

**INFLUENCE OF CUSTOMER PERCEPTIONS ON THE ADOPTION OF  
MOBILE BANKING SERVICE: A CASE OF COMMERCIAL BANK OF  
AFRICA NAIROBI COUNTY, KENYA.**

BY  
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**DECLARATION**

This research project is my original work and has not been presented for any award degree in any other university.

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This research project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATION**

This research project is dedicated to my loving parents, Mr Moses Okombo and Mrs. Stellamaris Okombo. Mum and Dad the encouragement and support you have offered throughout my academic life have gone a long way in making me who I am today. Thank you. I am humbled by your believe in me; May God bless you.

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## **ABBREVIATIONS AND ACRONYMS**

<b>CBA(K)</b>	:	Commercial Bank of Africa, Kenya.
<b>CBD</b>	:	Central business District
<b>MFS</b>	:	Mobile Financial Services
<b>SPSS</b>	:	Statistical Package for Social Sciences
<b>TAM</b>	:	Technology Acceptance Model

## ABSTRACT

Mobile phones have emerged as a tool of convenience in today's society. Banks have also noted this and have in light of this have developed products to tap this potential. More and more banks are moving from traditional brick and mortar branch banking to development of mobile banking services. It has however been noted that despite the banks heavy investment in mobile banking customers have not embraced the service due to a myriad of factors. This papers aim was to investigate the influence of customers' perception on adoption of mobile banking using the case of selected branches of Commercial Bank of Africa. This study was guided by 4 hypotheses derived from the objectives of study. Empirical literature published by various scholars was reviewed. The study is grounded on the Tam Model in conjunction with the theory of perceived benefits. The interrelationship between variables under study is captured in the conceptual framework. Descriptive survey design was adopted with a target population of 107 customers from selected branches. Using the Krejcie and Morgan table for determining sample size, 86 respondents were selected to constitute the sample size for this study. The desired representation of the target population was achieved using simple random sampling and proportional sampling. An interview guide and a 6 point questionnaire were used for data collection instruments with questions constructed using 5 point likert scale. The questionnaire contained a section on respondents details with the other sections designed based on the objectives under study. Pilot testing was done using ten respondents a week prior to the actual data collection and results used to refine the data collection instrument. The questionnaire was be tested for reliability using Cronbach-Alpha Coefficient while validity was determined using content and construct validity. The results of Cronbach-Alpha indicated that all factors had a coefficient greater or equal to 0.7 which shows that the instrument was reliable. The data was analyzed using spss the results which were used for hypothesis testing, correlation analysis and generation of the regression equation  $Y = 1.477 + 0.380X_1 + 0.210X_2 + 0.029X_3 + 0.024X_4$ . The findings showed that there was a significant relationship between perceived usefulness and adoption of mobile banking service (with t statistic p value  $< 0.0002 < 0.05$ ) and correlation coefficient of 0.6. Similarly perceived ease of use had a significant relationship with adoption of mobile banking service (with t statistic p value  $< 0.0004 > 0.05$ ) and correlation coefficient of 0.410. Hypothesis  $H_1$  and  $H_2$  are supported by the results. This is in tandem with findings from other scholars who have conducted similar research. However, perceived responsive (with t statistic p value  $= 0.818 > 0.05$ ), correlation coefficient of 0.028 and perceived risk (with t statistic p value  $= 0.998 > 0.05$ ), correlation coefficient of 0.0002 have no significant relationship with adoption of mobile banking service. In relation to these findings, hypothesis  $H_3$  and  $H_4$  are not supported. The study recommends that banks should adopt technologies that are value adding and easy to use by customers in order to increase mobile banking adoption. Mobile banking platforms should also be secure and services made available as per the set service level agreements.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Mobile banking is the provision of banking services to customers on their mobile devices namely cell-phones (Sharma, 2012). This specifically helps the consumer operate his or her various accounts; current account, deposit account or savings account (Anyasi & Otubu , 2009) define mobile banking as a term used to define transactions performed using mobile devices like mobile phones.(Herstatt, 2006). On the other hand define mobile banking as any transaction initiated by and or completed using mobile device accessing a network in order to acquire or transfer goods and or services. Most recent findings from researchers relating to mobile banking indicate and predict that mobile phones and hand held devices should be firmly established as an alternative form of payment. A lot of resources have been injected by both the banks and mobile service providers into promoting mobile banking in recent years. Despite the efforts mixed responses has been received from the consumers with a lot of laxity from the consumers to embrace the technology. It has been suggested in various business sectors that consumer adoption is key to the success of any operation and marketing strategy.

