. Therefore, management should focus mainly on the belief of formation users' trust rather than on directly influencing behavioral intentions or actual behavior towards this type of banking, (Worku, 2010).”

It is important to focus on trust and loyalty that is developed in mobile and electronic banking because these aspects ensure users accept the technology and continue to use. The Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM) explain some of the factors that make customers to take up new technology. There also factors have an impact on the customers' usage intention, the intent to adopt and usage continuance of mobile and electronic banking.

Privacy, convenience, and access to the services irrespective of time and place, are some of the factors that determine customers to put their trust on the technology, and embrace it. These determinants were obtained from an analysis of articles and journals that have researches concerning the topic.

It is evident that technological advancements have influenced banks and other financial institutions to develop mobile and electronic banking, enabling easier access to financial services and information. “Today mobile banking applications are evolving as a new retail channel for banks. Mobile banking is a focal point of growth strategies for both the banking and mobile carrier industries, (Goswami & Raghavendran, 2009).”

The study was motivated by the fact that the innovation is new and it has had major effect on the other industries as well as the economy. There a number of upcoming researches on the mobile and electronic banking particularly in developing countries. While new technologies are being studied in developed countries, few researches focus on developing countries such as Kenya when it comes to banking and new innovations.

## **1.2 Research Question**

Trust is a significant factor in any transaction, more importantly financial transactions such as mobile and electronic banking. Due to this fact, there is a need to understand the massive user acceptance of these technologies and identify the factors that determine the intention to use mobile and electronic banking. This brings us to the question, How has a

large portion of the population has put their trust in the use of mobile and electronic banking technologies including the illiterate people in developing world, who now use the technology?

### **1.3 Objectives of the Study**

The main reason for this thesis is to understand how trust is established by users or customers of electronic banking services from a conceptual and theoretical basis. The study aims to investigate the adoption and use of mobile and electronic banking services. It will also illustrate the opportunities as well as unseen challenges of mobile and electronic banking thereby improving use and acceptance of the technology.

### **1.4 Purpose of the Study**

The purpose of this thesis is to examine the main determinants of trust in the adoption and usage of mobile banking services, demonstrating an example of the M-Pesa system in Kenya. It also examines why users gain trust in the service as well as the impact of the technology on the economy, advantages and challenges facing users of the technology. The thesis is an analysis of the literature on electronic and mobile banking services in general and with a focus on the M-Pesa system in Kenya, particularly its success, challenges and factors that lead to trust in the service.

## **CHAPTER 2: A CONCEPTUAL CONTEXT**

### **2.1 Background on Mobile and Electronic Banking**

The most widely used mode of electronic banking today is the carrying out of the financial transactions using the internet, that is, internet banking. The internet is viewed as the most accessible delivery channels. In the mid 1990's, banks in conjunction with telecommunications companies worked together towards the growth of an electronic banking service based on mobile phone. These developments are aimed at modifying the gadgets for better and easier usage experience through improving the screen and the keyboard of the electronic gadgets such as mobile phone, personalized digital assistant. (Warren,1995).

Institutions such banks realized the importance of the internet and future use in electronic and mobile banking. This would revolutionize the banking sector to be used by various portable devices that could connect to the internet.

Seitz & Stickel in their report of (1998), they explain how the banks with the use of internet offer services, information presentation combined with interactions with the customer and banking transaction. Online banking is a good example of these services. For instance, when one logs into an account to view his/her details. The users are usually asked to go through verification process by feeding specific information needed all through a session, and this would be provided by a back-end customer record into which all relevant information is pre-stored. Such applications as mentioned above might be suitably carried out by a customer who is just seated in front of a personal computer in an office or at home or even using a mobile phone. Hand gadgets such as the mobile phone in particular is well suited for financial services requiring high degree of confidentiality and flexibility. This gave rise to the phenomenon known as “mobile” or “wireless” banking.

Mobile banking is a subgroup of Internet banking, as categorized in Muller-Veerse, (1999). In some aspects, this definition is too slight to take in all features of mobile banking. In this according to Mitchell, (2001) report, mobile banking definition is derived from the definition of the wider category electronic commerce. The definitions and the associated

business models are constantly developing. Both academic and industry based literature sources indicate that; electronic commerce is not just about buying and selling on the internet.”

Electronic commerce involves buying and selling electronically, both within enterprises and externally, using computer networks and is conducted via stationary-networked devices.

Turban. E, et al, (2006), electronic commerce is the method used to buy, sell, transfer or exchange products, services and information through the computer networks using the internet.

Mobile commerce on the other hand refers to electronic transactions and activities conducted in full or in part in a wireless environment such as mobile phone or personal digital assistants (PDAs). For instance people can use cell phones that access internet to do their banking transaction or order a book from Amazon.com. Many mobile commerce applications involve mobile devices. Some define mobile commerce as those transactions that can be done on wireless connection resulting in the transfer of value in the exchange of information, services or goods.

### **Electronic Banking**

As Bowden, (1980) article, explains internet banking as the banking made accessible through an electronic device containing the banking software with the use of internet. These services permit one to control their bank using the electronic device. The account may be current, or by card and can be operated without the physical presence of the account owner at the bank. It is similar to internet banking or online banking where transactions are made by users away from the bank such as the at the comfort of their homes or offices using the internet.

Electronic banking is transforming the traditional banking. Traditional form of banking can be described as the form banking where one was expected to physically present him/herself to bank in order to receive financial services over the counter. The development of technology and telecommunication industry has certainly fostered this rapid transformation. Banks on the other hand, irrespective of their size are obliged to upgrade



with the dynamic technology to achieve a sustainable competitive advantage. In view of this we realize that the latest electronic devices are currently being used by institutions to reach the customers and this explains the rise in internet transactions which have been the trend in most companies and institutions. A major driving force to internet businesses is the improved technological and electronic device innovations in the world with gadgets such as automated machine cards, bank software applications that are simplifying the direct cash payment process for customers.

Due to recent development in technology in the banking sector, banking can take place anywhere in the world as long as customers have electronic devices that can access internet. These innovations have gained momentum rapidly across the world because people are continuously seeking knowledge and ways of making life simpler and more comfortable. Many managers and firms especially rely on market research concerning user-adoption before making decisions, (Christine, Zaltman & Deshpande, 1993).

User adoption is also a process which many researchers have studied and this information is vital for managers and company owners in decision making. This is a consumer behavior whereby customers chose to acquire a product from the market and is influenced by a number of factors. “Individuals seek facts at different stages in the innovation-decision process so as to lessen the hesitation about an innovation's projected consequences with the aim of bringing about the acceptance of the technology. (Rogers, 1985).”

There numerous benefits of electronic banking that enhance its adoption. This is where banking services are provided to its customers via an electronic gadget such as a computer or tablet, debit or credit cards, self service zones, electronic gadgets including computers and automated teller machines. Electronic banking is characterized by the opportunity to provide personalized immediate purchases and the opportunity to conduct banking transactions without using cash.

As per the 19<sup>th</sup> century electronic banking was being widely used in developed countries such as UK, although cash was still the most dominant medium of exchange in other developing countries such as Ethiopia and Kenya.

## **Mobile Banking**

From previously discussion terms, mobile banking is simply a subgroup of electronic banking where people can conduct bank transactions or receive financial services via a wireless remote device specifically a mobile phone.

According to Kiesnoski, (2001) report, it was estimated that the sum of wireless digital device users globally will reach 0.5 billion. As a result, financial organizations were planning to invest more on the development and innovation of wireless devices in order to sell their produce on the online platforms. There was a prior prediction by many that mobile banking would be the best significant mobile commerce application.

Mobile banking enabled both financial organizations and mobile phone network operators to improve service delivery to their customers, to extend their general user-base. (Horton, 2001). According to Muller-Veerse, (1999), mobile financial service has been classified as a major commercial driver for mobile business.

## **2.2 Definitions: Electronic and mobile banking**

### **Electronic banking**

Until the late 1980s, transferring funds or paying bills was done through going to the bank physically to cash in, or even mail a cheque to the bank. In the mid to late 1990's there was a continued and rapid growth in the use of cards instead of cheques. The use of cheques as a form of payment fell drastically as businesses switched to the use of plastic cards or debit cards. In the beginning of the year 2000 with the advancement of technology and use of mobile phones, smart cards and other electronic devices, electronic payments or e-payments have been made possible.

According to Mishkin, (2013), electronic banking involves providing financial services or information to its customers using a computer, mobile phone or any other electronic device through the internet. It gives a customer an opportunity to access their accounts and conduct transactions such as transfer of funds from one account to another electronically, through an electronic device such as mobile phone, teller machine or computer. In this respect the first form of (e-money) that existed was the debit card that was offered and gained popularity around. Almost all banks offer these cards as ATM cards including Visa and Master cards.

### **Mobile Banking**

Mobile Banking or (m-banking) is used to describe the transaction when financial services are delivered via the mobile phone. According to Bowden, (1980), mobile banking involves features from using the telephone as a point of access to one's accounts such as receiving information on ones' account balance via the mobile phone to a wider variety of banking services like fund transfers and payment of bills..

Mobile banking is a form of electronic banking since the mobile phone acts as the electronic device to carry out transactions as well as send receive account information. "Mobile banking is the ability to carry out bank dealings through a mobile device Drexelius & Herzig, (2001)." This definition comprises of both basic services such as bank account statements and funds and electronic payment options such as information based financial services.

There is a need to integrate mobile banking, internet and also branch banking platform. It is not enough to just provide access to account details; financial service providers need to offer more value-added services such as payment transactions, access to stock broking, transfers, using a mobile device. Mobile banking should be viewed as an additional channel through which customer relationship can be enhanced.

## **Mobile Money Banking**

Mobile money banking is a subset of electronic banking. It is a form of mobile banking where transactions take place using the mobile phone but without the use of internet. This is because financial services are delivered via the mobile phone using a SIM card toolkit. The software is embedded into the SIM card. The mobile service providers own the software because they are responsible for embedding it into the SIM card. Transactions from one account to another are message based. It is therefore easier for users without smart phones to use this service. Here the phone numbers act as the account numbers. The benefit of such services is convenient in that, it is accessible for all including those without smart phones. In addition, money can be accessed anytime anywhere via authorized mobile subscriber agents.

### **2.2.1 Forms of electronic banking**

Electronic and mobile banking enable individuals to access or manage money in accounts using an electronic device. Mobile banking can be classified under the electronic form of banking since the mobile phone is an example of an electronic device.

Burr, (1996), describes electronic banking as a platform used to connect a bank and a customer electronically with the intention of preparing, managing and controlling financial transactions.

According to Chavanova, (2006), electronic banking is clearly classified basing on the devices used: telephone connection, personal computers, means of payment (i.e. bank cards) and self-service zones. Electronic banking conducted using a telephone connection can be categorized into phone banking (ATS, client advisor) and mobile banking [Short Messaging Service (SMS) banking, General Service Mobile (GSM) Subscriber Identity Module (SIM) Toolkit and Wireless Application Protocol (WAP)].

In 1960's up to the year 2000, there have been great developments in electronic appliances and rise of efficient unique gadgets like the automated teller machines and so. This changed the way financial services are being offered. There was a rapid increase in the number of services and the mobile phones began to be used in banking due to the

development of these electronic technologies. During this period, banks quickly reacted steadily and began connecting with their clients by SMS banking and GSM banking were introduced later on becoming an essential component of electronic banking.

Electronic banking using personal computer on the other hand can be categorized into home banking, internet banking and mail banking. Chavanova, (2006), lists the types of electronic banking on the basis of the instrument used as follows:

1. Banking Using a Telephone Connection: - It refers to the use of a telephone line to communicate to a telephone banker or an automated telephone system. Electronic banking using a telephone connection can be divided into phone banking (ATS, client advisor) and mobile banking (SMS banking, GSM SIM Toolkit and WAP).
  - a) Phone-banking- This involves the offering of the services through the use of a classic telephone line where customers call the bank call centre for active or passive bank products or carry out payment orders. The ATS (Automated Telephone System) is one where there's an automated voice system designed with a service menu to simplify the customers' choices and they just have to dial digits for assistance and finally the option of speaking to an advisor directly who operates 24 hours a day.
  - b) Mobile banking – It includes the GSM SIM tool kit can only be used in a mobile device that supports WAP technology to be used. There personalized menus and once activated or paid for can be used to issue commands of a wide range of bank services.
2. Banking service using a personal computer banking service: - This involves accessing bank accounts online through the internet website to do various financial transactions. In addition, customers can also purchase products over the internet. Book stores, beauty shops, boutiques, airline companies also use this method.

3. Self service zones: This is a fully automated machine belonging to a bank with terminals and devices where clients can use to get various bank services. It may be Automated-Teller Machines (ATM). These are 24 hour terminals where one can deposit withdraw or transfer funds within accounts with the use of the ATM card.

Banking has been made simple through advancing technologies hence the reason for many forms of banking as discussed above. Some basic banking processes can occur almost anywhere there ATM machines, or having a mobile phone may just be enough. Due to the nature of banking, the process of handling money and risks associated in purchasing financial products, there is need to develop a relationship between the customer and the choice of financial institution.

### **2.3 Customer trust in electronic and mobile banking**

Trust is a core component in establishing a relationship especially of this nature of buyer and seller relationship. As defined earlier customer trust is the act of two people to voluntarily rely on each other's actions or information based on their expectation to perform their obligation.

Trust is necessary and important in any agreement or exchange, like between a buyer and a seller. Trust is a two way street. The buyer needs to trust the seller and vice versa because both parties have expectations of each other. The same is true for banks and their customers. Here banks can be considered as a 'seller' of a given service and the 'customer' the 'buyer' of that service

Customers can choose the form of electronic banking they want to have by weighing available options. Every form of technology has its own pros and cons depending on the needs of the customer. Customer trust can influence the confidence in their expectations of the product or service they are purchasing from the buyer and they're as well their peers and associates through the kind of information they disseminate concerning their experience hence word of mouth can go a long way influencing other customers to embrace the technology.

According to Lawrence et al. (2002), trust is very important in respect to receiving electronic services from financial institutions. Trust is a process that deepens or weakens

depending on experience. Individuals first look for information or situations that encourage trustworthy behavior overtime before adopting the service. For instance, information from friends or family with past experience in the banking service may encourage or discourage prospective customers depending on their experience.

Customers have to develop a form of trust in any commodity or service they purchase with the assurance that it will be of benefit to them. In the banking industry, both banks as service providers and customers have a need to trust each other. There are several factors influencing customers to select a commodity, in particular an electronic or mobile banking service provider. Kim et al. (2009), categorizes the ways in which initial trust formation is established into four antecedent variables: structural assurances, relative benefits, personal partiality to trust and firm status. These variables influence a person's preliminary trust in mobile banking and usage intent. They also represent the four types of trust-inducing forces: For example, structural assurances, which represent agreements, contracts, regulations and policies that govern customers and companies to ensure both parties comply with a set of rules and regulations. They also discourage opportunistic behaviors especially to the customer.

Trust is a core ingredient in any successful relationship. Keng, (2003), notes that reliability and security are components needed to cultivate trust especially at the early stages. These aspects can be portrayed by the service providing company or the technology and the web vendor. Therefore, the key components in ensuring that the customers have trust in mobile commerce are the acceptance of the technology and the mobile vendor. See appendix, diagram10.

Relative benefits by the customer refer to realizing the benefits or usefulness of the service. It refers to the seeing greater value a service gives to its customers than existing ones for example economic benefits, image, convenience and satisfaction

Firm reputation, is the description a company obtains from people's perceptions and opinions about the quality of service they have had experience with the company or

financial institution and it may be formal or informal and can affect other people's perception about the company.

A good reputation offers guarantee of a firm's ability, integrity and goodwill, thus promoting more trust with the consumers even when they do not have first-hand knowledge of the service company (Lohse & Spiller, 1998).

The customer's perceived usefulness towards mobile and electronic banking and the ease use of the technology are indispensable in the decision to accept a particular technology, (Venkatesh and Davis, 2000).

According to Fakhraddin et al. (2003), mobile banking applications are transforming to be new retail channel for banks. The authors discusses some of the things that lead to the up-take of mobile banking include; expediency, access to the service privacy and savings, in time and effort. This is because, registered customers can use the service through electronic gadgets containing the program, by inputting their account numbers and passwords and select the intended command to conduct financial transactions. In the case of electronic banking, ATM machines are now located in several remote areas which offer similar transactions that can be conducted in the bank and even on a 24hour basis.

Inconvenience may be caused by queuing in the bank or having delays in the service probably due overcrowding at retail centres also limiting services to certain working hours at the bank or agent stores which may not be favourable to all users. Privacy also is assured since the customers do not have to disclose their details to anyone to conduct their transactions. In addition, legal and technical procedures are put in place to ensure security and safety of their customers.

According to Fakhraddin et al. (2003), trust in mobile and electronic banking can have two important types; these types are initial trust and continuance trust. The former is created when the customers uses mobile banking for the first time. On the other hand, continuance trust is created over time resulting from the continued use of the services. Convenience and perceived usefulness have evidently proved to be the most important factors affecting the



usage purpose, that is, initial trust and continuance trust. When customers understand the usefulness of a service they tend to develop initial trust, that is, trust prior to the experience and this consequently enables them to use the service in the future, which means continuance trust.

Perceived ease of use as well as quality also captivates customers and influences initial trust. Initial trust is also influenced by information from friends, advertisements and relatives who may have had experience. The trust formed initially also influences the trust to continue to use the service provided or continuance trust.