Currently there are 44 commercial banks in Kenya under the supervision of Central Bank of Kenya. Banks are grouped based on three key factors namely: branch network, core capital and capital base (Central Bank Report, 2012). The study was focus on Commercial Bank of Africa which is the largest privately owned bank in Kenya with a focus on corporate and institutional banking. Commercial Bank of Africa h mission is to be the leading financial services provider in Africa. CBA has scooped several awards some of which are Euro Money Best Bank in Kenya Award, Best Bank in Product Innovation 2013.(CBA Annual Report, 2010), (CBA Annual Report 2013). This shows that CBA is a champion in service excellence and excellence is one of its key objectives that it must meet.

Through mobile banking, customers are able to make mobile payments. Mobile payments is defined as the use of mobile device to conduct a payment transaction in which funds or money is transferred from a payer to a receiver via an intermediary or directly without an

intermediary (Kaalit, 2012) .This definition is however broad and therefore needs to be cleared from mobile banking. The distinction between mobile banking and mobile payments is such that mobile banking refers to mobile payment transactions that are exclusive to their respective customers while mobile payment is a mode of payment that is widely available to all parties in a retail environment (Kaalit, 2012). Mobile banking has been suggested services have been suggested as a solution to facilitate micropayments in electronic and mobile commerce transactions and to encourage reduced use of cash at point of sale terminals (Maalat, 2007). If the efforts by the banks and mobile network providers to promote mobile banking and payment services succeed, there is expected boost of the e-commerce, and m-commerce adoption. High access and penetration of mobile phones and hand held devices into many parts of the world was the trigger to embrace and early development of mobile banking services (Maalat, 2007). Mobile phones clearly today out number any other mobile device.

The Kenyan banking system has moved gradually from the traditional brick-and –motor model of customers queuing for services in the banks to modern day banking where banks can be reached at any point for their services (Herstatt, 2006). Banks have achieved this by adopting technology to enhance growth and fight off competition. This is further enhanced by mobile phone penetration into the entire country including the remotest parts of the country. Today, mobile communication technology provides a lot of room for consumer banking and interaction as well as transactions with the banks.

Mobile banking is always available hence one can access the banks' facilities from anywhere anytime (Maalat, 2007).).Mobile banking is the latest most innovative service offered by banks alongside internet banking. However, little research has been done to evaluate customer perception on quality to determine the adoption of this technology. (Sharma, 2012). This study considers four aspects of quality namely; usefulness, ease of use, responsiveness, risks and consumer awareness about mobile banking and associated with mobile banking. The research aims to find the influence of these factors on consumers' ability to adoption of mobile banking. The newly embraced mobile banking services give the banks an opportunity to offer an innovation where both intangible

service and an innovative medium of service delivery employing high technology are present (Sharma, 2012).

## **1.2 Statement of the Problem**

Kenya Bankers Report 2013 on mobile banking asserts that mobile technology plays a major role in enhancing service delivery of financial services. Moreover, the survey shows that there is an increase in uptake of mobile technology with 64% of respondents using mobile phones as the main avenue to send and receive money locally. The Government of Kenya also recognizes the important role played by mobile technology in economic development (Sessional Paper, 2005). Although mobile banking offers good money transfer services there needs to be more awareness created to help consumers derive benefit of mobile banking. (Pickens & Ivatury, 2006)

Kenyan banking consumers are today not only able to communicate but also stay connected with their banks for various services such as business processes, pay bills, receive account updates, plan payments of various transactions all this from the comfort of their sitting rooms or even board meetings. Adoption of mobile banking in Kenya has solicited a lot of attention and research from various scholars (Bradley & Stewart, 2002). Much of these researches have adopted organizational perspective in trying to relate with the objectives of the various banks (Daniel, 1999). However, consumer perspective has remained un-earthed in these researches to explain their roles in the adoption of mobile banking. Traditionally, studies on consumer adoption have tended to focus on socio-demographic and physiographic attributes of the potential consumers (Sharma, 2012).

The Central Bank Report 2014 shows that mobile phones have become a powerful device in Kenya evolving from a tool for making phone calls to one that enables owners to receive and send money and pay bills too. The report argues that the times is ripe for re-launching mobile banking and shy away from setbacks due to use of poor technologies as a platform for mobile banking. 95% of customers surveyed perceived mobile banking as cheaper than ordinary mobile banking and have a positive attitude toward mobile banking. About 50% of respondents consider mobile banking platforms to exhibit ease of

use and therefore have trust in the technology. However issues of concern arise on security of the platform.

Customer perception is the beliefs that a customer holds regarding a service that is received or experienced. (Sharma, 2012). This therefore means that a bank as a service based business needs to be very concerned about this perception because it in the people business and customer satisfaction is critical in maintaining this customers and in the long run ensuring stickiness in the product. Mobile banking service as a banking product can be assessed to understand how customers perceive it and which factors affect their adoption of mobile banking (Rai, 2012).

This paper therefore examines customer perception as a factor that influences consumer adoption of mobile banking. The research aimed to answer the question why banks need to find out what customers perceive of mobile banking and the resultant effect on adoption of the same.

### **1.3 Purpose of the Study**

The purpose of this study was to establish how customers' perception influences the adoption of mobile banking Kenya using the case of Commercial Bank of Africa.

### **1.4 Objectives**

The study was guided by the following objectives:-

- i. To establish the influence of Perceived Usefulness on adoption of mobile banking in Commercial Bank of Africa, Kenya.
- ii. To investigate the extent to which Perceived Ease of Use influences adoption of mobile banking in Commercial Bank of Africa, Kenya.
- iii. To determine how Perceived Responsiveness influences adoption of mobile banking in Commercial Bank of Africa, Kenya.
- iv. To analyze how Perceived Risk influences adoption of mobile banking in Commercial Bank of Africa, Kenya.

## **1.5 Research Questions**

The study seeks to answer the following questions:-

- i. How does Perceived Usefulness influence adoption of mobile banking in Commercial Bank of Africa, Kenya?
- ii. To what extent does Perceived Ease of Use influence adoption of mobile banking in Commercial Bank of Africa, Kenya?
- iii. Does Perceived Responsiveness influence adoption of mobile banking in Commercial Bank of Africa, Kenya?
- iv. Does Perceived Risk influence adoption of mobile banking in Commercial Bank of Africa, Kenya?

## **1.6 Research Hypothesis**

The study was guided by the following hypothesis to be tested at 95% significance Level:

- H<sub>1</sub>:** There is a significant relationship between Perceived Usefulness and adoption of mobile banking, in Commercial Bank of Africa, Kenya.
- H<sub>2</sub>:** There is a significant relationship between Perceived Ease of use and adoption of mobile banking, in Commercial Bank of Africa, Kenya.
- H<sub>3</sub>:** There is significant relationship between Perceived Responsiveness and adoption of mobile banking, in Commercial Bank of Africa, Kenya.
- H<sub>4</sub>:** There is significant relationship between Perceived Risk and adoption of mobile banking, in Commercial Bank of Africa, Kenya.

## **1.7 Significance of the Study**

It is hoped that this study would add to the pool of knowledge in project planning and management. This research would be used by project managers to add onto their knowledge on the importance of involvement of stakeholders ,in this case the customer ,at the planning stage of product development by ensuring they capture and build into products which are bound to be value adding to customers,

It is also hoped that this study will be used by financial institutions to improve the growth and the resultant benefits arising from mobile banking uptake. Kenya Bankers Report,



2014 has noted that financial institutions have used mobile banking as a tool of improving financial performance.

Finally, it is hoped that policy makers of banks and financial institutions can use the information to make strategic decisions. Information technology experts are hoped to use this information to design technologies that have built in aspects of quality that customers deem important.

### **1.8 Delimitation of the study**

This study was delimited to CBA bank in selected branches in Nairobi CBD namely; Wabera, Mamlaka, Mama Ngina and Hilton Branches. It specifically confined itself to the four consumer perception aspects in an effort to determine the influence of consumer perception on the adoption of mobile banking in Kenya. Financial constraints do not allow for consideration of other financial institutions, other counties and other aspects of mobile banking. However, adequate numbers of clients were sampled for purposes of this study to make the results more generalizable in the hope that these results shall be utilized to stimulate mobile banking adoption and also trigger other researches in other banks and counties. The study focused on Commercial Bank of Africa which is the largest privately owned bank in Kenya with a focus on corporate and institutional banking. Founded in 1962 in Dar-es-Salam Commercial Bank of Africa has expanded to open branches in Tanzania, Kenya, and Uganda.

### **1.9 Limitations of the Study**

The study had various limitations. The nature of banking requires privacy because of frauds that happen. As such the respondents might not be comfortable answering the questionnaire because they are not sure if the research is genuine. To circumvent this copy of the research permit and letter from university was displayed to customers to prove the intent of doing the research for certain responses. Second, the respondents may harbor negative attitude and perceptions on various issues unknown to the researcher. Such doubts were cleared by explaining that the research is only academic and information will be held confidential.

### **1.10 Assumptions of the Study**

The study assumed that CBA would give approval to conduct the study using their bank customers. It also assumed that the respondents would be willing to participate in the study and answer questions honestly. Another assumption was that there would be no coercion from the bank to manipulate the results to show that their customers have fully adopted the product and that the mobile banking uptake is a success within the bank.

### **1.11 Definitions of Significant Terms Used in the Study**

**Adoption of Mobile Banking service:** Refers to the usage of mobile banking services solution to facilitate micropayments in electronic and mobile commerce transaction and point of sale.