In their article Jonathan and Camilo, (2008), expounded on the mobile payment systems in the evolving world. As we discuss mobile banking as a form of electronic banking, we come across various terms such as m-payments, m-transfers and m-finance. These jointly constitute a set of applications that allow one to access their bank account, store money in their accounts, transfer funds, access credit and insurance products. In most developing countries the services are in urban areas or towns only hence it becomes difficult for those living in rural and remote areas to get access to use banking services. Mobile and electronic banking therefore makes it more accessible due to more people having mobile handsets as compared to those with the bank accounts. It is even more affordable to own a mobile handset than to have an account because it takes more money to open an account. In addition, with this service, users are able to manipulate their accounts through their mobile handsets at anytime without the need to go to a bank to transact and pay transaction costs or over the counter fees.

According to Porteous, (2006), there is no universal mobile banking system; rather, the system varies from one country to another. This system offers a variety of financial services which includes, micro finances, payment of bills, utilities and long-distance remittances. These services are entirely offered by banks with the help of telecommunication companies but others involve partnership between banks and telecommunication providing firms.

As Porteous, (2007), suggests, new technologies offer spectacular ways of conveying money from one place to another as well as providing alternative means of payment by banks etc. Some of the developing countries around the world that have adopted this technology of mobile banking or electronic payment include Kenya, South Africa, India and Philippines. For instance, about twenty million Philippines use the technology provided by mobile operators, 'SMART and Globe. Money may be sent overseas from the country using the Smart Padala product. Competitor Globe made entry into the the m-payment market in 2004 with G-Cash an e-money products are used to make remittances transfers and payments; in South Africa, 450,000 people are the users of "Wizzit: "the bank in your pocket"; and in Kenya, almost two million users registered with Safaricom M-Pesa system in a year of its countrywide rollout.

Focusing on the aspect of trust, Porteous, (2007), termed it as a cross cutting idea because people can chose to trust or not to either their own skills, the interface, the set-up through which their funds travel, the agents or the institution itself (i.e. service provider). Next we turn to the issue of trust and its importance in electronic and mobile banking.

Mobile banking as an innovative technology is rapidly gaining popularity and acceptance would best be assessed using the Technology Acceptance Model (TAM). (F. Davis 1989). As explained in Davis (1989), the framework resulted from another theory of rational action (TRA) by Ajzen and Fishbein 1975. TAM aims at building a foundation on our understanding about user acceptance and adoption and behaviour towards mobile banking technology. The theory explains the variables that make users to consent and use new technology. Acceptance of the technology means having the intention and desiring to use the system.

The theory suggests that the simplicity and perceived effectiveness, determine one's developmental intention to use a technology, which has been connected to successive behaviour. The empirical research was carried out on the computers to determine the factors that influenced the users to accept and use computers. Perceived effectiveness and simplicity is believed to make work easier and effort free.

New versions of the theory TAM called TAM2 and TAM3 have developed which added new variables to the original model.

In general, the model focuses on the users', point of view by focusing on two variables namely; perceived simplicity and perceived effectiveness, with the intention of bringing in many more factors to explain the acceptance and adoptions of new technology.

### **2.3.1 Why trust is important.**

One major question to ponder upon is why we should focus on trust when discussing mobile and electronic banking. Trust is important in business transactions because its absence hampers economic transactions (Rousseau et al 1998).

If we view the mobile and electronic banking and other transactions under the umbrella of online payments, it is clear that security and privacy subjects are increasingly becoming major concerns. This is because customers want to know if their money is being handled in a secure manner. Trust is generally vital in many sensitive interactions that involve uncertainty. Customers are uncertain on the transactions taking place and how they take place. They are unaware of the appropriate procedures also, they may not be informed of the technicalities with respect to where or how their money is being handled.

A study conducted in Indonesia by Yulia& Chulmo (2010), found that quality of information, perceived usefulness and end-user satisfaction are necessary in building trust in a mobile banking. The customer`s perceptions of a bank or service provider`s attributes such as history of the bank, position roles etc. may influence the customer`s behaviour. In this business, trust is important because it helps customers to have confidence in the service provider and overcome perceptions of uncertainty thereby engaging in trust related deeds such as sharing information with vendors, sharing personal information or making purchases. They also define personal-based trust also known as initial trust. They define initial trust as trust that exists among people who are unfamiliar to each other.

Here actors do not have any meaningful credible information about each other and therefore embark on a vulnerable situation with the expectation from the other part. The

customer has expectations from the service provider that they will handle their money well and even if they do not have any information or prior experience with the service.

Customer trust affects service provider's commitment; this is because trusting the service provider increases the likelihood that an emotional bond will develop, particularly if that trust is rooted in positive feelings for the financial institution. According to affect-based trust literature, trusting principles might develop swiftly even before the parties have important information. This means the customer may form trusting beliefs beyond rational assessment, often emotion based. An emotional bond develops, and our feelings for the trustee further increase our willingness to accept vulnerability. Affect-based trust acts as a leap of faith in the face of uncertainty about trustworthiness. (McKnight et al. 2002).

According to Kim et al. (2009), Usefulness can be assessed in terms of benefits, output quality and tangibility in results which affect both the initial trust and equally the adoption and usage of the technology. Electronic and mobile banking is a very useful technology that cuts cost, time and energy. This is because it costs much less than other means of transfer and is also as fast as a text message. Customers prefer technologies that would be simple in terms of use and where the least effort is required. The invention of smart phones has contributed to the fast increase of mobile banking which made the service easier to use. Factors affecting the adoption of the technology vary widely across countries. This could be due to differences in cultural, economic and political conditions prevailing in different regions. However, there are also some inherent setbacks that come along with the handsets themselves.

The mobile phone screens may be too small in size and may have very complicated texting mechanisms, such as those that need high data storage, have connection instability, dysfunctionality and a short battery life that would surely pose challenges. Furthermore, people might find it hard to know how to operate the service, in particular those that are illiterate. Simple and basic training should therefore be offered by the financial institutions to enhance confidence in the users so that they can adopt the technology. Although there are several challenges facing the implementation of mobile banking, customers have entrusted the technology sufficient to be more willing to learn how to use it and cope with the challenges.

According to Harrison (2003) one of the ways in which trust is earned in mobile and electronic banking, is through a good relationship established between the customers' and the service provider. This depends on whether the agents have a good rapport in representation and presenting with the good intention of promoting the company. Customers need to feel that their welfare is put first and they are taken seriously showing much value put on them. Of great importance is the customer behavior and relationships in establishing the trust.

The customer's personality traits can have influence on whether trust would flourish or not, as we shall discuss further and also the service providing firm should endeavor to establish a relationship with their customers in order to gradually develop trust.

As a matter of fact, electronic payments are prone to thefts and other cyber crimes hence it involves risks making customers reluctant to use the service. According to Harrison (2003), perceived risks by customers can be reduced by making available more information that is vital and beneficial, to customers. This requires the understanding of the nature and type of information for presentation. When customers are aware of the latest information regarding them, they feel involved and this enables trust to be built between the customers and the company. Communication is important in establishing trust this is because their complaints can be acted upon. Customer Relationship Management (CRM) refers to practices, strategies and technologies that most corporations use to control and examine customer relations and information throughout the customer lifespan, with the aim of improving business dealings with customers, helping in customer retention and driving sales growth. (Margaret, 2014)

CRM is an initiative that attempts to provide concern and maintain customers and avoid defection rates. CRM helps in building trust, solidifying relationships through dialogue with customers enabling confidence in the service enabling them to look forward to a better future. It also reduces perceived risks by providing more information available to the customers. Trust also offers a way of reducing defection rates, meaning reducing costs and increasing revenues as well.

According to Frederick (1996), Defection rate is the rate at which existing customers switch from the service they receive from a particular company to another either through voluntarily abandoning or switching to another competitor. Reducing defection rates hence means retaining customers. Research shows that reducing defection rates as little as 5 points from 15% to 10% defection per year can double profits.

Customer retention is much cheaper than acquisition of new customers. This means that in order for service providers to save on their income with the intention of making profit just like any other business, they should endeavor to keep and maintain their customer base than to acquire new users.

Existing customers ensure a continuous flow of money because they are continuously using the service and have no start-up costs; in addition, they are also more likely to bring in new customers.

(Gefen 2002), states that there is a high cost involved in drawing new customers into the electronic banking business and it becomes relatively difficult to retain them hence making the loyalty of the customers as an indispensable asset for several online dealers.

Greater profits and revenue can be realized from older customers because more money is even required to attain new customers. For instance, it would cost much more to acquire new customers by offering discounts and incentives in order to attract new customers, meanwhile maintaining older customers through establishing a relationship where trust can be build would cost less. Customer trust in a service would create a faithful customer base which would reduce defection rates. This brings us to the concept of loyalty in trust where customers are faithfully, consistently and continuously using services from a specific company for a long time.

“Loyal customers are also more likely to speak well of the vendor to other potential customers, which increases the customer base without incurring any additional advertising cost (Zeithaml et al. 1996).”

Having customer trust, also builds confidence between, the company and the customer. The customer trusts the company to act on their problems when the need arises and also when there are cases of inconsistencies, customers can at least trust that they will be

compensated or will be informed of corrective action especially through structural assurance, i.e. reimbursement for financial damages that may have resulted from the errors of the service and protection of customer information and confidentiality. On the other hand companies need to thrive in the knowledge of their customers' confidence and trust, because this way they will have a solid customer base to rely on.

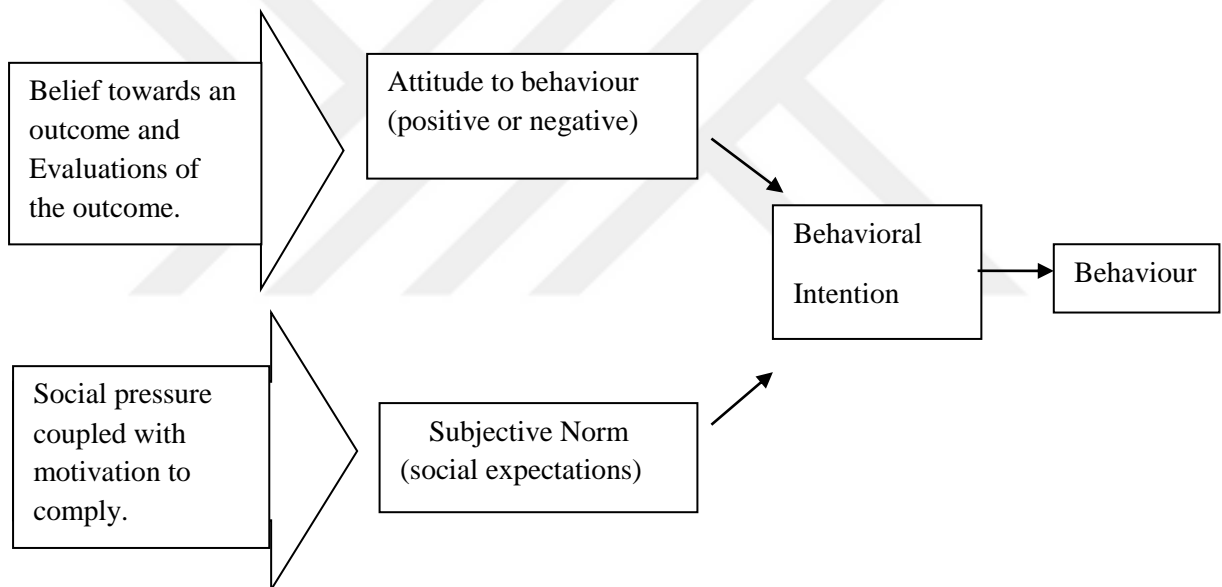
Competence and commitment may also result from trust in the business relationship between customers and companies. This is because when customers have trust in a company, the company staff will work towards upholding their reputation for trustworthiness through their expertise and commitment in providing their services and products. Reputation is hard to acquire but can be easily tarnished. Companies therefore work hard to maintain both their customers and employees for the purpose of their reputation. They do this by ensuring that most importantly; their services meet the needs of the customers. The company also treats its employees well with respect and in ethical manner. They ensure the quality of their products and services are high or up to standard.

Due to the physical separation between the customers and the service providers in electronic transactions, trust in vendors or agents therefore play key role in mediating especially for the initial trust in new customers. Hence vendors or agents must ensure that a good relationship is maintained with the customer. Vendors can affect the way customers perceive the service. For example according to the Theory of Reasoned Action, developed by Martin Fishbein and Icek Ajzen (1975), action predicts behavioral intention which is determined by behavioral attitudes and biased norms. This means that the act of reasoning or thinking as a cognition element can determine behavior. Another variable is subjective norm that determines behavior intention. Subjective norms refer to social pressures that arise from people's perception, while attitude refers to a personal feeling or opinion about something.

For instance, an individual's attitude may also be influenced by social pressure. This model of psychology aims to describe the correlation between attitudes and behaviors with human action. The purpose of exhibiting certain behavior is determined by attitudes to behaviors and subjective norms.

Social pressure may occur when customers can be coerced by peers and friends who may have expert knowledge, to use the mobile and electronic banking services. They may also reason out with their peers' advice and develop the intention to adopt the technology with an attitude of adopting the service would be convenient and would benefit them thereby adopting the service.

Figure 1. Theory of Reasoned Action by Fishbein and Azjen (1980)



The diagram above explains that for a behavioral outcome, such as the one in this case, “adopting mobile and electronic forms of banking, to come by, the customer should intent to perform this behavior. This intention is usually regulated by the customer`s attitude towards the performance. The customer`s attitude or social pressure towards the behavior, is affected by his or her beliefs about the outcome and the motivation to either give in to social pressure or not. For instance; if an individual wants to perform an actual behavior of transferring money using electronic banking with an ATM machine, an evaluation of the outcome would be a fast, time saving and convenient transaction. This will create a positive attitude towards the behavior hence create an intention to perform the behavior. In



addition, behavior intention may also be affected by subjective norms such as social pressure from family and friends to engage in a behavior coupled by willingness to comply by this subjective norm. If an individual needs to use mobile banking to send money to another, his family or friends who have been using the service may coerce him or her to adopt the behavior which may lead to positive attitude towards the service and behavioral intent to adopt the banking technology.

Trust influences an individual's approval of a technology and loyalty to that technology, this is because as we have discussed earlier when trust develops from a relationship, the customers tend to develop loyalty once trust is established. (Gefen, 2002) As explained by Lillian et al (2012) trust is required in various life relations and therefore reduces complexities in interactions. Where the need arises for both the customer and the service provider; a sense of trust may develop. This is because both parties need each other, the customer needs services from the financial company while the company needs the customers to earn revenue and make profits. Each of them is vulnerable in the sense that they have no control over what will happen to them, they can benefit or not benefit as well, because any of them may decide to take advantage, so both are expecting integrity from each other as well. In this case both of the parties uphold integrity to maintain the relationship and therefore refrain from any behaviors that would threaten the relationship, thereby creating a sense of loyalty. The customer becomes loyal and the companies as well abide by their principles in serving the customers to their level best. Service providers would upgrade their security systems to prevent security breach, loss or fraud and to make systems favorable and affordable to their customers, this is very essential in combating cyber crimes. On the other hand when customers perceive affordable, convenient, fast and safe ways to transact they are even enticed and will be positively influenced to adopt the technology.

Chris and Adina (2010), conducted a study both in the USA and the UK. They came up with three results that discuss the importance of customer trust in customers and electronic banking service providers. According to this study the reason why trust is important in this sector is that it provides improved communications, a sense of care for the customer and an assurance of high level of competency and conduct from employees.

Improved communication involves both clarity and quality of communication such that there are no surprises for the customers. This leads to customers being at a better position with their service providers. This includes, updating customers on changes in the system that help them save money, giving warnings to them with respect to alerts on important procedures that concern their services before taking action, keeping customers informed on simple and easy to understand policies as well as explaining to them the terms of customer contracts.

Providing customer care, on the other hand, gives customers a sense of being 'looked after' which leads to; making them feel valued. This way, customers feel that they are put first above their service providing company's own profit. Offering existing customers the same benefits as new customers is another dimension of offering customer care. Here service providing companies do what they should do to maintain personal relationship with the clients

When genuine trust exists between the company and the customers, a high level of competency and conduct is expected from employees. This is related to the dimensions of trust, which include benevolence, goodwill, integrity and transparency. The company acts in a manner that is in favor of its employees due to which, there exists courtesy and customer focused relationships for the employees. Customers become more knowledgeable about company policies and staffs are trained to a very competent level to be able to handle customer concerns. This makes all staff of the company including sales agents to become more honest, polite and customer friendly.

There are certain factors and attributes that when present in an individual or society propagate trusting qualities in individuals. This according is a vital aspect to consider when discussing this topic of trust. While some of these factors could be personality attributes that one possesses others may be shared societal values.

Customer trust can be a result of third party relations that have been found to impact trust. Existing social structures may shape a person's reputation based upon a third party's ability to tell stories that may communicate one's trustworthiness or the lack of it. (Burt &

Knez 1996) It could also be the result of attributes of the other party, such as the other person's competence, concern, openness and reliability, (Mishra 1996).

“Religion also enhances trust among community members. Religious behaviors may promote trust between members from different communities and therefore increasing the confidence between members. (Richard 2005).”

Hofstede Greet (1980) discusses five national culture dimensions and their effects in society, and how these values relate to behaviour. G. Hofstede proved that culture may affect the values and behavior of a society, including the ability to trust. A major cultural dimension that may affect the societies is uncertainty avoidance, which is deduced as the level of tolerance about doubt and ambiguous circumstances. The empirical study finds culture can cause differences in people's behaviors and attitude.

Channels of establishing trust are different in societies. High uncertainty avoidance means that a society is rules-oriented, people in this society lack of innovation, they are not comfortable with new things, they can barely tolerate uncertainty of the new technology and ambiguous situations; while people in low uncertainty avoidance societies, have a high tolerance to uncertain situations, they are comfortable embracing new ideas change, as well as new technology.

### **2.3.2 Problems of trust in mobile and electronic banking**

As discussed before trust means having positive expectations, which are usually accompanied by positive feelings such as, hope, security and self-confidence. Distrust on the other hand indicates negative expectations towards others. It is having little no confidence in the other person. It may be accompanied by negative emotions such as suspicion, fear, and worry. “Research report of mobile banking users in China in 2012” indicated that the size of the mobile banking users attained 98 million by the end of 2012, and is expected to exceed 300 million by the end of 2015. Yao et al (2013)

Due to the inherent uncertain nature of mobile payments, trust is believed to influence directly or indirectly the intention of adoption and acceptance of mobile payments because mobile services are exposed to various uncertainties and uncontrollable consequences.

These include loss and theft of mobile devices resulting in identity theft or inconveniences such as frustration and unavailability of mobile payment services caused by network failure, data pilfering attacks, to name just a few examples, (Dismam & Darlene 2014).

As reported in (Yao Huili et al (2013), distrust as a problem of trust is mainly caused by high uncertainty avoidance, which shall be discussed in detail later on. High perceived cost, which is the total cost spent by the customer that is involved in using the service from purchase of the gadgets to registration and other miscellaneous costs that when compared to the traditional mode of banking may prove to be expensive. High perceived risk and other security concerns, for instance; if the institutions lack the latest and advanced technologies to combat cyber crimes and third party access, then the customers may not feel safe and sense a lack of privacy and hence distrust in the technology.

Uncertainty avoidance is a cultural dimension which refers to the degree of tolerance about an uncertain or ambiguous situation. (H.Greet 1980). A society with high uncertainty avoidance means that the society tries to avoid uncertain situations. It is reluctant to take risks, accept new ideas and changes it means the society does not tolerate new things or ideas outside the social norms.

Customers might hold a hesitating attitude toward mobile banking because being a new IT product in the market.

A society with high uncertainty avoidance is not receptive to new things or new ideas like new technology. In high uncertainty avoidance cultures, customers lack innovation; they have low tolerance about uncertainty of new technology and ambiguous situation making it difficult to establish trust. On the other hand, a society of low uncertainty avoidance will be more willing to be risk takers, and attempt heneu technology hence establishing trust is much easier.

Risk may develop from the technology, for instance, if the financial institution is not able to provide services from a secure platform. When the perceived risk is high, it means that the customers may not achieve desired goals and may develop negative emotions and there is likelihood to distrust the technology.

Low levels of trust may not necessarily mean total distrust in mobile banking. Some customers may not have a strong confidence in the company and hence a low level of trust. Distrust on the other hand may result from perceived risk as discussed above, or prior negative information of the technology that may discourage prospective clients of the technology. Customers may chose to trust a technology out of prior experience. Others may choose not to trust due to lack of knowledge concerning the technology but they may not have certain distrust towards it.

According to a report by Herhalt, online payment systems and governments are prone to cyber crimes and attacks.

The systems may be hacked and customers' money may be stolen without the acknowledgement of service providers. For instance, if a third party hacks into a customer's account details, the customer may suffer real loses. Trust is therefore important because financial institutions have to acquire up to date technology to ensure tight security.

Some of the reasons that can lead to distrust could be, perceived risks such as technical risk such as fraud or virus infection and Privacy disclosure risk. Perceived high costs can also discourage customers from the technology including transaction costs or equipment costs.

## **CHAPTER 3: RESEARCH DESIGN**

### **The Method: Literature Review**

I have reviewed management journals in (Academy of Management Review, Journals of Financial Service Marketing, Management Science, Management of Information Systems Quarterly, Journal of Association for Information Systems, International Journal of Service Industry Management etc). I also included other journals that are exclusively known for mobile banking which include Journal of Universal Computer Science, International Journal of Mobile Communications and Journal of Scientific Management and Development.

In conducting the survey, the criterion for inclusion used was in search for articles that specifically addressed electronic banking and trust and those that addressed mobile banking.

### **3.1 Selection of Journals and articles**

Relevant journals highlighting the determinants of customer trust in mobile and electronic banking were identified from various databases. The search engines used to gather the journals used for this thesis include Sage publishers, Web of Science, Science Direct & Google Scholar databases. Some of these databases were found in the school library website.

The search strategy was used, was to identify journals by opening the search engines, and typing key words at the basic search tab. That is, “electronic banking, trust”, “mobile banking, trust”. Articles and journals from the publishing years 2000-2016 were selected and the search was conducted. The process of finding relevant articles was done based on the content which was addressing the topic at hand. This included journals and articles addressing finance, banking, electronic commerce, electronic banking, organizational trust, customer trust etc. An analysis of these articles was made starting from the most recent publications to the earliest. This was done firstly by studying the topic and abstract content and recording.

From the results of the database, we sorted out a number of journals and articles that were relevant to my thesis topic. The basic search was reset in order to find more papers from the previous years, that is; 1990-2016. The procedure was repeated and the results finalized the search and all possible articles and journals written concerning trust and mobile and electronic banking were assessed. After recording, I made a table of the articles and journals to be examined.

The method of analysis involved examining the articles and journals found, by selecting those with high impact-factors, proper empirical findings, relevant scope of study, and noting the number of citation received. Tabulation of these relevant articles was made, highlighting the determinant factors of customer trust in electronic and mobile banking in these papers. After this, a summary of the outstanding and common determinants of consumer trust noted in the articles will be discussed.

### **3.2 Determinants of customer trust in electronic and mobile banking**

I conducted a systematic review of literature on customer trust in mobile banking and electronic banking. I examined what actually determines customers to trust mobile and electronic banking usage. I therefore have carried out a review of articles which is a synthesis of selected and analyzed academic literature done on customer trust on mobile and electronic banking to come up with a coherent reliable result.

The following article gives the findings of a research survey by alumni of Johannesburg University. The research question of the project was “What are electronic banking customers' view on information safety when using Internet banking services and products?” The article to a large extent, discusses the positive impact of electronic banking has on the lives of several users. It also highlights on the negative effects of this technology such as individuals and institutions reporting cyber crimes, viruses, scams and internet security breach.

On a positive note, most of the financial institutions in South African have incorporated the most recent and highly advanced security mechanisms and technologies to ensure safe and secure internet banking experience. In the case of individuals adopting the technology, the

author also views trust in his survey as a significant issue in electronic banking and defines trust in simple words i.e. rational decision made by the user, basing on the general involvements as a customer over a relatively long period of time.

Second, some customers would look at the development in another angle i.e. claimed that internet banking would be safer and honest if the service received was steadfast. It is therefore, critical and important that the Internet banking service is functioning competently and without errors or even close to perfect. Customers' first use of the product or service plays a very vital role in the creation of the initial trust. Thirdly, research findings in this article were classified into a number of sections. The determinant factors of customers to trust were categorized in;

- IT knowledge, skills and abilities of the financial organization
- Insights of trust formed active and passive users of internet banking
- History/journey of Internet banking.
- Authentication or security processes.

The author considered the choice of financial organization of the customer and their frequencies of internet banking in those exact places. It was noted that institutional trust which leads to the selection of a particular bank is a primary source of trust in Internet banking. It was noticed that institutions that made significantly tangible savings in the Internet banking; combined with its extensive history in the banking sector, have promoted a solid customer base. Therefore, it can be concluded that this extensive and great percentage of their customer base makes use of Internet banking products and services. We realize customers prefer or feel secure and can trust such well established banks that have a large customer base when using electronic banking technologies.

Another determinant factor of trust is authentication and security; clients may not be well-equipped with IT knowhow and these insufficiencies increases the likelihoods of being targeted by cyber attacks although a number of clients feel secure because they trust their financial institution to use the suitable technologies to guard their financial data. Only a few percentage of the studied group felt some level of insecurity. Education is a critical



factor to the individuals on how to use electronic banking and institutions should broaden the knowledge of their clients on their electronic banking services and products in order to maintain the customer's trust.

Another aspect the author discussed that may influence customers to use this technology is convenience of service. All respondents agreed to the reliability and quality aspect of electronic and mobile banking because it removes the necessity of going to a bank branch.

Functionality is also another aspect. This involves enhancing the customers banking experience. This also had a positive outcome since most clients mentioned that they can fulfill majority of their banking requirements through the internet platform provided by financial institutions. Transactions are user friendly and this makes the customers feel empowered.

In terms of internet banking costs, customers would rather use electronic banking than to visit a branch. In several occasions customers are likely to evaluate the 'cost' of time queueing at a bank and the possibility of becoming a crime target when exiting a bank and compare with the payment of the Internet banking services and products and conducting electronic or mobile banking transactions from their offices or their home or even from an Internet café.

Mobile and electronic banking is also viewed as convenient and fosters long term relationships. In terms of convenience, e-banking can be done 24hours a day from any location. The author argues that electronic banking customers are the main corner stones in establishing a fruitful and long-term relationship as most of the customer financial needs are met online.

Electronic banking as seen has grown gradually and a number of respondents also preferred more convenient forms of e-banking such as via the mobile phone which is always available and convenient at any time of need.

Another article written by Lilliana et al titled "Trust and security in E-Banking adoption in Romania," indicated that trust and security are among the core and top most factors that significantly determine customers' approval of the service like banking. The article

reviewed measures taken by the government of Romania and major banking institutions to address security concerns of the service as its gaining popularity and attention.

In this article the authors discussed the factors put forward that were found to impact individuals so as to adopt E-banking technology. They were categorized into three groups depending on the perspectives they are viewed in. (Noor 2008).

1. Technological characteristics
2. Individual attributes of adopters
3. Environmental factors

#### 1. Technological Characteristics

According to Moga et al (2012), the technological factors are those that pertain to the technology itself. Simplicity of use, that is; if a literate or even an illiterate person can use. Usefulness, this includes the importance of the technology to the people's lives, trial ability and playfulness where there may be other functions are also available to experiment.

#### 2. Individual attributes of adopters.

These are the individual characteristics of the people, such as trust, which is referred to as the readiness to rely on an ex-change partner in whom one is confident with- (Moor-man, Zaltman, and Deshpande 1992). For someone to adopt this technology they must be willing to trust in it as well as the bank and service provider.

Another attribute, is the attitude; which can be either positive or negative after evaluation of something, in this situation, one's attitude towards electronic and mobile banking is vital before adopting the technology. Chaiken and Eagly, define attitude as "a psychological propensity articulated by assessing a particular entity with some degree of biasness or non-biasness. Self-efficacy is yet another attribute i.e. it is the belief in the ability of oneself to carry out a task. Albert Bandura defines self-efficacy as the people's principles about their ultimate abilities to produce chosen levels of performance that use power over events that impact their lives in one way or another. Self-efficacy principles govern ways in which people generally think, feel, motivate themselves and have observed behavioral control, personal innovativeness and trust being the second category in factors that are associated

with the individual attributes of adopters. Perceived behavioral control and personal innovativeness are examples that fall in this category to mention but a few.

### 3. Environmental Factors

These include factors that affect the acceptance of the technology. They are those that are related to the external or social environment. These factors include the subjective norm, external control beliefs and facilitating situations. These include; the extent to which the technology is publicized, the social pressure to engage in the technology or not to and facilitating conditions such as availability of phones or banking devices and internet to carry out banking services, social pressure and all.

Taking into consideration this definition, the willingness of a customer to transact online is absolutely related to the degree of trust which is influenced by familiarity. It is well known that familiarity breeds trust.

The authors discuss that trust and security are amongst the pivotal factors that influence an individual to accept technology. Their unwillingness is linked to their perceived level of security and trust in safeguarding their confidential information. All banks in Romania offers e-banking services, however security features provided by those banks are not the same and need to be established, especially mobile banking services. In conclusion, individuals can adopt a technology once they can perceive technology.

Going back to the proverb that says “Familiarity, Breeds Trust” (Ranjay& Maxim 2008), talks of two forms of trust. The scholars sort to delineate between the two major forms of trust; interpersonal trust and Inter-organizational trust. Interpersonal trust refers to trust that exists between individuals and the latter, exists between institutions or entities. In their article, the scholars have long suggested that extensive histories of interactions between two firms can provide increased opportunities for the development of trust between them. Those determinant factors that influence customers trust towards individuals or entities include familiarity created by long histories of interaction among them. Long extensive history of interaction is more likely to develop stronger partners, build confidence and integrity as well as learn each other’s competence.

In this article, electronic banking services is discussed under one umbrella of ``E-banking`` put into three classes: Home Banking and Mobile Banking and Internet Banking. This being a very crucial part of my study, the three forms are clearly defined.

A journal written by Shumaila, John and Gordon (2009), discuss the determinants of customer trust to internet banking in general. Some of the relevant aspects discussed include the factors that influence the propensity to trust. "Trust in e-commerce is motivated by the trustworthiness of the online vendor and that of the web-shopping medium, circumstantial factors and the individual's trust inclination. Lee and Turban (2001)"

Security and privacy are also major determinants of trust in online electronic transactions. It is only after security issues are addressed, will customers take the consideration to use such technology.

Another determinant for customer trust is experience. Trust is build and fostered over time. If the customer has ever had a successful transaction before, the past or the experience may influence and probably foster trust between them. Trust therefore grows when the two parties sustain a relationship over time. The customer's perceived risks generally reduce with experience and fondness of the service provider. Once trustee acts according to the expectations of the party to be trusted, then trust begins to grow between them. For instance, Jarvenpaa, Tractinsky, and Vitale, (2000) believed that in the initial stages, trust in e-banking depended on the performance of technology, its effectiveness and efficiency before being adopted.

According to Yousafzai et al. (2003), identifies the determinants of trust in electronic banking. As they suggest, trust has three unique features: ability, benevolence, and integrity. Ability in this case would mean the customer believes the service provider can perform the task. Benevolence would be the extent to which the service provider or bank want to do good to the customer, the profit motive and finally integrity means the customer believes that the bank or service provider performs in an ethical manner to fulfil the promise. All these three qualities are important to safeguard and protect customer information and hence lead to security and privacy.

Trust is connected with lower supposed risk and comprises of customers' perceptions of security and privacy. In order for customers to rely or adopt mobile banking, its dependent on whether the technology is safe and that there is a sense of privacy. The greater the level of customer trust, the lower their perception of risk and hence positive intentions which leads to a situation whereby trust positively influences intention.

Another article reports a case study conducted by Marion Mbogo on the impact of mobile payments popularly known as M-Pesa on the success and growth of small businesses in Kenya, states that perceived security is important to have and trust in the agents as well as the payment system. When customers perceive a system whereby they can secure their accounts with a personal identification number (PIN) and signatures they feel secure. Furthermore, they can go about their daily duties without cash, meanwhile retain their virtual money that they can access anytime at a very low fee from the many local agents around the country.

Firstly, Yulia & Chulmo (2010), define information quality as the proficiency of data offered to help customers or users. Information quality dimensions include; accuracy, this means the information has to be correct otherwise wrong and inaccurate information may make the users doubt the service and distrust the whole service. It also has to be current; complete and up-to-date information is necessary for customer trust, since service providers are always improving their technology and offering new services. Proper, well presented information is also crucial because customers are usually captivated by great displays of captivating offers, immediate responses, and other high quality information that helps to reduce level of risks. Reliability also refers to dependability of system operation and accessibility is the simplicity with which information can be accessed by the customers through the media. The customers with the perception that the system is of high quality will also assume that the information system has positive features and will begin to have trust on it.

Perceived usefulness in this sense is the extent to which a user totally believes in the idea that he or she will benefit from using the mobile banking technology. Trust moderates the influence or effect of information and system quality on perceived usefulness. The

customers must perceive how useful the technology is. At the same time, trust can be developed on the method used to evaluate the technology basing on a grouping of many factors i.e. technology certainty, consistency and utility concept of information given and within a specific context. The customers believe they will meet their expectations in terms of what they predicted the service will offer, how reliable it is, the efficiency, expected interaction and other benefits from the service. The value of the system and technology partially mediated the effect the customers` willingness to trust.

User satisfaction has been associated with perceived usefulness and vice versa. When customers experience pleasurable level of consumption-related fulfilment in the m-banking service systems they find it useful to their transactions which have a significant impact on the user satisfied. The results also show that a higher level of trust is positively associated with performance views of the system.

A journal by (G Kim et al. 2009), explains that there are four types of trust-causing forces: institutional formalities (Structural assurance), cognition (perceived benefits), personality (Personal propensity) and firm characteristics (firm reputation). The trust of the customer is certainly anticipated to be a very vital factor in the attainment of the m-banking services as explained by the authors. In the journal the author describes m-banking as transactions conducted with the use of a mobile phone via mobile network or internet.

The first type of trust inducing force is Institutional offering or structural agreements which are in form of contracts, laws, policies and regulations that will enhance initial trust between the involved parties. This is mainly due to the nature of the service. The channels by which this service is carried out may result in opportunistic behaviour hence these agreements help to build a sense of confidence in the clients. These structural assurances generally include compensations for financial losses, protection of customer private information and all these are vital in the formation of customer trust. Customers want their privacy in information and transactions so they would want to know who may access their details and also during transaction, if money is sent to the wrong party, are they able to stop or reverse the transaction.

Cognition or relative benefits are those beneficial factors that exist in the service that add more value to the traditional forms of the same service. Mobile banking for instance offers greater value of convenience than the traditional form of banking and this makes the customers to be captivated by the service prior to experience with the service.

Personality /Trust propensity is the ability of a person to rely on something or someone to perform a specific task. It is intensely grounded in the personality. According to Bandura`s Social learning theory, a person`s inclination to trust is learnt and shaped at the early stages of life by parents. According to Rotter (1967), customers with greater levels of interpersonal trust are increasingly likely to be trustful and treat others fairly and are more likely to be happier than individuals with low interpersonal trust.