**Consumer Perception:** Refers to the set of beliefs that a customer holds towards a mobile banking service quality.

**Perceived Ease of Use:** Refers to the extent to which a person believe that the use of mobile banking is free of any effort. The system assists in accomplishment of tasks quite easily.

**Perceived Responsiveness:** This is the speed with which mobile banking transactions are done. It also involves the turnaround time taken to resolve queries related to mobile banking.

**Perceived Risk:** This has to do with safety. How safe is the use of mobile banking? What are the risks associated with the use of the service?

**Perceived Usefulness:** This is the use or none use of the system based on the belief that it makes tasks convenient and easy to do

### **1.12 Organization of the Study**

The study is organised in Five chapters. The first chapter gives the introduction to the study topic, background, and statement of the problem, the purpose of undertaking the study, research questions, hypothesis and significance of the study. It also contains the assumptions of the study, limitations and delimitations of the study. Literature review is covered in Chapter Two with an introduction section and literature review based on the themes of the various objectives. This chapter also contains theoretical framework, conceptual framework and the relationship between the variables in the in the conceptual framework. Finally the gap in the literature reviewed was identified and a summary of the literature given.

Chapter Three outlines the Research Methodology. An introduction to the chapter is covered. Other sections within this chapter are the research design, target population, sampling, sampling procedure data collection and analysis, validity and reliability of instruments, ethical considerations and operational definition of the variables. Chapter Four presents data analysis, presentation, interpretation and discussion of study findings while Chapter Five covers the summary of research findings, conclusions, recommendations and suggestions for further research.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter contains an empirical review of pertinent literature on consumer perceptions and how it influences adoption of mobile banking. The chapter is organized in sections based on the themes and variables under study; perceived usefulness, perceived ease of use, perceived responsiveness, and perceived risk. The chapter further looks at the theoretical and conceptual framework.

#### 2.2 Adoption of Mobile Banking Service

Mobile-banking is one of the emerging approaches used by financial institutions in the provision of financial services through use of information and communication technology (ICT). M-banking is a service whereby customers use a mobile device to access banking services and perform financial transactions (Anderson, 2010). Goswami and Raghavendran (2009) suggest that the broad aim of m-banking is to fit a financial institution on a mobile phone. Crosman (2011) reinforces this by asserting that m-banking enables users to have a bank branch in their pocket and to be able to bank at their convenience without restriction of time or location. Laukkanen and Kiviniemi (2010) define m-banking as an interaction through which a customer is connected to a bank via a mobile device. The interaction does not have to involve performing transactions but can be in a simple form like sending of an SMS (Short message system) for account balance inquiry. Steadman (2011) advocates that technology is the enabling factor that allowed m-banking to develop. The “always-on” connectivity demand by customers coupled with internet evolution from fixed to wireless connection, meant that financial institutions had to pursue alternative channels to provide their services in order to meet customers’ expectations (Puschel et al, 2010).

There is a convergence of ideas that the main driver of m-banking is the widespread proliferation, availability and acceptance of mobile or smart phones and devices (Halime, 2010). Skeldon (2011) asserts that the widespread acceptance of mobile applications, the increasing use of mobile phones as a tool and means for making payments, and lifestyle drive the adoption of m-banking. According to Coelho and Easingwood (2003) the driver

of mobile banking is the fact that today's customers are less wasing to visit traditional branches, are more receptive to new electronic channels and demand better service quality. Howcroft et al. (2002) affirm that young people are more predisposed to adopt m-banking because it fits their lifestyle, so do Koenig-Lewis et al. (2010). Toe and Pok (2003), citing Sangle and Awasthi, (2011), purport that people constantly on the move and having a busy rather than a sedentary life are more prone to adopt and use mobile banking. Sangle and Awasthi (2011) claim that internet banking users usually take less time to use and adopt m-banking.

Suoranta (2003) established that the convenience, privacy, time and effort savings coupled with the anywhere banking drives m-banking adoption and use, whereas Lee et al. (2003) state that self-prestige is an important factor. Delpont (2010) on the other hand affirms that awareness is a key factor in m-banking adoption and use (Laukkanen and Kiviniemi, 2010). Assert that m-banking is at its "infancy stage" despite the numerous advantages it offers. Kim et al. (2009) argue that m-banking subscription has been well below industry expectations. Enjoying the benefits of mobile banking requires a user to have a mobile phone that is equipped with the features required by the bank that provides this service (Bank Negara Malaysia, 2012).