Firm reputation is also a factor when influencing customers` initial trust in services. Since it is hard to assess the quality of a service before experiencing it, some customers rely on referrals or word of mouth from relatives and friends. This affects the customers` perception of the service and confidence in the firm.

Mainly as discussed in this journal, is the aspect of institutional-based trust and how it is enhanced by various factors among the institution and customers. This trust is presumed to influence usage directly and individual as well as social acceptance. In the journal, research indicated that initial trust was evaluated in terms of precision, safety and consistency of mobile banking as a financial service.

A study conducted by Koufaris and Hampton-Sosa discusses `The development of initial trust and in an online company by new customers`. The authors define trust as the will to have faith on the third party after the first interaction. Results show that a financial institution`s reputation and security significantly affected initial trust. The reason could be because of the web-based interaction especially when it involves electronic online banking where transactions such as sending and receiving money. A company known to be fair, honest and reputable manner results in customers developing trust in them and a firm that has a good reputation build over time will be hesitant to throw away their efforts of building it.

Most customers may not be able to predict whether to trust or not to trust. They therefore depend on the opinions of others who have had previous experience. Due to the evolving

nature of trust, the successive interactions between the customer and company may change the initial trust. Initial trust also determines if there would be any future interactions taking place between the customer and the service providing company.

For a customer to employ trust in a transaction there must exist uncertainty and risk or vulnerability so that they have expectations of a certain outcome. The perception of risk is based upon ability, which refers to the skills and competence to perform a certain task. Integrity; this refers to the moral and ethical principles acceptable and expected from each party. Finally, benevolence, it refers to the general goodwill towards the customer.

According to findings from the study, the perceived size of the company is directly associated with initial customer trust. Customers often make the assumption that large companies have the ability required to provide them with a range of services and support they want hence gaining more trust in them. They also assume that large companies are at a better position and more willing to reward them in the case of faults or incorrect transactions.

### **3.3 How customers develop distrust in electronic and mobile banking**

If indeed trust and distrust are distinct, bipolar constructs, then we can assume that distrust will also influence user intentions to use a website. When faced with expected undesirable eventualities and charged with the negative emotions accompanying distrust then customers will probably use their internet banking less or not at all. (Benamati, 2007)

Distrust is mainly affected by perceived cost, uncertainty avoidance, perceived risk as discussed earlier. High uncertainty avoidance means the society does not tolerate ambiguous situations. They may lack innovation and have a low tolerance to new things, new technology and are rules oriented. A low uncertainty avoidance society means the society has a higher tolerance and embrace new things, new technology for instance U.K and Denmark. Unfortunately, a country with high uncertainty avoidance such as France, Greece Turkey such technology may take long to be embraced in the society probably due to uncertain unforeseen consequences of technology. Greet, (1980)



The biggest challenge is the high perceived danger which negatively affects trust in mobile and electronic banking. When the transactions seem to have many loopholes, such as, technical risks such as virus infection and avoid fraud it stirs up negative emotions which lead to distrust. Privacy disclosure of identity numbers, passwords also leads to distrust in the technology. Apart from privacy disclosure, there could also be monetary risks which can lead to distrust. Monetary losses are likely to occur due to the uncertain nature of the Internet, which is hard to be controlled by the web retailer or the consumer. This can occur even though, retailers have an important influence on the security of the transaction medium, and verification is of utmost importance (Salisbury 2001).

Another aspect that can lead to distrust is a bad reputation risk. A reputation is a company's credibility formed by past social interactions to the public or potential customers and users. Customers may distrust overall mobile banking business due to the mobile network operator's reputation to the public. Negative customer's opinion, recommenders and information as well as banks showing lack of capacity in handling disputes and responding to critical issues, may lead to customers to be skeptical of the financial security and risk the reputation of the bank itself. (Yao et al 2013).

Perceived high costs also has an effect on customer trust, if the cost of the technology outweighs its benefits then customers will be reluctant to use it. The cheaper the costs incurred in mobile and electronic banking the greater the intention to use the service. Internet banking also incurs transaction costs. However internet banking can incur costs which the user or customer may not be aware until the bank statement is revealed to the customer about the expenditure. In addition, due to the nature of electronic banking using debit cards or smart cards, customers may end up using more money than intended because they are not able to see the amount spent. Some customers also may use credit cards which can always give the impression of having money available anytime anywhere.

This has been known to lead to financial strain to many customers who are spend thrifts. Therefore, use of credit cards is not a wise way of purchasing especially to people who are not able to manage their finances or plan budgets bringing about negative emotions which can lead to distrust.

Although banks may resort to offer discounts for mobile banking users as well, to encourage users, such measures may only produce incentive on a part of customers, and cannot maintain a long-term trustworthiness or loyalty in the business. (Pavlov 2003). It may only have a very short term effect and once the discount period is over, things may get even worse.

Tables below are summaries of the discussed literature on the determinants of customer trust in mobile and electronic banking.



### 3.4 Table showing key determinants of trust on mobile and electronic banking

No:	Title of Article/Journal	Author	Publication Journal and year	Year	Citations received	Impact factor	Scope of Study	Definition of Trust	Determinants	Determinants explained
1.	Customer perceptions on Internet banking Information Protection	Andrè Redlinghuis & Chris Rensleigh	Journal of Information Management,	2010	7	1.11	Trust in Internet Banking	Trust is described as a willingness to engage or to withdraw respectively.	<p>Recommendation from peers, family relatives and acquaintances.</p> <p>Authentication and security of the service</p> <p>Education and giving information to customers.</p> <p>Reliability and quality of the service.</p>	<p>Word of mouth and experiences of the service from acquaintances promotes user trust.</p> <p>Data security and safety mechanisms such as authentication principles enhances users' trust.</p> <p>Educating clientele on new products or vital information enhances user trust.</p> <p>Offering relevant and quality services enhances user trust and perception</p>

									Functionality.	of the service. Functionality includes meeting the needs of the customers, enhancing user's internet banking experience which motivates user trust.
2.	The perceived quality of an electronic service: Effects on online trust and commitment: the case of E-Banking	Kaouther Jridi, Mohamed F. Djlassi <sup>2</sup> , Fatma E. Bakini	Unit of Research & Applications in Marketing	2016	13		Electronic Banking	Trust is a psychological variable that reflects a set of accumulated assumptions about the credibility, integrity and benevolence that consumer attributes to a	Perceived quality  Ease of Use  Security and Privacy	This is the effective and efficient delivery of service and products which, it encompasses; Ease of Use, Security and privacy, Design and look, sound to make the experience enjoyable. Reliability which is ability to fulfill promises terms of trade. Interactivity also which is a forum for chat, criticism and social

								brand.		interaction. These positively influence the user internet trust.
3.	The Factors Influencing Customer Usage Of Mobile Banking Services In Jordan	Mahmood et al.	Trans Steller Journal Publications, 2014	2014	1	4.99	Trust in Mobile Banking	-	Assurance,  Ease of use,  Communication,  Speed of transaction,  Pursuance,	Legal agreements, contracts and policies that enhance customer trust.  Easy to learn and use motivates trust in technology.  Communicating important transactions motivates trust in mobile banking.  Time spent in using mobile banking is less which motivates trust.  Customers can pursue their bank transactions at any time and anyhow which motivates usage intention.

									Experience,  Habit,  Knowledge.	<p>Prior experience has a negative impact on perceived usefulness and trust of mobile banking.</p> <p>Customers formed a habit of using offline banking which discourages mobile banking.</p> <p>customers with limited knowledge in the use of mobile banking are willing to continue to use conventional banking.</p>
4.	Why trust is important in customer relationships and how to achieve it.	Tina Harrison	Journal of Financial Service Marketing	2003	22		Customer trust in e-business and financial institutions	A generalised expectancy of behaviour that can be derived from beliefs of acceptable behaviour or norms, that	Competence,          Communication,	<p>Customers are able to evaluate a company's expertise and ability to meet customer needs which increases trust.</p> <p>Maintaining open dialogue and giving vital</p>

								can based on previous experience of the financial institution	Structural assurances or contractual safeguards	information enhances trust  An act of trust occurs when the customer has confidence that the financial institution will honor its promises.
5.	Trust and Security in Electronic Banking adoption in Romania	Lillian Mihaela, Khalil Md Nor, Mihaela Neculita and Naser Khan	IBIMA Publishing	2012	3		Electronic Banking	Trust refers to a degree of an individual willingness to be vulnerable to the actions of others. (Mayer et al 1995)	Individual Attributes  Security.  Ease of Use	They includes user's attitude, self efficacy and perceived behaviour which when positive enhances user trust.  Customer protection and safety enhance user trust and acceptance of service.  The easier it is to use the service the more the trusting levels.

6.	Multi-dimensional role of trust in Internet banking adoption	Shumaila Yousafzai, John Pallister and Gordon Foxall 2009	The Service Industries Journal, 2009	2009	57	2.58	Internet banking	Trust is the willingness to perform banking transactions on the Internet, expecting that the bank will fulfill its obligations, irrespective of the customer's ability to monitor or control the bank's actions on the Internet	Security and privacy  Individual trust propensity.  Performance of technology,	Security and privacy determine the extent to which customers can trust and feel safe in transacting  It is rooted in personality and determines propensity to trust in mobile banking.  Performance in terms of quantity, quality, and timeliness of information enhance trust
7.	Toward an Understanding of the Mediating	Chulmo Koo and Yulia	Journal of Universal Computer	2010	11		Mobile banking	Trust is the degree to which people	Quality of information	Quality and presentation of information on mobile banking motivates trust



	Role of "Trust" in Mobile Banking Service: An Empirical Test of Indonesia Case	Wati	Science 2010					believe a firm is dependable in protecting customer's personal information.	Perceived usefulness User satisfaction Security of personal information and security in making purchases.	and influence customer satisfaction. Perceived usefulness is a key determinant to trust Information quality motivates end-user satisfaction which enhances mobile banking Security concern is vital since it establishes trust in mobile banking
8.	Understanding dynamics between initial trust and usage intentions of mobile banking	Gimun Kim, BongSik Shin & Ho Geun Lee	Information systems Journal 2009	2009	180	2.07			Assurances, Cognition,	Assurances include formal agreements that induce initial trust formation and prevent opportunistic behaviours. Customer perceived benefits that influence a customers' intention to

									<p>Personality,</p> <p>Firm characteristics</p>	<p>trust.</p> <p>Personality characteristics like attitude and beliefs determine the ability to trust</p> <p>A good company reputation represents, ability, goodwill and integrity which increases trust.</p>
9.	The development of initial trust in an online company by new customers	Marios Koufaris, William Hampton-Sosa,	Information Management Journal, 2004	2004	789	1.87		Trust is the willingness of a trusting party to rely upon a trustee with the expectation of a certain beneficial outcome or that the	<p>Reputation of the financial institution,</p> <p>Security,</p> <p>Web design</p>	<p>A good reputation is major determinant of initial trust formation.</p> <p>Security measures when in place enhance trust.</p> <p>Perceived web site usefulness, ease of use, and user friendly sites motivate initial trust.</p>

								trustee will not act opportunistically		
10.	An Investigation of Initial Trust in Mobile Banking	Fakhraddin Maroofi, Fatemeh Kahrarian, Marzieh Dehghani, 2013	International Journal of Academic Research in Business and Social Sciences, 2013	2013	2	-	Mobile Banking	Trust reflects a willingness to be in vulnerability based on the positive expectations towards another party's future behaviour	Convenience, Easy and swift access, Privacy, Perceived usefulness,	Mobile Banking is convenient which enables users to trust and use service. Ubiquitous easy access to financial services Easy access enhances user trust. Privacy of users information motivates trust in the service. The user's subjective probability that using a specific application system will increase performance will enhance trust Legal and technological

									Structural Assurance	structures to ensure payment security which enhance user trust.
11.	Examining Multi-dimensional Role of Trust and Multi-faceted risk in Initial Acceptance of Emerging Technologies: An Empirical study of Mobile Banking Services	Luo Xin Li, Han Zhang, Jie Shim,	Research Gate Publications	2010	183	2.31	Mobile Banking	Trust is a general inclination in which people show faith or belief in humanity and adopt a trusting stance toward others.	Relationship among trustees, Disposition trust, Structural assurance, Self Efficacy,	A good relationship among trustees increases trusting beliefs. Those with high disposition to trust are more likely to feel comfortable to use technology. Structural assurances encourage trusting beliefs Belief in customer's capabilities to use technology. The higher the level of self-efficacy, the

									Perceived risk,  Performance expectancy,	higher the level trust.  A high perception of threat reduces trust levels. A high expectation of job performance the high the intention to trust
12.	Understanding Factors affecting Trust in and Satisfaction with Mobile Banking in Korea: A modified DeLone and McLean's model	Lee, Kun Chang Chung, Namho	Oxford Journals	2009	138	1.27	Mobile Banking		System quality          Information quality	Perceived quality in the system, such as; technology appearance, speed of navigation enhance user trust and satisfaction.  Quality, up-to date and relevant information to the users enhances user trust.

	perspective									
13.	An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust	Lin, Hsiu-Fen	Journal of Information Management	2011	135	2.04	Mobile Banking	Knowledge based trust is about trust built through repeated interactions, also known as experienced trust.	Perceived relative advantage,  Ease of use,  Compatibility,  Integrity,  Perceived competence	The benefits of the technology enhance trust in technology.  The easier the use the technology the higher the level of trust.  Compatibility of user and technology occurs when technology fits with adopter's existing values and current needs, leading to positive attitude leading to trust intention.  When companies maintain their standards becomes a foundation of trust  When a company performs its responsibilities the potential users develop

										positive attitude which enhances trust.
14.	An empirical examination of Initial Trust in Mobile Banking	Zhou, Tao	Emerald Group Publishing Limited	2011	73	1.66	Mobile Banking		Information and system quality,  Perceived risk,  Structural assurance,  Personal propensity to trust.	Timely, accurate and relevant information as well as speed of use and layout affect initial trust.  High perceived risk discourages trust in the service.  Structural assurance as an institution-based trust mechanism has been found to affect users' initial trust  A user's natural tendency to trust have positive attitude towards technology.
15.	Understanding users' Initial	Zhou Tao	Elsevier Journals, 2012	2012	50	2.69	Mobile Banking	Initial trust refers to the	Perceived security,	High sense of customer information protection

	Trust in mobile banking: An Elaboration likelihood Perspective							trust developed during the first interaction with mobile banking	<p>Perceived ease of use,</p> <p>Information quality,</p> <p>Service quality, structural</p> <p>Self efficacy, Structural</p> <p>Assurances</p> <p>Reputation.</p>	<p>enhances trust</p> <p>The easier the technology the more encouraging to use and develop trust</p> <p>Regular and constant customer information dissemination enhances trust</p> <p>Service quality enhances perceived usefulness which enhances continuance trust</p> <p>Self efficacy or belief in self ability to use technology has a positive effect on initial trust</p> <p>Legal structures positively affect user initial trust. Reputation exert its effect as peripheral cues because</p>
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										reputation represents a prominent trustworthiness signal
16.	Examining trust in mobile banking transactions: The case of M-PESA in Kenya	Olga Morawczynski & Miscione Gianluca	IFIP International Federation for Information Processing	2008	39		Mobile banking	Trust is a relation between two or more individuals, or institution interacting in some way and have expectations regarding each other's future behavior	Institutional trust relations	It includes an element of interpersonal trust, because institutional leaders can greatly affect the way in which the entire institution is perceived. Institutional trust enhances trust in the technology.
17.	A proposed model of e-trust for electronic banking	Yousafzai, Pallister, Foxall,	Technovation volume 23, Issue 11	2003	135	2.53	Electronic Banking	Trust is a psychological state which leads to the	Disposition to trust	Having the consistent tendency, or trait, to be willing to depend on others which enable trust.

								willingness of customer to perform banking transactions on the internet, expecting that the bank will fulfill its obligations, irrespective of customer's ability to monitor or control bank's actions	Institution based trust  Trusting beliefs  Perceived security  Perceived privacy	The disposition to trust is influenced by the bank by creating measures to reduce perceived risk associated with transaction process.  The perception of competence, benevolence and integrity of the web merchant or bank.  A sense of security and privacy by providing protection against threats and giving users the ability to control and monitor information for themselves increases trust levels.
18.	Strategies for building and communicating trust in electronic	Yousafzai, Pallister, Foxall,	Psychology & Marketing	2005	66	1.13		Trust is the willingness of customers to perform on-	Structural assurance	User's trust because of contextual conditions such as regulations, guarantees, and legal recourse

	banking: A field experiment							line banking transactions, expecting that the bank will fulfill its obligations, irrespective of their ability to monitor or control the banks' actions.	Situational normality	including privacy policies.  Intention to trust develops when the situation is normal; that is, privacy and security, customers' testimonials, website design and quality.
19.	How to improve trust toward electronic banking.	Munoz-Leiva, F. L. Martinez, Teodoro Sanchez-Fernandez Juan	Online Information Review	2010	20		Electronic banking	Trust is the expectations that other individuals or companies with which one interacts will not take improper	Structural Security  Web quality	The authors found that consumers who feel safer with the internet banking are more likely to trust the service.  Maintenance of websites by offering banking services and sensitive information promotes trust