Once a user obtained a registered with the banking institution for mobile banking account, he or she would be able to do banking transactions ubiquitously. Mobile banking can be done either by accessing the bank's web page through the web browser or using an application downloaded to the mobile phone and via text messaging (Board of Governors of Federal Reserve Systems, 2012). Recent study by The Federal Reserve of US revealed that 11% of those not currently using mobile banking think that they was probably use it within the next 12 months and that the most common use of mobile banking is checking account balances or recent transactions (90% of mobile banking users). Moreover, transferring money between accounts was found to be the second most common use of mobile banking (42% of mobile banking users). There are several barriers to adoption of mobile banking. Koenig-Lewis et al. (2010) assert that customer adoption is a major hindrance to development to m-banking. In this regard therefore he purports that banks

will not be willing to increase investment in m-banking if they do not see the advantages (Koenig-Lewis et al., 2010).

### **2.3 Perceived Usefulness and Adoption of Mobile Banking Service**

Perceived Usefulness (PU) refers to the extent to which a person believes that using a particular system would enhance his or her job performance. Use of mobile payment system is subject to the service is useful for their financial transactions. There are literatures proving that PU is positively linked with the adoption of mobile payment. Ghur through a survey in Finland, Germany, USA and Japan found that PU positively influences the adoption of mobile payment system.

“Service quality is a measure of how well the service level delivered matches customer expectations (Weitz and Wessley, 2002). The expectations from a service and actual delivery of the service meet at the point of customer satisfaction about the product’s usefulness (Agabu, 2013). Delivery of quality service therefore means ensuring consistency in service delivery performances on daily basis (Weitz and Wesley, 2002). Kotler (2007) affirms that service quality is quite vital in attracting and retaining customers. The reason behind this is that customers derive the perceptions of service quality on the levels of satisfaction they experience with the particular business (Gagliano and Hathcote, 1994).

To have consumers trust a service as useful, they must have an experience of satisfaction from the using the service. Compiling from previous studies, Arbore & Busacca (2009) summarized that determinants of customer satisfaction in a banking services include : functional quality – reliability, speed, accuracy and functionality ; relational quality – responsiveness, assurance and communication ; convenience – operating hours, travel distance and parking , queuing period and ATM availability; economics – interest rates, price quality, ratio, price fairness ; tangibles – office design and branch ambience , dress of the personnel and issue resolution.

In the context of mobile banking, Saleem & Rashid (2011) found that antecedents of mobile banking satisfaction are organizational factors, technological factors, strategic factors and functional factors. According to Gaffar (2009), mobile banking may help

increase customer satisfaction ratio by adopting the following means ; innovative “anywhere, anytime” services designed for individual preferences and location, more attention and better consulting for individual customers due to automation of routine processes, and streamlining of business processes to increase efficiency.

Perceived usefulness of Mobile Financial Services (MFS) was found to have a positive effect on the demand and adoption of MFS which supports the findings of many previous studies. In areas where there exists hardship among the population in accessing the banking and financial services, the use of mobile banking was found to be high giving usefulness in times of hardship as a reason for high perceived benefits of MFS (Sujoy, 2010). (Sujoy, 2010) further stipulates that need for more convenient banking and financial services contribute towards high perceived benefits of MFS. Many villagers living far away from their village for earning a living had to send money to their family members. These users find MFS to be convenient, safe and secure as the villagers perceive that there would be no risk of the money being stolen if it is transferred through a mobile device. Convenience and mobility become one of the main benefits that are perceived by the villagers (Sujoy, 2010).

Perceived usefulness can also be seen, in places where people have to spend travelling several kilometers to reach the nearest bank branch or ATM and then stand in long queues in order to deposit or withdraw money from their account, MFS was considered as a time and cost saving tool. People also felt that MFS would be beneficial for fetching money during the odd hours and whenever there is an emergency. Cumulatively this factors lead convenience in terms of time, effort and money which ultimately enhanced perceived usefulness of MFS among the consumers (Sujoy, 2010). Laukkanen 2007, using the mean end theory in a qualitative research conducted in Finland found that customers are encouraged to adopt mobile banking if they realize that there are perceived benefits of convenience and efficiency while using it. Koenig-Lewis et al 2010, support this argument based on the findings of their study in Germany where perceived usefulness was found to be a significant factor influencing adoption of mobile banking service. Based on the Tam Model, Dasgupta et al 2011, found that perceived usefulness significantly influence the intention to adopt mobile banking service.

## **2.4 Perceived Ease of Use and Adoption of Mobile Banking Service**

Perceived Ease of Use (PEOU) refers to the extent in which an individual believes that a system would be easy to use or operate to achieve the desired result/objective. A system should be simple to not only operate but also understand or learn how to use in order to encourage its adoption. Numerous studies conducted by Jeong and Yoon (2010) found out that perceive ease of use positively influences the adoption of mobile payment services. Similar findings by other studies on the adoption of mobile technology confirm these findings. Eagerness and openness to MFS adoption is seen among individuals who are more exposed to electronic items and technology are more likely adopt technology enabled services like mobile phones and ATMs. On the contrary, the villagers who have never used an ATM or a mobile phone are likely to be reluctant to make financial transaction through mobile phones. Therefore, there is a close relationship between technology readiness and perceived ease of use hence adoption of mobile banking. Lack of technology eagerness among the rural populace would therefore be barrier towards ensuring adoption of MFS.

Ease of use is also influenced by user demographics like education and age are also found to have impact on the amount of technology readiness of the population. Technology readiness can be assumed to be higher among the educated people and lower among the higher age groups (older than 50 years). Ease-of-use is one of the core constructs of TAM (F. D. Davis, 1989) and has therefore been thoroughly used and tested in various extended models of TAM as well as in models that were based on TAM to understand the adoption of m-banking and m-payments. Various studies have found ease-of-use of MFS to be a very critical factor affecting its adoption among the rural population. Given the fact that, the level of education is not very high among the rural population and they are much more comfortable with their local language, it is important to create a service that is tailor made to the user's needs. With the rapid growth of mobile phones, the mobile services become a promising alternative for many sectors including banking sector. However, in comparison to the whole banking transactions, the mobile banking market still remains very small especially that its usage is not reflecting on the adoption and usage of mobile banking (Varsha, 2012).



Koenig-Lewis et al 2011, basing his study on the Tam and IDT model interviewed 155 consumers in Germany and found that perceived ease of use were not salient features influencing adoption of mobile banking service. Dasgupta et al 2011, grounding his research on the Tam model, contradicts with the findings of Koenig-Lewis et al 2011. He purports that ease of use significantly affect intentions towards mobile banking usage. In a study conducted in Taiwan, with a research based on the extended Tam Model, Luarn & Lin 2005, found that ease of use had a remarked influence on mobile banking adoption. Tam model was used by Amin et al 2008, in a study conducted in Malaysia on mobile banking adoption and the findings indicated that perceived ease of use significantly impacted on adoption of mobile banking service.

## **2.5 Perceived Responsiveness and Adoption of Mobile Banking Service**

(Faizan, 2013) says that responsiveness determines employees' level of involvement and concerns for customers required assistance, and provide them quick services. Responsiveness also involves understanding the need and wants of the customers (Faizan, 2013). It also includes convenient operating hours, individual attention given to customers by the staff, attention to problems and customers' safety in their transaction (Kumar & Kee, 2009; Othman et al, 2001). Responsiveness is a dimension of service quality which refers to the willingness to help customers and provide prompt service to the customers (Kumar and Kee, 2009). Parasuraman et al., 1985 on the other hand define responsiveness as the employee readiness to provide customer service.

The diversity in customer differences in the 'shopping experience' between retail outlets such as store ambience, disposition of associates, store service) is often as important to customers as the differences in physical characteristics of the goods offered (Wittink, McLaugh and Gomez, 2004). Customers' expectations exceeded their perceptions in all the service statements under the responsiveness dimension. The reason employees' responsiveness usually lacks is organizations often focus on hard skills training. This includes training in the areas of product knowledge, technical skills and administrations, while deemphasizing the importance of positive attitude in the way employees deals with customers" (Cook, 2002). Customers' expectation for employees is to tell them exactly

when services performed exceeded their perceptions of “Pick and Pay” as actually performing this service attribute according to their expectations (Agabu, 2013).

Allred and Addams (2000) study found that customers in banks closed accounts due to several factors including responsiveness. The study found that responsiveness of employees to customers’ demands can be incorporated in company culture by making employees develop a culture that accommodates customers. Joshua and Koshi (2005) assert that perception and expectation of service quality was better in performance in new generation banks compared to the old. Karau (1998), in his research on management of customer service in Kenya, purports that response to customer complaints, time taken to resolve the issues and prompt processing of transactions is as important to customers and determine how they rate the service quality they receive. Parasuraman et al. (1985) found that consumers not only enjoy service but they also evaluate the process and outcome of the service received. Cronin and Taylor (1994), affirm that customers do not just purchase products because the service is of high quality but the customers’ personal experience on factors like responsiveness would impact customers satisfaction. Jayawardhena and Foley, 2000 found that there is a strong correlation between speed and user satisfaction. The rate at which content is downloaded and the kind of connection to the site affects customer satisfaction. Jun and Cai, 2001 concur with Jayawardhen in affirming that slow response times affects any interaction that a customer has with an e-platform. Any delays arising during interaction leads to service delay and in the long run affect how customers will in future interact with the platform.