								<p>advantage resulting from the dependence one has on them”.</p>	<p>Situation normality</p>	<p>in the service.</p> <p>Trust and usage intention is expected when the situation is normal. Normality can take various forms from a recognized brand, reputation, comments and evaluations of the technology.</p>
20.	Analysing user trust in electronic banking using data mining methods	Liebana-Cabanillas, Noguerras, R.Herrera, J.Guillen.	Expert systems with applications	2013		2.24	Electronic Banking	<p>Trust is viewed as a key element in building long-term relationships</p>	<p>Socio-economic factors,</p> <p>Financial status,</p> <p>Behavioral and</p>	<p>Age, gender, education level, income level and possession of a mobile phone affect the level of trust in technology.</p> <p>Financial products and services distributed to bank branches that add value to clients and intention to trust and use the technology.</p>

									strategic variables	The purchasing behaviour and broad marketing and advertising strategies positively influence users trust
21.	Trust and security of electronic banking services in Saudi commercial banks: Saudis versus Non Saudis opinions	Mahdi Shereif, Mohamed Osman.	African Journal of Business management	2011			Electronic Banking	Trust is the customers' confidence in the bank's integrity and effectiveness in providing better electronic banking services to its users.	Security	Saudis' had a strongly believed how the electronic banking using ATM services are very secure, compared with Non Saudis opinions owing to advancement in IT sector
22.	An Empirical Study on Mobile Banking Adoption: The	Zhenhua Liu, Min Qingfei, Shaobo Ji.	Browse conference publications	2009	18		Mobile Banking	Trust is the willingness of a party to be vulnerable to	Trust in vendor,	Trust in mobile banking vendors positively affect one's general trust

	Role of Trust							the actions of another party based on the expectation that the other will perform a particular action important to the trustor.	Structural assurances,  Trust in technology	These are contextual conditions like contracts are critical determinant because it enhances trust and violators face serious consequences.  Trust in technologies supporting the service was also found significantly and positively affect one's formation of general trust
23.	An empirical study on trust in mobile banking: A developing country perspective	Malaquias, Rodrigo F. Hwang, Yujong	Computer in Human Behavior	2016	3	2.69	Mobile Banking	Trust is the obtaining confidence in an exchange partner with a degree of uncertainty in an exchange relationships between	Trust –assurance,  Personal innovativeness,  Task characteristics,	Legal agreements that compel potential users to trust in mobile banking.  The willingness of an individual to try out a technology has a positive effect on disposition to trust.  People who need to transfer money and

								buyers and sellers	Social influence and  Risk perception	manage accounts timely, somehow, they need to trust in technology to perform their activities  There's a kind of trust transference in which people tend to trust in mobile banking since other important people for them trust in it too. Risk perception can generate a negative effect on trust.
24.	Technology Trust and Mobile Banking Satisfaction: A Case of Malaysian Consumers	Masrek, Mohamad Noorman, Intan Salwani Daud, Norzaidi Omar,	2 <sup>nd</sup> International Conference On Innovation, Management And Technology	2014			Mobile Banking	Trust is defined as the willingness of customers to perform on-line banking transactions,	Importance of technology  Significance of technology	This is the perceived importance to the user influences trust in the technology  This refers to the importance or use of the

		Normah	Research					expecting that the bank will fulfill its obligations, irrespective of their ability to monitor or control banks' actions		technology and the impact it has on the user
25.	The Effect of Institution Based Trust on Mobile Banking Utilization	Masrek N., Mohamad Omar N. Hashim, Dang,	(ICIBET) 2013 Advances In Intelligent Systems Research	2013	1		Mobile Banking	The trustor's belief that favourable conditions are in place that are conducive to situational success in an endeavour or aspect of the trustor's life	Structural normality  Structural assurance	It is an assessment that the transaction will be a success, based on how normal or customary the situation appears to be.  It is the assessment of success due to safety nets such as legal recourse, guarantees, and regulations that exist in a specific context.



26.	Adoption of mobile banking model based on perceived value and trust	Xiong, Suping	Innovation Management and Industrial Engineering	2013	1		Mobile Banking	Trust is having a degree of uncertainty of economic transactions without face-to-face communication for mutual benefit.	Perceived benefits  Perceived value	Benefits such as social value, and perceived enjoyment enhance trust and adoption intention.  That is perceived value the technology has on users, the universal value added services enhance trust
27.	Examining Trust in Mobile Banking: A Conceptual Framework	Masrek M. Noorman, Uzir Nor'ayu Ahmad, Khairuddin, Irni Iliana	International Business Information Management (IBIMA) Conference	2012	1		Mobile Banking	Trust is the belief that allows individual to willingly become vulnerable to the bank, the telecommunication provider and the mobile	Situation normality,  Structural Assurance  Competence,	Trust in the technology is likely because one feels comfortable when using it.  Trust in the technology develops when structural conditions like guarantees, contracts, support, or other safeguards exist.  Trust develops when the technology is able to

								<p>technology after having their characteristic embedded in the technology artifact”</p>	<p>Benevolence,</p> <p>Integrity,</p> <p>Functionality</p> <p>Perceived usefulness</p> <p>Reliability</p>	<p>perform what the trustee needs enhances trust</p> <p>When technology service providers’ are caring and have motivation to act in the customer’s interest</p> <p>When service providers’ act ethically, honesty and keep promises.</p> <p>The technology has capability or features to do what it needs to be done which enhances trust.</p> <p>Trust develops when the technology provides adequate and responsive help for users</p> <p>Trust also develops when the technology will</p>
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										consistently reliably operate properly.
28.	Factors Influencing Initial Trust Formation in Adopting Internet Banking in Indonesia	Ceva Lavenja Arahita, Jurry Hatammimi	International Conference on Advanced Computer Science and Information System	2011	1		Internet Banking	Trust is a persistent propensity to be willing to rely on others in general across a wide scope of conditions.	Perceived security  Relative benefits  Individual trust propensity  Perceived reputation	Perceived privacy and security only derived positive impact on the usage intention  Relative benefits of Internet banking positively influence one's initial trust  One's trust propensity positively affects his/her initial trust formation in Internet banking.  Perceived reputation, especially government support on banking company positively relates to one's initial trust.

29.	The Effect of Online-to-Mobile Trust Transfer and Previous Satisfaction on the Foundation of Mobile Banking Initial Trust	Shan Chu, Yao-bin Lu, Scornavacca Hu	Eighth International Conference on Mobile Business	2009	6		Online to Mobile Banking	Trust transfer means transfer of trust from one domain, such as offline, to another, such as online	Structural assurance,  Compatibility,  Relative advantage	Trust develops when customers feel safe due to structural safety nets like contracts, guarantees that increase institutional-based trust  When the technology is compatible with user's existing values and needs, of potential adopters that could enhance trust.  These are benefits like convenience, flexibility and other perceived advantages that users perceive which enhance trust
30.	Factors influencing the adoption of internet banking:	Ming-Chi Lee	Electronic Commerce Research and	2009	285		Internet Banking		Perceived benefit	Faster transaction speed, increased transparency among other financial benefits enhances trust.

	An integration of TAM and TPB with perceived risk and perceived benefit		Applications						Perceived risk	Perceived financial risk, security risk, performance and social risk negatively influences trust but when perceived to be low positively influence trust.
31.	Investigation of Factors Influencing Consumer Initial Trust and Intention to Use Mobile Banking Services	Lee Ho Geun Kim Gimun, Kim Won- Woo	Korean Management Science Review	2005			Mobile Banking		Propensity to trust,  Structural assurance,  Advantages of services	Individuals' character and disposition or tendency to trust can enhance trusting behaviours.  Presence of regulations and safety nets enhance trust.  Benefits or relative advantage of the services enhances user trust.

**3.5 Table showing the summary of table 3.4 (determinants of trust on mobile and electronic banking)**

<b>Determinant of trust</b>	<b>Author</b>	<b>Determinants Explained</b>
<p>Perceived risk, Security and Privacy</p>	<p>Andre Redlinghuis &amp; Chris Rensleigh Lillian Mihaela, Khalil Md Nor and Naser Khan Shumaila Yousafzai, John Pallister and Gordon Foxall Chulmo Koo&amp; Yulia Wati Marios Koufaris, William Hampton –Sosa Fakhraddin Maroofi, Fatemeh Marizeh Deghani Luo Xin Li, Han Zhang, &amp;Jie shim Zhou Tao Munoz-Leiva F. Martinez, Teodoro Sanchez-Fernandez JuanMahdi Shereif &amp; Mohamed</p>	<p>Customers who feel safe with this technology are more likely to trust in the service. It is therefore important to ensure security and privacy in the system. Data security and safety mechanisms that ensure customer information protection such as authentication principles motivates prospective users to trust in the technology. This includes protection against security breach, viruses and theft. It also involves giving users the ability to control and monitor their banking transactions. Among electronic banking services, ATM’s are the most trusted, secure and frequently used electronic banking service. Perceived financial risk, security risk, performance and social risk perception can generate negative effect on trust.</p>

	<p>Osman.</p> <p>Ceva Lavenja, Jurry Hatammimi.</p> <p>Ming-Chi Lee</p>	
Structural Assurance	<p>Mahmood Jasim, Saad Galiba, Dima Mousa, Ihab Ali &amp; Husam Mustafa</p> <p>Tina Harrison</p> <p>Gimun Kim&amp; BongSik Shin &amp; Ho Geun Lee</p> <p>Luo Xin Li, Han Zhang, &amp; Jie shim</p> <p>Tao Zhou</p> <p>Yousazai, John Pallister and Gordon Foxall</p> <p>Malaquias Rodrigo, Hwang Yujong</p> <p>Maesrek N, Mohammed Orman Norzaidi , Hashim,</p> <p>Shan Chu, Yao-bin Lu, Scornavacca Hu.</p>	<p>These are legal agreements, such as privacy policies, contracts, guarantees between the prospective user and the service providing company that enhance trusting beliefs. These safety nets exist to enable the involved participants to honour their promises and prevent opportunistic behaviour. Violators of these agreements face serious consequences. Particularly, as a result of lack of direct experience, users may depend much on these structural declarations to build their trust in mobile banking.</p>

	Lee Ho Geun, Gimun Kim.	
Perceived Quality and Performance	<p>Andre Redlinghuis &amp; Chris Rensleigh</p> <p>Marios Koufaris, William Hampton –Sosa</p> <p>Chulmo Koo &amp; Yulia Wati</p> <p>Lee Ho Geun, Gimun Kim.</p> <p>Zhou Tao</p>	<p>It refers to the provision of services and products to the customers in a more effective and efficient manner. Quality includes how information is presented to the customers, the technology appearance as well as speed of navigation among others. It reflects the performance of the service as well as the value the service adds to the lives of the customers. When customers perceived usefulness of the service to the customers which is the belief from the user’s individual likelihood that using a specific application will increase performance. This enhances the customers to continue using the service which is continuance trust. This trust is build up as a result of the technology providing adequate receptive help for users.</p>
Ease of Use	<p>Mahmood Jasim, Saad Galiba, Dima Mousa, Ihab Ali &amp; Husam Mustafa</p> <p>Lillian Mihaela, Khalil Md Nor and Naser Khan</p> <p>Fakhraddin Maroofi, Fatemeh Marizeh Deghani</p> <p>Lin Hsiu-Fen</p>	<p>Ease of use is the level by which the potential user presumes the system to be without any exertion of too much effort. That is, the users are able to use the service independently without the intervention of other people like to device ways to make the service easy to use. Ease of use certainly influences initial trust. The perceived ease of use of a technology’s enhances trust, reliability and will also influence the degree to which the technology is used.</p>



<p>Personality or Individual attributes.</p>	<p>Lillian Mihaela, Khalil Md Nor and Naser Khan</p> <p>Shumaila Yousafzai, John Pallister and Gordon Foxall</p> <p>Yousazai, John Pallister and Gordon Foxall</p> <p>Luo Xin Li, Han Zhang, &amp;Jie shim</p> <p>Gimun Kim&amp; BongSik Shin &amp; Ho Geun Lee</p> <p>Ceva Lavenja, Jurry Hatammimi</p> <p>Lee Ho Geun, Gimun Kim.</p>	<p>The personality includes the user’s personal attributes such as attitude, self efficacy, personal innovativeness and other personal characteristics. That is; having a positive attitude towards new technology, having self belief to perform a task and innovativeness. These characteristics influence individual to trust and are rooted in the personality. An individual’s personality affects their enthusiasm to try out a new technology which affects the decision to trust. In addition having the reliable tendency or attribute to be willing to rely on others to try out technology can positively affects the disposition to trust.</p>
<p>Relative benefits and Usefulness of technology</p>	<p>Ceva Lavenja, Jurry Hatammimi</p> <p>Zhou Tao</p> <p>Chulmo Koo &amp; Yulia Wati</p> <p>Fakhraddin Maroofi, Fatemeh Marizeh Deghani</p>	<p>Relative benefits and usefulness is the importance attached to the technology, for instance convenience, flexibility, faster transaction speed increased transparency, lower transaction costs and comfort. The benefits also include the value added to the customer such as social value and enjoyment while using the technology which enhances initial trust. Usefulness of a technology is perceived when it provides adequate and responsive help to the users. The importance the technology gives to the customers motivate trust and intention to adopt the technology.</p>

	<p>Lin Hsiu-Fen</p> <p>Xiong Suping</p> <p>Ceva Lavenja, Jurry Hatammimi</p> <p>Maesrek N, Mohammed Orman Norzaidi , Hashim</p> <p>Shan Chu, Yao-bin, Lu Scornavacca Hu</p> <p>Ming Chi Lee</p> <p>Lee Ho, Gimun Kim</p>	
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### **Discussion of determinants factors customer trust in mobile and electronic banking**

Security and privacy is the first determinant, the authors discuss it as a very vital aspect to take into consideration before using mobile or electronic banking. That is, the storage, movement and processing of personal data is major determinant of trust this is because customers need to feel safe to avoid theft and third party interferences which will hinder the service. Trust is a very critical element necessary in forming a rapport such as that of a buyer and seller that is virtual and this involves risk and uncertainty.

Structural assurance is a formal institution-based agreement such as a legal contract, guarantees, and other legal recourse. The authors discuss that a well-detailed and easily understandable security policy that is publicized may increase the chances of the customers to trust the bank. Structural assurances are important because it creates an environment in which a person feels more safe and secure to take part and increases customer trust. These agreements ensure that there is no opportunistic behavior or violation of the agreement which would then have serious consequence.

Personality and Individual attributes are described as those personal characteristics that have an effect on the trust in the service. This is also a major contributing factor of trust to mobile banking. As discussed earlier, these characteristics include the self efficacy, high trusting tendency and attitude for instance. Since trust is viewed as a personal characteristic, personality theorists hypothesize trust as a conviction, expectancy, or feeling deeply founded in the personality and creates in the individual's early psychological development, also known as 'disposition to trust' (Mayer, Davis, & Schoorman, 1995). A greater disposition to trust enhances the development and maintenance of trust in the service. Since trust is associated with some element of risk, the choice to trust solely depends on the individual to embrace the service or not.

Relative benefits or relative advantage are major determinants of trust in mobile banking. They are those factors that inspire customers to trust in the service. Benefits such as convenience, reduction costs, comfort and flexibility enhance trust in the service. The authors see them as motivating elements that have a positive influence on customer

acceptance of mobile and electronic banking. This is because they provide adequate help to users of the service that non users may not benefit from.

Quality is seen as the effective and efficient delivery of services that motivates and influences users to trust in the service. Quality comprises of the factors that enhance the service different from perceived benefits. Quality of a service portrays the usefulness perceived by customers that will enhance their experience such as; presentation of the service to the customers, the low transaction costs and time, increased performance. The authors believe that the perceived quality will enhance users to trust in the service and therefore embrace it.

Ease of use is another outstanding determinant of trust that governs trust in the service. This is because, users look for swift access and simple technology for daily use that will allow them to undertake the banking-related duties more quickly. When customers perceive problem and effort free services they are motivated to use the service. Illiterate and less educated people are also able to benefit too from the service with continued practice thereby targeting a larger population especially in developing countries.

## **CHAPTER 4: IMPLICATIONS FOR THE M-PESA SYSTEM IN KENYA**

In Kenya banking has taken a step forward in the use of technology in the banking sector. The technology provides a platform for the provision of financial services through the mobile phones. In Kenya specifically, mobile banking was introduced into the market in the year 2007 through 'Safaricom' the country's largest mobile operator then and is still in operation. The technology has had several implications on the banking sector of the country.

As discussed by Ruth et al, (2014), seven years after the launch of this service, M-PESA has 20 million registered users and about 10,000 agents distributed across the country. There is evidently a huge increase in national money transfers; from 17% in 2006 to 52% in 2009, which has been attributed to the ease of money transfer through M-PESA agents. M-Pesa is a branchless banking service, which means that it allows its users to carry out basic banking transactions without the physical presence at a bank branch. The ongoing success of M-Pesa in Kenya has been attributed to the formation of a highly common, reasonable payment service with only limited participation of a bank. The customers can deposit and withdraw money using the network of agents that includes minutes or credit for prepaid mobile phone subscriptions. M-Pesa is run by Safaricom, a mobile network operator (MNO), which is not categorized as a deposit-taking institution (such as a bank). The service enables its users to:

- Deposit and withdraw money
- Transfer money to other users and non-users
- Pay bills
- Purchase airtime
- Transfer money between the service and a bank account (including some markets)
- Pay salaries
- Banking services (many banks have partnered with M-Pesa)
- Purchases
- Insurance

#### **4.1 What is M-Pesa and its impact on Kenya?**

The term `M-Pesa` refers to M-mobile and `Pesa` is a Swahili word meaning `Money`. Swahili is a common language in East and Central Africa. M-Pesa is a mobile banking application launched in Kenya, which enables banking transactions to be carried out over the mobile phone.

According to Tommy (2009), Vodafone which is the Safaricom's main company in the UK, gave funding to the Department for International Development (DFID) to establish an improved system for accessing financial services through the mobile phone platform in East Africa. Safaricom agreed to partner on the project but after conducting a pilot testing it was widened to be used as a general money transfer scheme. The pilot project was firstly implemented on October 11, 2005; other partners were Faulu Kenya, which is a leading microfinance institution in Kenya and the Commercial Bank of Africa and later on Safaricom officially launched M-Pesa in 2007.