Responsiveness can be improved by using certain actions Johnston (1997). This actions include improving processing speeds which have a positive impact on customers satisfaction. In his study he hypothesized that there is a positive effect that speed has on customer satisfaction. Nimako et al. (2013) in his study of adoption of mobile banking in Ghana found that banks respond to the competition by adopting technologies by increasing investment in these technologies in attempt to enhance service delivery. Nimako et al. (2013) found out that response of the Web page on bank's portals and prompt reception of responses to customer request enhances service delivery. This study

showed that prompt response to requests and how fast the application is reflects on the rating of service quality by customers.

## **2.6 Perceived Risk and Adoption of Mobile Banking Service.**

Perceived risk is the “uncertainty about the outcome of the use of the innovation” (Gerrard and Cunningham, 2003). In fact, perception of risk among individuals has been proved in technology adoption literature as an important element in acquiring new technology or services (Laforet & Li, 2005). A study conducted by Luo et al (2010) found that user’s perception of risk is a crucial driver to determine innovative technology acceptance. The findings show that perceived risk has negative significant relationship towards behavioral intention on mobile banking adoption.

Customer trust is recognized as a critical factor for the success of mobile banking. With the surge of both electronic commerce (e-commerce) and mobile commerce (m-commerce), more studies have been conducted on the conceptual structure, formation of the mechanisms of trust and effects of trust (Kim et al, 2009). In a study by Kim et al (2009) which examined the effect of initial trust in mobile banking user adoption, defined trust as a psychological expectation that a trusted party was not behave opportunistically. In this definition, the consumer would feel that the in the event of risk occurrence they are insured.

The vast majority of the banks that avoided Internet banking in the beginning did so because they simply did not see the benefits of using it. According to Tan and Teo (2000), if customers are given the chance to try the innovation, it was reduces certain fears, especially when customers found that mistakes could be rectified and thus providing a predictable situation. This is the simple belief that the risks involved in the use of a service would be minimized (Varsha, 2012). Various studies on consumer perceptions of risks were conducted in the context of online banking (Tan & Teo, 2000; Lim, Kim & Han 2008; Wu & Wang, 2005), but the perceived risk variable has only been modeled as a single construct. When the perceived risk is modeled as single construct, it fails to reflect on the characteristics of the perceived risk (Lee, 2009).

Lee (2009) conducted a study on perceived risk in the context of (online) banking adoption. The perceived risk was divided into five namely (performance risk, social risk, financial risk, time risk and security risk), which provided a more in-depth understanding of the characteristics of risks regarding Internet banking (Lee, 2009). Mobile banking may be considered an extension of Internet banking, but with its own unique characteristics given that a cell phone is used rather than a web browser on a personal computer (Brown, Cajee, Davies & Stroebel, 2003). Thus, a similar set of risk factors can be derived for mobile banking by using the five risk facets as used by Lee (2009) as a basis: performance risk, social risk, financial risk, time risk and security risk. As defined by Lee (2009), these five risks can be described for mobile banking as follows:

Performance risk refers to losses incurred in mobile banking due to malfunction in servers (Lee, 2009). According to Littler & Melanthiou (2006), the malfunctioning of a banking server would negatively affect customers' willingness to use banking services. This view applies in the context of mobile banking. Security risk is the potential loss due to fraud or a hacker compromising the security of a mobile banking user. Time risk refers to a loss of time and any inconvenience incurred due to the delays of receiving payments or the difficulty finding appropriate services and relevant commands (Lee, 2009). Social risk: refers to the possibility that using mobile banking may result in disapproval by one's friends/family/work group (Lee, 2009). Finally, financial risk is the potential for monetary loss due to transaction errors or bank account misuse (Lee, 2009). Lee (2009) & Lee, Lee and Kim (2007) found that all five risks negatively affect the intention to adopt online banking whereas social risk was found to have an insignificant effect on the intention to adopt online banking (Lee, 2009). A study by Im et al. (2008) found that when deploying a technology perceived by users to be high risk, managers need to emphasize '*ease of use*'.

When deploying a technology perceived to be low risk, managers need to focus on communicating the '*usefulness*' of the technology (Im et al., 2008). A study by Wu and Wang (2005) conducted on mobile commerce, where more than three-fifths (60%) of the

respondents had online transaction experience, showed that perceived risks have positive influences on the behavioural intention to use the product. However, the study by Wu and Wang (2005) fails to clearly explain the reason for these results; rather, it assumes that the respondents might have been aware of the existing risk of mobile commerce. A study by Tan and Teo (2000) on the adoption of Internet banking revealed that perceived risk is a significant determinant. Brown et al (2003) applied Tan and Teo's internet banking adoption framework to the mobile banking context. Brown et al (2003) found perceived risks to be significant factors affecting mobile banking adoption. However, in their studies, perceived risk was modelled as a single construct (Tan & Teo, 2000; Brown et al., 2003).