Since then, Safaricom became the leading mobile network operator in the country as subscribers use this service to pay most of their utilities. The technology offers mobility in banking transactions anywhere anytime via a gadget such as a mobile handset, or a tablet as long as the gadget uses a SIM card. The SIM card has a user selected Personal Identification Number or (PIN) number which must be protected by the user since it can provide access to all account information. The application can be used to carry out banking transactions such as checking an account balance, depositing and withdrawal of cash, bill payments, transfers, and savings in a virtual bank account.

#### **Technical History of M-Pesa**

During the pre smart phone era of cell phones, the connectivity was mainly GSM or WAP. There were micro browsers on the phones that used WAP connection, which is an earlier and primitive version mobile internet for cell phones and some transactions were done by SMS even when there was no internet. At this era we had SIM application toolkit referred to as STK. This was in the pre smart phone era. According to Mark (2010), in 2007 Apple

announced the development of i-phone and in 2008 the first commercial android smart phone was released.

Safaricom as a GSM operator was already carrying out transactions way back in the pre smart phone era containing a SIM Toolkit STK and transactions were message-based transactions. Even up to date, the mode of transaction is message based via the STK and there is no need for internet to do banking. The SIM Toolkit (STK) has a menu that one can access on a compatible phone. The application will appear as a Safaricom icon on phone screen. This innovation comprises of a unique client-server model but up to date, there are no account numbers linked to users, rather, the phone numbers are utilized as account numbers since every individual has a unique telephone number. Therefore if an individual wants to send money using M-Pesa, they must have a Safaricom SIM card which is registered with M-Pesa. The receiver on the other end does not necessarily have to be subscribed although when collecting the money, he or she would pay extra transaction fees for the service. This system influenced many people from other mobile networks to purchase additional SIM cards for the benefit of the system. Unfortunately, this does not guarantee that all Safaricom SIM card owners automatically benefit from the M-Pesa System. This is because M-Pesa is an independent entity of Safaricom. In addition, money transfers are only made within the system this is because the software application is uploaded once the user registers with M-Pesa that is why users without smart phones or i-phones were can be able to use the service. See appendix diagram 4.

Since its introduction in 2007 during the pre smart phone era, M-Pesa technology has been adopted rapidly in Kenya and had positively impacted the lives of Kenyans and the country's economy. This raised researchers' and scholars' interest on the rapid adoption and growth of the technology and also the decision to entrust the technology particularly by the illiterate people. This technology of mobile banking by M-Pesa application does not create any money outside the banking system and sources its funds solely from the commercial banks. The money is then held by individual virtual accounts linked to phone number and is always the property of the users (i.e. Safaricom doesn't have access to this money).

Concerning security and licensing issues, M-Pesa is regulated by the Central Bank of Kenya. M-Pesa operates under a special licence from the Central Bank of Kenya (CBK),

just like all other banks and financial institutions which regulate deposit of money in the country. CBK permits telecom operators to offer mobile money services without having to partner with the bank, therefore, there's is no bank linked to the M-Pesa system. This system was designed with limits on how much can be transacted and stored.

In that respect, no more than 70,000Kshs can be transacted daily and the maximum account balance permitted is 50,000Ksh Cash-in, cash-out and person to person payments (P2P) transfers are limited to 35,000Ksh per transaction. That is, the platform that allows customers to transfer cash from one person's bank account to another individual's account mobile phone. According to Claire (2010), we see a great increase in the amount of deposits from a total of 380billion KES (equivalent to 360billion USD) in 2010 to 725billion KES (equivalent to 71billion USD) in September2013.

“However, M-Pesa has become very successful and the traditional banks have considered it as a serious competitor. In the beginning, these banks tried to limit M-Pesa by seeking regulations from the Kenyan government, but with time they have increasingly begun to offer mobile banking services with the intention of disrupting M-Pesa's monopoly of the mobile money market. Mwangi & Njuguna (2009)”

### **Registration and activation of the service for usage**

To register as a user, one is required to visit any authorised Safaricom dealer and purchase a Safaricom SIM card or give a telephone number for those who already have Safaricom SIM cards. He or she must provide personal details such as address and national identification number then a message would be sent to the person for activation including the M-Pesa pin number and secret word. Once activated the person can send, receive money or pay bills.

To access the M-Pesa service, one must be a registered user so as to activate the accounts. They are then allocated a personal electronic money account, or e-wallet. The user's phone number becomes the account number since the account is connected to the SIM card in the mobile phone. The system will then be used to send the money to both the registered Safaricom users and non-registered users, which is the most utilized service. This is done



through sending an SMS by selecting from a list of menu commands and entering a PIN number and then after the transaction is made a confirmation message is sent to the user. Other services received through a mobile via a virtual account registered by a SIM card include paying for goods and services, paying bills, deposits and savings, withdrawing cash and topping up airtime, through the mobile phone with (Frederik 2008).

McTuff (2016), shows the way M-Pesa service has extended to Afghanistan, South Africa, India and in 2014 to Romania and in 2015 to Albania

Diagram 10 in appendix shows countries with mobile money services. The majority of those countries are developing countries including African countries, South American countries and parts of the Middle East countries like Pakistan, India. “Over 200 million people in the world have already registered as a user of the service with 61 million active accounts, and the numbers are rapidly growing fast. It is evident that most of the users live in the southern part of the world, but it is also spreading out towards more developed countries, as Vodafone has already opened an M-Pesa service to Romania (Vodafone, 2014).”

According to Safaricom data from the website: <http://www.safaricom.co.ke/personal/m-pesa/get-started-with-m-pesa/register-for-m-pesa>, the basic requirements for registration is a national identification card or passport for foreigners, and other personal identification details such as name, address then fill a registration form and make copies of the same for records. M-PESA will then send an SMS containing a four-digit start key to the customer and agent confirming that the registration has been successful. Once the SIM card is registered into the system the application appears on the gadget and the customer is able to use it. To activate the M-PESA account, one has to go to the Safaricom icon that will appear on the screen of the phone and select the menu which is already programmed to the SIM card. From the menu, an activate option will appear and once selected the SMS sent by M-Pesa should be entered. The four-digit number is then entered again for confirmation. Once activated, the user can deposit money for future use. No payment is required at any stage of the registration process. The service is easy to use and is even available in both `English` and `Swahili` the local language.

The mobile payment agents are those individuals who have signed agreements with Safaricom mobile service provider to act on behalf of Safaricom, hence they are legally authorized to act on behalf of Safaricom. Agents firstly need electronic money or float order to be able to trade it for cash when customers make deposits. Float refers to a form of electronic money issued by Safaricom. Customers can pay bills, transfer money, withdraw money and also trade cash as well for those who would want to deposit money into their virtual accounts and the system goes on in that manner. The agents can start by having an equal amount of liquid cash and e-money for trading and they earn through different rates of commissions in the different volumes and values of transactions. The service has reached millions of Kenyans around the country especially the unbanked population who had no access to banking services. It was estimated to be about 20million customers in the year 2010, a growth rate of 61% from July 2009 to July 2010), Ondiege (2010). The same author also records through his research that there are more deposits than withdrawals in the service. This is a positive aspect because it shows that the application is used as a savings mechanism. Still on a positive note, the service generates significant returns and thousands of job opportunities to unemployed populations.

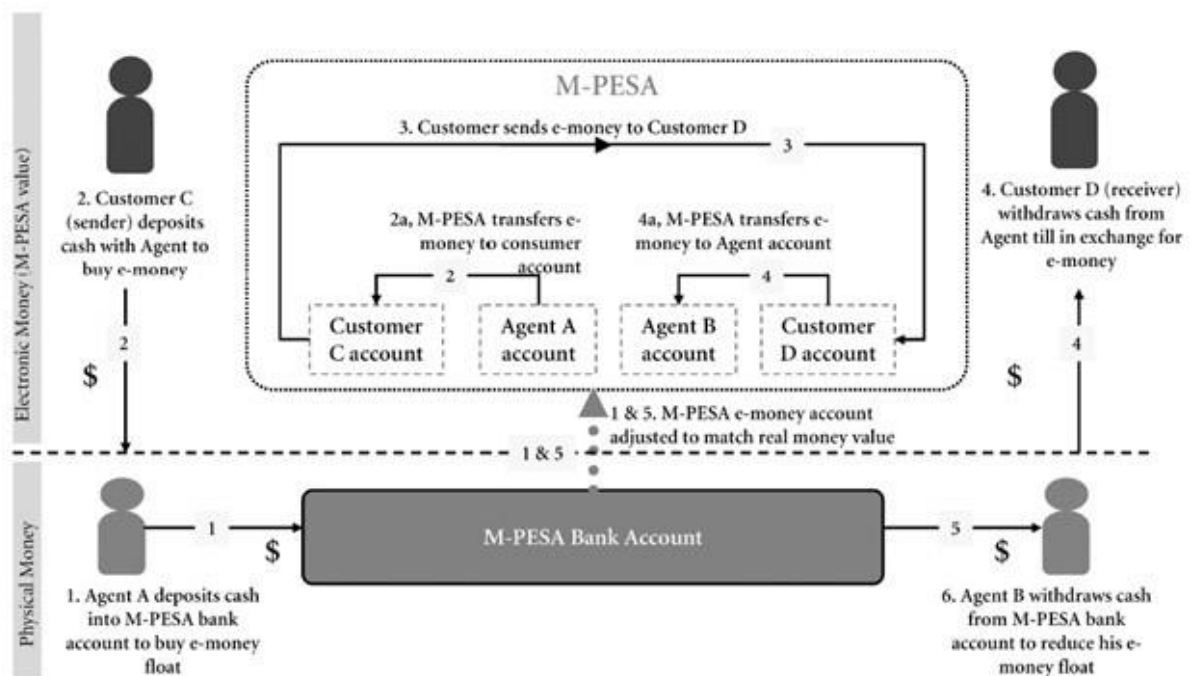
M-Pesa being branchless banking service allows its customers to deposit and withdraw money from a system of agents that includes airtime sellers and retail shops acting as their agents.

The service can be used by both Safaricom subscriber and non-subscribers. To send money, the first procedure involves depositing cash into the M-Pesa account. This is done by clicking the 'Safaricom' icon or menu and selects 'M-Pesa, then select the 'Send Money' option, enter the recipient's phone number and the amount to be sent as well as their PIN. After this simple process, the person will receive information on their screen that they are have entered above, (e.g., Send money to 0721 234567, KSh 2000) confirm that it is correct then Press Ok. A pop-up with the name of the recipient will appear on the screen as a confirmation of the name and number of the recipient to avoid wrong transactions. Both the sender and the recipient will receive an SMS confirming the transaction.

### M-Pesa money circulation

M-Pesa funds are not held or used by Safaricom, most of the money circulates in the system. The money is also deposited in several commercial banks, which are prudentially regulated in Kenya. In addition, the funds are held by a Trust and are therefore out of reach from Safaricom, which cannot access or use them. In the unfortunate event of Safaricom going bankrupt, the creditors of Safaricom would not have access to the M-PESA funds. This is a requirement from the Central Bank of Kenya which oversees M-PESA. The funds remain at all times the property of M-PESA users. (Claire, 2010)

The figure below shows how the money flow system



### Effects on people's lives

Mobile banking has had a massive impact on the peoples' life such as improving accessibility to financial services which has definitely eased their burden of queuing at the corridors of banks. People are able to access their funds without travelling far particularly those who live in sub-Saharan Africa (SSA). In addition, saving money through the e-wallet is possible as well as making purchases at retail stores is far much easier. According

to Ondiege (2010), Sub-Saharan Africa has the lowest deposit perception in the world standing currently at an average of 16.6% compared to 63.5% in other emerging countries except in countries like Niger, Burkina Faso, Cote d'Ivoire and Benin which have more deposits in Microfinance Institutions (MFIs), and Burundi in cooperatives and credit unions. Kenya also faces the same problem where only 19% of adult populations have access to formal bank accounts and the banking services are mainly restricted to urban residents.

In Kenya when we discuss mobile banking M-Pesa comes to mind. Millions of Kenyans are embracing the technology since its inception and thousands of agents have registered as sales agents thereby creating job opportunities for the people. The service has also enabled saving opportunities for the unbanked population among other benefits that come with having e-money. This innovation might have been a strategy for growth of the company, Safaricom, which has given birth to a major transformation in the communications and banking industry.

Morawczynski (2011), points out success stories of the use of this technology. Urban immigrants in Kenya, for instance, use the applications to transfer money to their families in the rural homes for reasons such as business, farming or holidays and special occasions. Rural users would also send money to urban migrants who are having financial troubles in the city or for school fees to their children studying at the city campuses while others may send gifts, dowry payment, hospital bills, funeral expenses, transport etc. In this respect, many customers put their trust in the technology for its convenience in their daily activities.

However, on several occasions, especially during the peak times, the systems become too congested and some transactions may fail. This results in several delays because they are either not processed in the system or are processed but the SMS that confirms the M-Pesa transaction to the agent and customer is not sent. This resulted in quarrels as the agents declared that in both of these cases; they were blamed and accused of stealing the customer's money after a deposit was made and no confirmation SMS received. After a

few days, though, the service goes through and the customer realises that it was the system that was at fault.

### **Effects on other sectors**

The dominance of M-Pesa has had a great impact on other money transfer companies. Since the introduction of M-Pesa, being used as a money transfer system there has been a decline in revenues and profits in Post Pay money transfer services. The Western Union and Money Gram also faced similar problems. This forced many money transfer services to reduce their transaction costs. In 2009, for example, Western Union formed a partnership with M-Pesa with the aim of offering international money transfers in which migrants in the diaspora could send remittances to their friends and family via M-Pesa with the Western Union playing a role of being an intermediate.

According to Ernst & Young (2009), the emergence of mobile banking service has made it possible for millions of people without bank accounts to access banking services across the nations even to the remote areas. Banking institutions have also taken advantage of these personalised services at their institutions where people with bank accounts can access their money by logging in through their phone and carry out transactions breaking distance barriers.

A report by Porteous (2007), discusses Sub-Sahara African countries that have similar m-payment systems like Kenya and South Africa and these countries includes Zambia, Democratic Republic of Congo (DRC), Ghana and Nigeria. Most of these are low-income countries, which seem to highlight the benefits brought in by the technology which play critical roles in Poverty alleviation.

In South Africa, MTN Mobile Money was launched in 2005 as a joint scheme between the second largest network operator MTN and Standard Bank a large commercial bank in South Africa. Just like Celpay, MTN mobile money uses software which is downloaded to a SIM card in order to carry out transactions. An account can be opened distantly through a

collaborating process during which voice recordings are taken for biometric verification. The mobile money starter packages are obtained from MTN agents and bank branches, By April 2005, it was reported to have 15000 clients.

There are other cases where very minimal deductions are made due to transactions and customers find it hard to believe and ask for proof from the agents that's this is a compulsory deduction. Then the agents have to explain to the customers and show evidence from a list of transactions some even call the customer care to get information. This shows the significance of trust in this relationship and makes it evident that trust between the customer and the service provider banks is very weak and fragile.

As explained by Porteous (2007), the International Money Transfer (IMT) service is an additional function to M-Pesa that enables financial services between Kenya and countries across the border to adopt this application. M-Pesa combined with any designated agent in the UK such as Western union and Provident Capital to enable the cheap and fast transfer of funds. There are a number of International Money Transfers organizations that have partnered with Safaricom to enable this service (please refer to Table in appendix diagram 1. Charges for sending money from the UK vary between £4 and £6.90, for remitting up to £250, which are only about 25% to 40% of the transfer fees charged by traditional money transfer channels such as Western Union. For this particular service the sender doesn't essentially have to be a registered M-Pesa user to be able to make the transfer but the charges are exceedingly higher for non-registered individuals than registered subscribers. On the other hand, any person can receive money via IMT.

#### **4.2 What are the current problems and concerns with this system?**

Market penetration of mobile phones extends to vast regions. A challenging aspect facing a number of marginalized regions is the issue of network connection and lack of signals in areas where the GSM network connection is unavailable. Low incomes and illiteracy are other obstacles in the acquisition of mobile phones in banking. These are most common in marginalized areas where the population is sparse, the infrastructure is poor and the people

live under a dollar a day. Very few people in these communities can afford mobile handsets or even hold bank accounts.

Safaricom as a mobile network operator has a competitive advantage to other mobile networks due to the M-Pesa system, hence their airtime charges end up being higher than other operators. Due to this fact, customers opt to using other mobile networks for the purpose of cheap airtime rates and minutes, SMS and internet packages.

In South Africa, for instance, internet banking has led to the increased number of the Information Technology (IT) benefits as well as problems and challenges. Among some of the major benefits of the advancement of internet banking is that of convenience, customers can carry out transactions right at the comfort of their homes instead of making queues at the banks. They also save time that would take to carry out these transactions.

#### **4.3 Customer Trust and M-PESA**

The institutional trust also plays a great role in customer service role. We find that despite the weak trust held by the customers who lack trust of the agents dealing with their money, they still opt to use these services because they have complete trust on the mobile network service provider Safaricom. This is evident that the trust relations between the customers and Safaricom are much robust than those between the customers and agents (Morawczynski, 2008).

Morawczynski further reports that the reason behind this customer trust could be because the company has a good reputation and strong history in Kenya. It has since provided mobile services since 1997. As of May 2008, the company was reported to have attained 70% of the Kenyan market, amounting to 9.5 million subscribers in a country of 36 million considering the fact that there are other mobile providers in the country. In addition, most of the M-Pesa users use Safaricom as their mobile service provider even before the M-Pesa service was launched.

According to Ernst & Young (2009), Safaricom being the leading mobile network operator, it has an excellent reputation and endeavours to safeguard it. That is why when it

comes to M-Pesa security they maintain transparency. CBK also ensures M-Pesa transactions are secure. Consult Hyperion (specialises in electronic payments) are appointed to carry out audits of the robustness of the M-Pesa platform. Consult Hyperion, in charge of securing electronic transactions in Kenya, scrutinized the entire M-Pesa IT platform in detail, with a specific view to guaranteeing that it could function safely in the Kenyan market. They verified the end-to-end encryption of the SIM card functionality, which consists of the personal customer data; studied the use of hardware security modules at the M-Pesa servers and confirmed that all business procedures had inbuilt security procedures, M-Pesa systems enable wide-ranging reporting and management so that every business activity could be checked, individually and on mass. This means that CBK could request precise information about the system audit stream, mainly liquidity management, clearing and settlement, and anti-money laundering processes.

In a case where the SIM card is stolen, it would be almost impossible to access someone else's details because of passwords that are set for the M-Pesa system and the card as well. This shall be discussed later on in detail. Safaricom also sends messages to its subscribers regularly through SMS and also using media for precaution measures when doing transactions to avoid fraud.

Focusing on the factors that enable customers to put their trust on this service, Mbiti, (2014) examined trust in m-banking transactions regarding the M-Pesa service in Kenya. Trust may exist between two or more social parties that may be individuals or institutions (i.e., corporations). Trusting parties assume that the other actor will accomplish their obligations, behave in an expected manner, and will act justly even in circumstances of speculation. The author looked at trust on two dimensions. Firstly he examined interpersonal trust between individuals, that is, between the customer and the agent. Secondly, he examined the trust that existed between individuals and institutions such as corporations or political parties. This is generally denoted to as institutional trust. This type of trust also has some element of interpersonal trust such that a specific institution may be dependent upon the trustworthiness of staffs. Using M-Pesa as an example, the author examined interpersonal trust existing between the users and the mobile service provider offering the service. The author's findings were based on the responses to the interviews with agents. The results show that deposits were larger sums of money that in comparison



outweighed the number of withdrawals. Though withdrawals were small, they were frequent. Customers claimed that they use the system in order to store money. They were also using the service for convenience purposes since they would not have to travel all the way to the bank, spending time and money for transport to access a bank. Hence, the fact that people stored large sums of money in the system show that their trust in the service is strong.

Morawczynski (2008), discusses that the CEO of the Safaricom Company is a well-renowned leader and has a close friendship with the president of the country. Trust is therefore seen as a vital element of customer-bank relationship as this case also illustrates, it's modelling the route of the M-Pesa application.

According to Tommy Omwansa (2009), various factors can explain the accomplishment of M-banking in Kenya. These factors have created a suitable opportunity for people to embrace adopt and entrust in the technology. These reasons can be summarised as:

1. The inspiring adoption of mobile phones.
2. The requirement to access financial services.
3. The low cost of mobile transactions.

The spread of mobile phone users has been tremendous as Tommy Omwansa reports an increase from 2% in 2001 to 39% in 2008 with the number of people adopting mobile phones rising to over 13 million as of December 2008. Kenya has four active mobile operators;

Among the operators are; Safaricom, Airtel, Esser and Orange. At the end of June 2014, Safaricom had the highest subscriber with 21,928,450, Airtel was the second with the total subscriber base of 5,068,765, Telkom Kenya Limited (Orange) which became third with 2,685,368 and then Essar Telecom Kenya Limited with 2,563,810 subscribers which was the fourth largest mobile phone operator in Kenya.

Recent reports on mobile phone subscriptions according to Omae .et al (2015) state that mobile phone subscription in Kenya had hit 32.2 million subscriptions by June 2014 out of

an estimated national population of 45 million as of 2014. Furthermore, the fact that Safaricom regulate such a great percentage of the subscription base offers M-Pesa the advantage it needed to spread widely very quickly. Only the registered Safaricom users can operate an M-Pesa account to send or receive money. Other mobile operators cannot use the service but they can receive SMS from other mobile network operators and from M-Pesa subscribers.

The increased mobile penetration can also be accredited to the reduced cost of mobile handsets and the increased number of mobile service providers from two in 1999 to four in 2008.

Mobile subscription is very important as we note that this will enable the easy and improved access to financial services within the country. Initially the financial services were not so easily accessible to many Kenyans, now almost a majority of the population can access their money through M-Pesa. Almost all the banks in Kenya are now partnering with M-Pesa to provide easier access to the bank accounts directly through M-Pesa.

According to Njuguna (2007) only 62% of Kenyans had access to financial services and only 19% had access to officially controlled financial organizations such as banks. In the whole country there were only 400 bank branches and somewhat over 600 ATMs—and over 10 million mobile subscribers. Small enterprises are the greatest beneficiaries for this M-Pesa service which lessens the need to go to the bank and waste time which could be used to run the businesses. In emergency cases or situations whereby someone is stranded somewhere and needs cash urgently, the service comes in very handy. In December 2008, M-Pesa contracted with Western Union for international cash dealings. Vodafone, Safaricom and Western Union publicized that they would work together as partners to test a cross-border mobile money transfer service between the U.K. and Kenya. Eventually, the M-Pesa subscribers will be able to receive global remittances just like local ones. These innovations will without a doubt improve many Kenyans' lives and those in diaspora.

Another aspect is the low transaction costs that favour the customers. It is reported that over 70% of Kenyans choose the informal methods to dispatch funds to their loved ones in the country which was highly risky. M-Pesa offers a very attractive and trust worthy

transaction cost:- For instance, sending money with Western Union of approx KShs. 35,000 (US\$ 500) would charge KShs.1,200 (approx US\$ 17) in the country, using M-Pesa to remit the same amount however, would cost only one third as much. M-Pesa is cheaper than using a bank account

#### **4.3.1 Challenges regarding Customer Trust in M-Pesa**

Many subscribers trust in Safaricom as we notice, since the launch of the M-Pesa a great population subscribed to the system. Therefore Safaricom has to guard and maintain its reputation. As Ernst & Young (2009) noted that in the initial stages of the growth of the M-Pesa product, money stealing risk was a front-page issue high on the list of concern of the CBK. This news did not seem to impede the vast number of customers from using the service or shift to other networks but they stayed on. Furthermore, CBK would monitor every transaction and anti-money laundering procedures.

Another challenge that the customer can face when using M-Pesa is having the SIM card blocked or stolen. According to a customer care representative who works with Safaricom, if a SIM card is lost or stolen, the customer should contact the network operator immediately so that they can either bar the line or replace the line depending on the customers' request. Verification details required are number, name, national identification number and the M-Pesa balance if registered to M-Pesa or 3 frequently dialled numbers and last top up/airtime balance. Unfortunately if any of these details are not provided the customer may not recover their original SIM card. Agents have no access to customers' data so this cannot be done by an agent but only by Safaricom customer care representatives.

There have also been cases where customers' money is stolen by people who pretend to be authorized employed M-Pesa agents who end up stealing from the customers. These cases are not so rampant because of the high security measures. Safaricom also does not give much data concerning theft for the sake of their reputation.

In cases where money is sent to the wrong person, the sender can immediately call the customer care representatives who reverse the transactions immediately through an automated payment reversal system. However, if the receiver is opportunistic, he or she

may quickly withdraw the money, the customer has to report the case to the police first for further action.

#### **4.3.2 Implications of the literature review on customer trust in mobile and electronic banking for M-Pesa**

**Convenience:** From the literature review there several findings that influence customers to trust on mobile and electronic banking such as M-Pesa. M-Pesa has improved the lives of many people through provision of the effective services. The subscribers who trust in the services benefit from convenient transactions. This is because it nullifies the need to travel all the way to the bank every time one needs money. Instead they do this at the comfort of their homes or office.

**Peer recommendation:** If users have friends, family members or relatives who use the service it makes the transactions cheaper and cost effective to transfer cash since no extra costs are incurred in any transfer. In such cases they also share vital information and experiences among each other.

The use of this service has also empowered people especially the illiterate people because they gain informal learning. They are able to make transactions very effortlessly through their mobile phones without the need to go to the bank. It gives a feeling of fulfillment and satisfaction as individuals because before the introduction of M-Pesa, banking was generally considered to be the business of the rich who could afford the regular and expensive fees or those in the urban areas. This enhances their banking experience.

**Perceived Usefulness:** As mentioned in the literature review perceived customer satisfaction influences perceived usefulness and trust. When M-Pesa customers gain satisfaction from the services, they begin to perceive the usefulness of the service. They recognize the importance and reliance sets in because they can familiarize and get accustomed to the service.

**Low perceived risk:** Low risk is another aspect that Kenyans have realized when using M-Pesa. M-Pesa is faster, safer and more secure since it is done via the mobile phone anywhere at the customer's convenience. The former way of banking by transporting cash is both risky and slow. (Daniel, R. 2015, Aug.12<sup>th</sup>, M-Pesa and the Rise of the Global Mobile Money Market, Forbes)

**Relative Benefits:** M-Pesa has greatly improved the lives of many Kenyans by providing a platform for payment of goods and services where customers who may not have cash at hand can just access their M-Pesa accounts and transfer money through a pay bill number in the market or retail store. This has gone a long way in meeting expenses relating to medical needs, education even disaster relief. See appendix Diagram 5.

**Structural Assurance:** Safaricom's structural assurances affect the trust of the employees to the service. Legal regulatory procedures of governance that CBK have to maintain on M-Pesa transactions have been a concern to the public because customers also need to be sure that their money is safe. This was a major concern in 2007 when Safaricom had just launched M-Pesa and there were uncertainties on the innovation therefore assurance of its safety was an important aspect to consider for new and prospective customers. There also other functional structural assurances such as laws and regulations that govern M-Pesa including signing of the contract during registration. Safaricom also assures customers that it would maintain integrity and privacy in customer data and not share it without consent of the customer.

**Reputation:** Firm reputation is also an important aspect customers consider in this case, Kenyans trust in Safaricom because it was and still is the leading mobile phone operator in the country. A research done by the (IFC) International Finance Corporation, (2009) shows that Safaricom is an exceptionally trusted brand in Kenya; however, initially the subscribers did not simply trust that their money would be deposited by the agents manning the product. The agents would often be accused of fraud and quickly launch a complaint with Safaricom whenever the SMS receipts were late or. This has fortunately improved over time and the users are becoming used to transacting with agents.

M-Pesa seems to be the safest means of saving as compared to the bank account and about only 1.6% of users have stated to have lost money through M-Pesa. “Although customers believe that this is the fault of Safaricom, in most cases it is a result of user error. However, these kinds of situations reduce the customer’s trust in the platform so Safaricom is working to proactively address these cases and help users recover their funds. William J. et al (2010)”

**Firm Size:** The size of the Safaricom also has enabled customers to trust in M-Pesa being the largest and leading mobile phone network operator in the country, with wide network coverage. Customers believe large companies have the ability to provide them with a variety of services and support they need. Safaricom is recognized in its commitment to its subscribers. It maintains high levels of integrity, so that they maintain the moral and ethical code of conduct and benevolence having general goodwill towards the customer so that the customers are satisfied.

**Culture:** According to Hofstede G. (1980), uncertainty avoidance has to do with the degree to which the members of a community can feel endangered by unclear or unknown situations and have created principles and the institutions that attempt to avoid these are reflected in the score on uncertainty avoidance. Hofstede’s research data in (<https://geert-hofstede.com/kenya.html>) reveal that Kenya ranks at a score of 50% meaning that Kenyans are fairly not so uncomfortable with ambiguous situations and also try to avoid uncertain situations at the same time. This explains the ability of Kenyans to embrace and trust the new M-Pesa technology despite uncertainty of the system performance or turn out.

Kenya is a country that is classified as community oriented and less individualistic according to Hofstede’s cultural dimensions. Kenyan culture is characterised by people who value the entity of a community and extended family relationships. Bonding is seen when people show support and loyalty among each other in celebrations and also in times of distress. Children who grow up in this environment learn how to live in a community set up and learn important virtues such as sharing and caring for each other. This forms an integral part of their lives and they are able to pass on to the next generation. This setting is favourable for a technology to thrive such as M-Pesa. This is because sharing of ideas and opinions is easier with family or friends who can easily influence each other’s actions.

Many people have joined M-Pesa due to family and friends advice. People often interact in order to show concern over others firstly, and secondly to share ideas and discover opportunities that can improve their lives. For instance, it is a very common practice for women of the same age-set, be it family, friends or workmates, to form a financial support group where they can help each other manage their finances well. This is a means of saving money since each person contributes a certain amount of money each month for the group and at the end of a long period, one can access the funds. This is common in both rural and urban areas. (Morawczynski, 2008, Plyler, M. G. et al. 2010, White, D. 2012) studies have settle on the idea that M-PESA users are saving their money as a way of increasing incomes, and to empower women especially those from the poor households. This is because most women are mainly liable for household expenditure and for the planning of the family food and bills. Money transferred via the M-Pesa is less noticeable than that which is transmitted by other means, such as delivery by a friend or relative. This is because receiving or sending money is as simple as a text message therefore people may not be aware if someone has received money or a test message. (Jack et al, 2010). The indistinctness and low expense of M-Pesa may intensify the possibility of transfers from friends and family to female recipients who can successfully manage their finances and plan for their families. This is a very vital aspect especially for cultures where gender roles are based on norms where women's expectations in the society are quite high.

## **CONCLUSION**

The main aim of this study was to research and evaluate the main determinants of trust in adoption and usage of banking services demonstrating an example of M-Pesa, a mobile banking system in Kenya. It also examined why users gain trust in technology. The findings pointed out that trust is very essential in banking and Mobile and electronic banking and that there are certain factors that enhance customers to put trust in a technology before acceptance.

The main factors that determine customers' level of trust in a technology were mainly structural assurances which are laws and regulations on the service. They govern both the buyer and seller to act in accordance to the expectations of both parties involved. Security is another factor which ensures customer protection from theft. Quality services also motivate clients to continue to use technology. Personality traits, such as positive attitude towards the technology enhance users to trust in the technology. Perceived advantages and benefits motivate prospective users to trust in the technology and therefore adopt it and finally, ease of use, where easy and effort free technologies also motivate prospective clients to accept.

This study may be useful in contributing to the existing literature by researching the determinant factors that enhance users to trust in mobile and electronic banking technologies. It may also motivate businesses to adopt technologies such as using mobile money in their businesses. It may also offer guidelines for future research in investigation of the disturbing factors preventing the use of the technology. In addition, may also motivate financial institutions or telecommunication companies to adopt the system especially in countries where it is not in use with the example of the M-Pesa system in Kenya.

Further research should be conducted to examine the impact of mobile and electronic banking in developed countries. Mobile banking in its present stance is the leading in Africa and other developing countries. Further research is needed to find out which innovations in these developing countries is viable in developed countries and why it has not taken root in these developed nations.



## APPENDIX

### WHERE IS M-PESA IN AFRICA?

Diagram 1.

Countries with Safaricom and Vodafone's mobile money service (Adapted from Vodafone, 2014)

Country	Date Launched	Provider	Product Name
Kenya	March-07	Safaricom	M-Pesa
Tanzania	April-08	Vodacom	M-Pesa
Fiji	June-10	Vodafone	M-Pesa
South Africa	August-10	Vodacom	M-Pesa
DRC	November-12	Vodacom	M-Pesa
India	April-13	Vodafone	M-Pesa
Mozambique	May-13	Vodacom	M-Pesa
Egypt	June-13	Vodafone	Vodafone Cash
Lesotho	July-13	Vodacom	M-Pesa
Romania	March-14	Vodafone	M-Pesa

Diagram 2

List of international money transfer organizations that have partnered with Safaricom

(<http://www.safaricom.co.ke/>)

<b>PARTNER</b>	<b>WEBSITE</b>
World remit	<a href="http://www.worldremit.com">www.worldremit.com</a>
Skrill IT	<a href="http://www.skrill.com">www.skrill.com</a>
M Hits	<a href="http://www.mhits.com.au/send-money">www.mhits.com.au/send-money</a>
SkyForex	No website (Agent location only)
Mapex	No website (Agent location only)
PostFinance	<a href="https://www.postfinance.ch/en/priv/prod/pay/abroad/money/offer.html">https://www.postfinance.ch/en/priv/prod/pay/abroad/money/offer.html</a>
Xpress Money	<a href="http://www.xpressmoney.com">www.xpressmoney.com</a>
Western union	<a href="http://www.westernunion.co.ke">www.westernunion.co.ke</a>
XendPay	<a href="http://www.xendpay.com">www.xendpay.com</a>

Diagram 3.

Conceptual model of research on factors that determine trust and usage intention.

(Fakhraddin, Fatemeh & Marzieh, 2013).

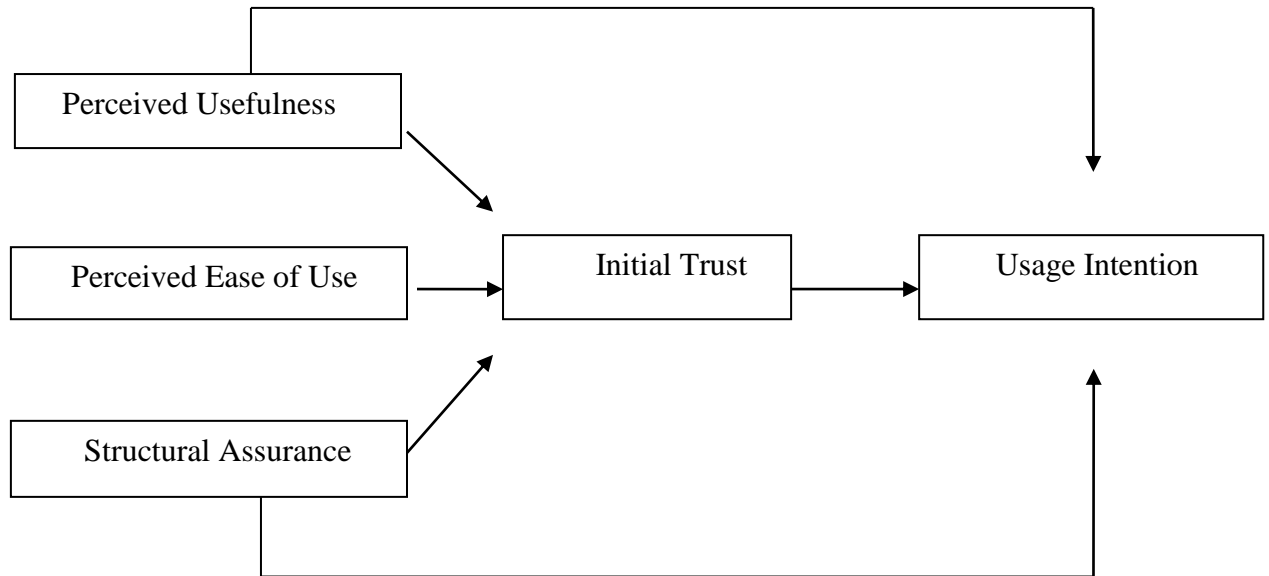


Diagram 4.(a)

M-Pesa use via a GSM during pre android era.

(<http://www.businessinsider.com/mobile-money-versus-bitcoin-2014-5>)



4. (b)

<https://furtherafrica.com/2016/03/08/africas-fintech-platforms-nomanini-and-m-pesa-join-forces-in-mozambique/>



Diagram 5.

Paying for bills or products using mobile banking.

(<http://www.siliconafrika.com/africa-e-commerce-the-missing-ingredients/>)



Diagram 6

List of Banks and financial Institutions partnering with M-Pesa.

(<http://www.safaricom.co.ke/>)

Standard Chartered Bank	Faulu TDM	SMEP DTM
First Community Bank Ltd	Rafiki DTM	KADET Ltd
Equatorial Commercial Bank	KWFTDTM	Bank of Africa
Chase Bank	DTB	ABC Bank
CFC Stanbic	Gulf African Bank	CITIBANK N.A KENYA
Barclays Bank K LTD	I & M Bank Limited	IMPERIAL BANK LTD
Housing Finance Company	NIC Bank Limited	Jamii Bora Bank
Equity	Post Office Savings Bank	Prime Bank
Consolidated Bank LTD	KCB	Uwezo DTM
Musoni	K-REP BANK	UBA BANK
Family Bank Ltd	National Bank	Paramount Bank
Ecobank	Comm. Bank of Africa	Credit Bank
	Co-operative Bank	
	Transnational Bank	

Diagram 7.

Mobile phone subscription, penetration and coverage in Kenya. (Omae Malack Oteri, Langat Philip Kibet and Ndung'u Edward N, 2015)

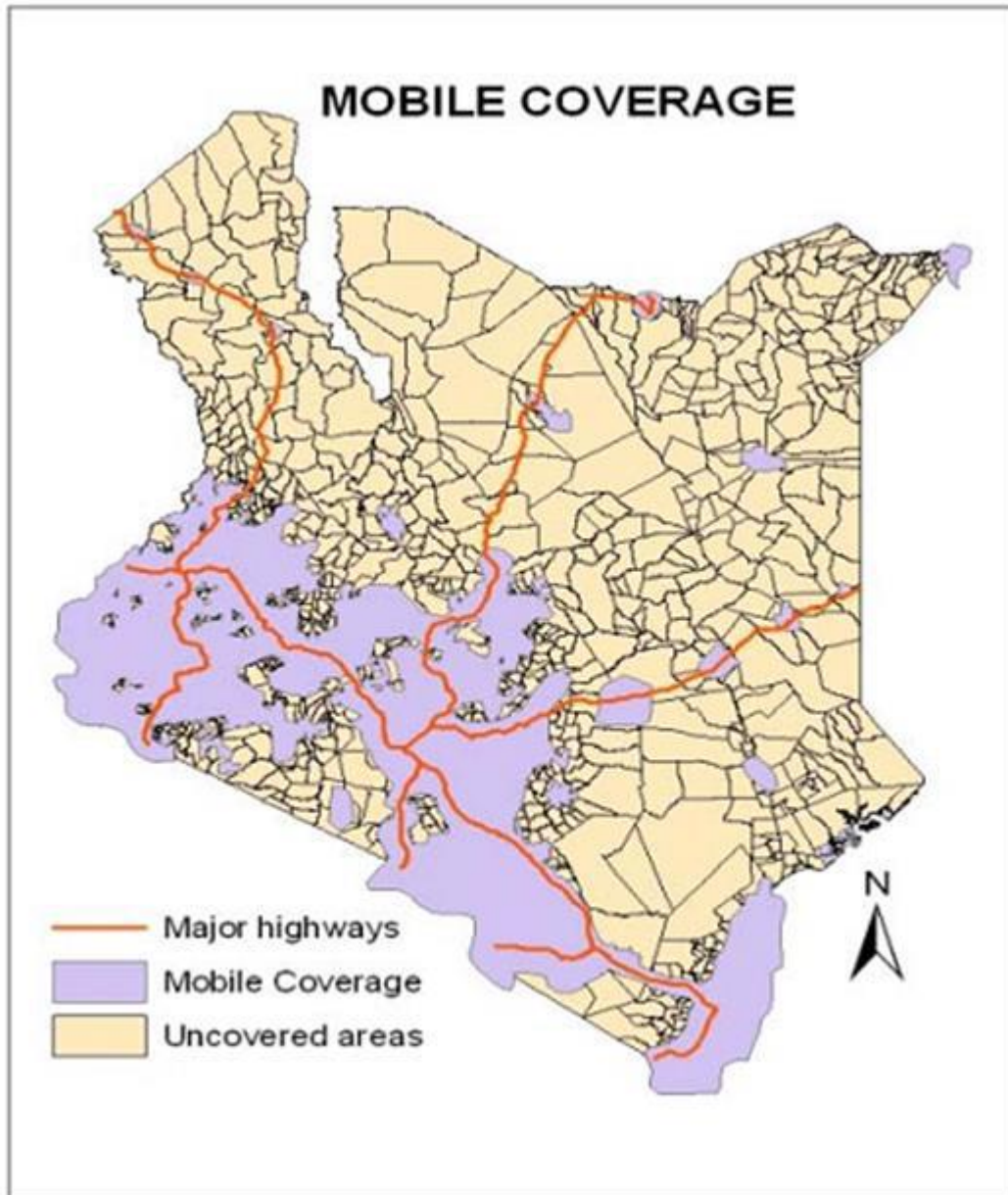


Diagram 8.

Showing the factors promoting Trust in Mobile Banking

(<http://www.pymnts.com/business-wire/2010/mobile-payments-go-viral-m-pesa-in-kenya/>)

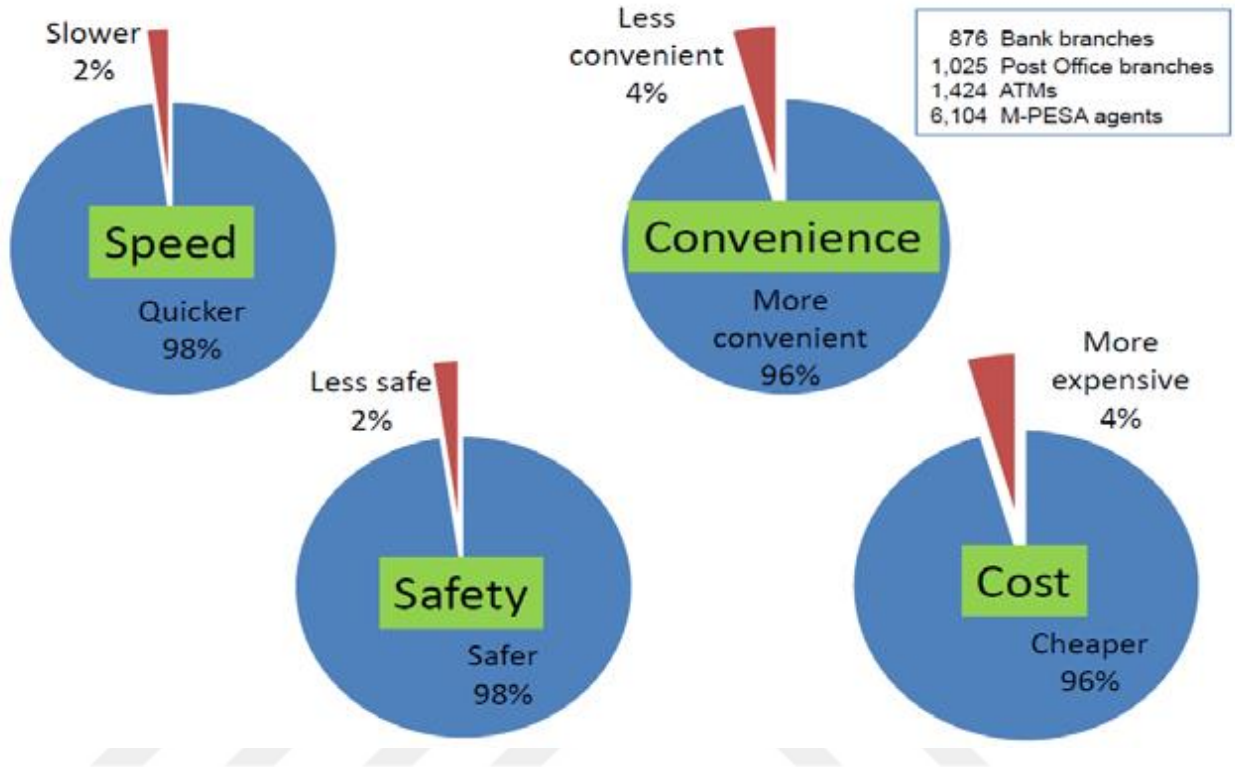


Diagram 9 showing How M-Pesa money is spent in Kenya

(<http://www.pymnts.com/business-wire/2010/mobile-payments-go-viral-m-pesa-in-kenya/>)

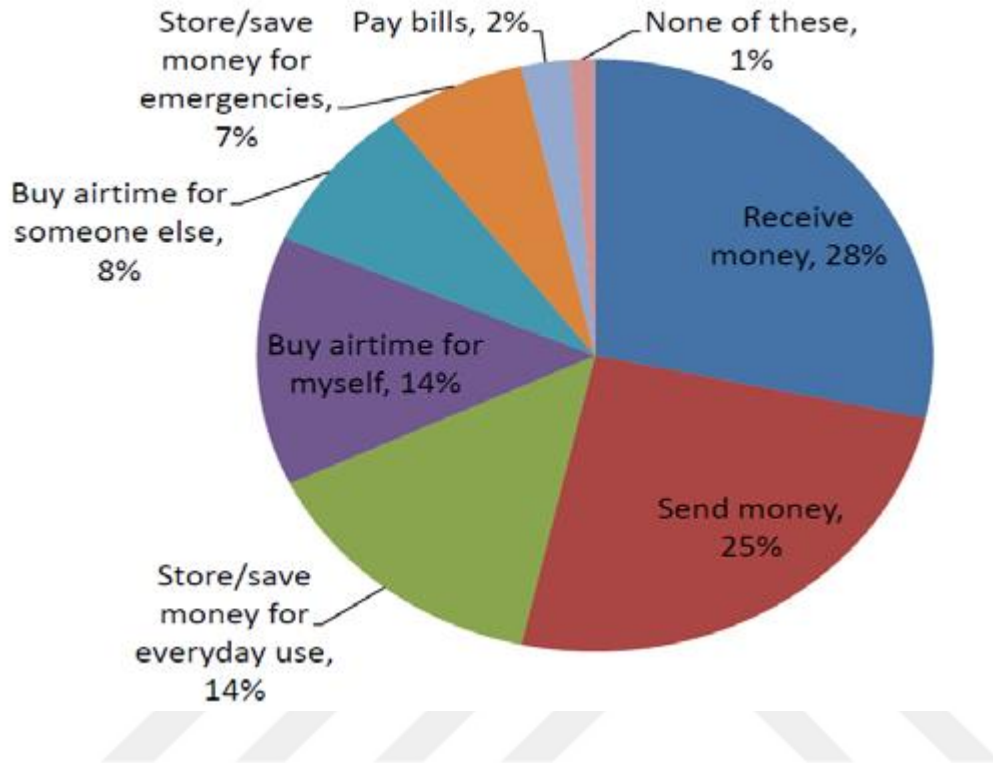


Diagram 10

Two components of customer trust in mobile commerce.

(Keng Siau, 2003)

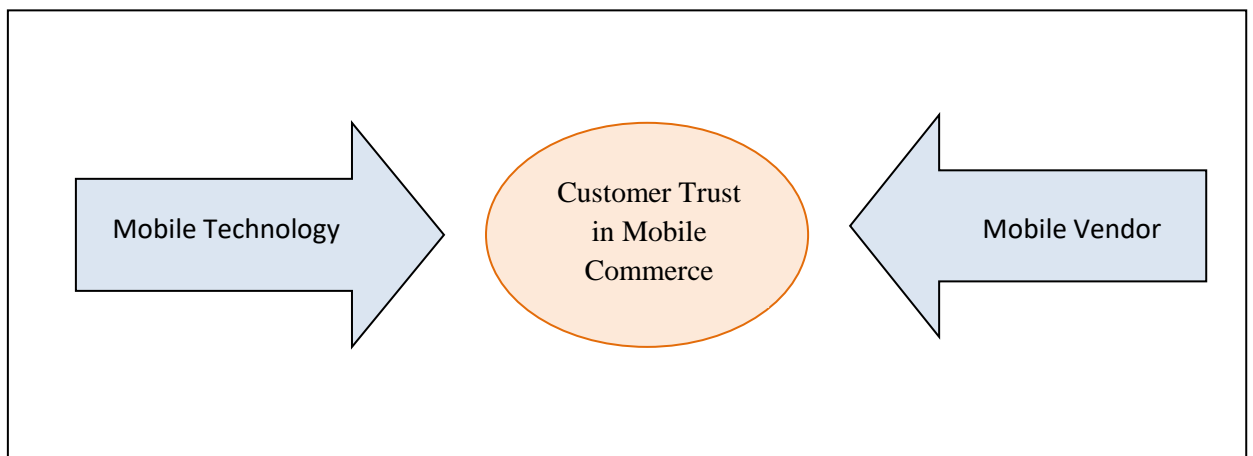
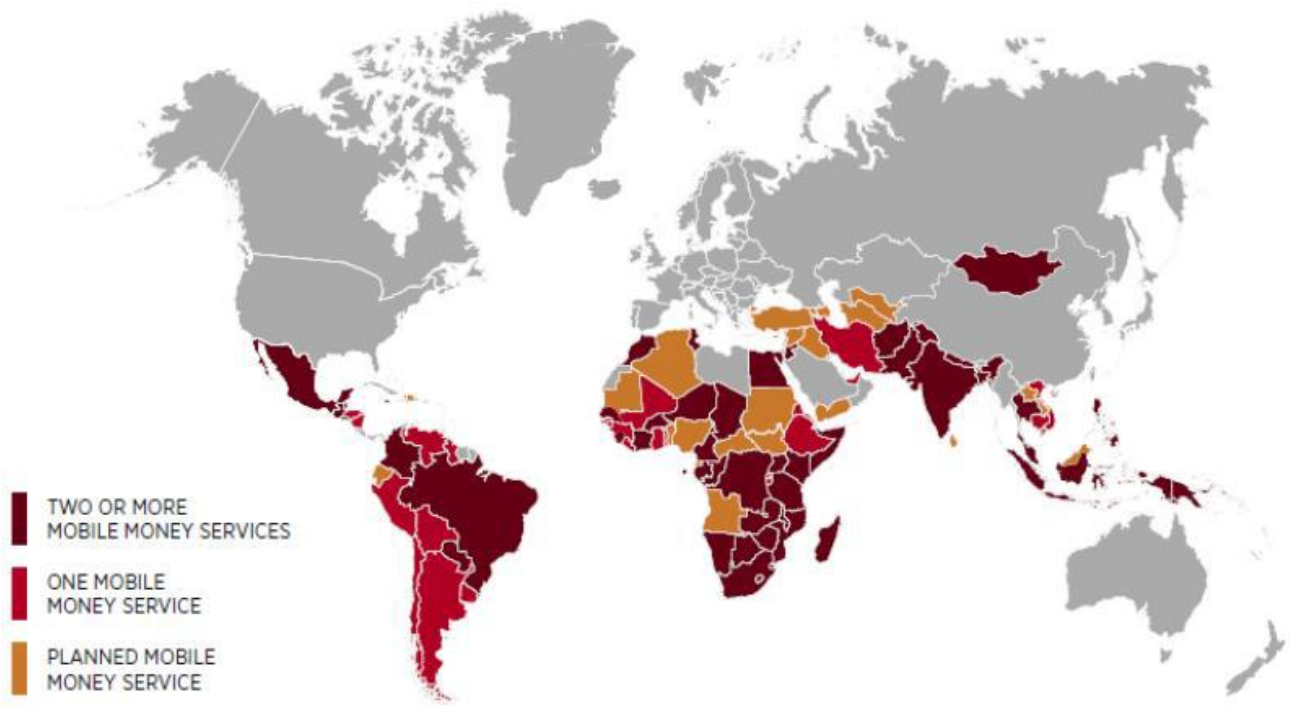


Diagram 11.

Number of mobile money services by country (GSM Association, 2013b)





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