The conclusion of study undertaken for European Commission on public perceptions (September, 2003) was that lack of trust is frequently cited as a key factor that discourages customers from participating in e-commerce. This is the belief that in the event of a risk occurring, the customer has no assurance of instant rectification of the situation. And this is further reinforced from the fact that clients want security for their investments, and deposits with the banks (Varsha, 2012). A majority of studies highlight the fact that “security” is the biggest single concern for customers when faced with the decision to use mobile and internet banking. Security has always been an issue, but its scope has changed from mere doubts about the privacy of personal information to worries of financial loss (Sayar & Wolfe, 2007).

Several mobile banking adoption studies have supported that people refuse or are unwilling to use mobile banking mainly because of perceived risk (Brown et al., 2003; Riquelme & Rios, 2010; Dasgupta et al., 2011) or perceived credibility (Luarn & Lin 2005; Dasgupta et al., 2011). Through investigating customer attitudes toward online and mobile banking, Laforet and Li (2005) used confidentiality and security to express perceived risk and detected that perceived risk was the most significant factor influencing the adoption of mobile banking. Following the concept of Wang et al., (2003), who distinguished perceived credibility from perceived risks and trust, Luarn and Lin (2005) and Amin et al (2008) supported security and privacy as two important dimensions under

the construct of perceived credibility. Also, Luarn and Lin (2005) and Amin et al (2008) empirically concluded that perceived credibility significantly affected human intention to use mobile banking.

As the literature reveals that different scholars employ different perspectives to assess the concern of security, risk, trust, and credibility, the concern has been conceptualized and assessed from a variety of ways that fully depends on which discipline researchers interpret the concern. Given that perceived credibility has been empirically supported and used not only in mobile banking adoption studies (Luarn & Lin 2005; Amin et al., 2008) but also in many Internet banking studies as discussed in Wang et al (2003) and Yuen et al (2010). This study used perceived risk to represent individual security and privacy, concerns about mobile banking adoption.

Customer trust is recognized as a critical factor for the success of mobile banking. With the surge of both electronic commerce (e-commerce) and mobile commerce (m-commerce), more studies have been conducted on the conceptual structure, formation of the mechanisms of trust and effects of trust (Bhattacharjee, 2002; Kim, Shin & Lee, 2009). In a study by Kim et al (2009), which examined the effect of initial trust in mobile banking user adoption, trust was defined as a psychological expectation that a trusted party was not behave opportunistically. In Kim, Chung and Lee (2010), trust was defined as a feeling of security and willingness to depend on someone or something.

Kim et al (2009) further makes a distinction between initial trust and experience or knowledge based trust. This study was focus on initial trust, as users are more likely to have less experience with service providers with regard to the use of mobile banking. A study by Siau and Shen (2003) classified trust into two categories: trust of technology and trust of mobile banking service providers. This is supported by Lee, Lee and Kim (2007) in a study that focused on three trust dimensions: trust in bank, trust in mobile network provider and trust in wireless infrastructure.

A study by Bhattacharjee (2002) provided a definition and measurement of the consumer's trust of an e-commerce service provider, based on the three dimensions or

typology of trust: ability, integrity and benevolence. Bhattacharjee (2002) defined these as follows: Ability refers to the perception of the consumer about the competency and salient knowledge of the mobile banking service provider to deliver the expected service; Integrity defined as the users' perceptions that the service provider was be fair, honest and adhere to reasonable conditions of transactions while benevolence refers to the extent to which a service provider was demonstrate receptivity and empathy towards the user. The service provider was to make a good faith effort to resolve users' concerns and intends to do good to the users beyond profit motives.

In the mobile banking context, trusting intentions represents users' willingness to engage in subsequent transactions with the service provider (Bhattacharjee, 2002). Higher levels of trust in a service provider would therefore lead to greater intentions on the part of the user to engage in mobile banking transactions. A study by Gu, Lee and Suh (2009) verified the effect of trust on behavioral intentions in mobile banking, using the trust from the banks' perspective. This indicates that trust helps reduce fraud and potential risks caused by opportunistic behavior and provides users the ultimate benefit of getting more reliable banking services from honest banks (Gu et al., 2009). To better understand the role of the customer trust on the adoption of mobile banking, the concept of brand loyalty and customer loyalty is also introduced in this study.

In a study by Lin and Wang (2006), brand loyalty is simply defined as the repetitive purchase of preferred brand products or services. It further defines customer loyalty as a customer's favorable attitude toward the mobile vendor that results in repeat buying behavior (Lin & Wang, 2006). For the purpose of this study customer loyalty was be used. According to Reichheld and Schefter (2000), to earn customer loyalty in an online business it is critical to first earn customers' trust. A study by Harris and Goode (2004) found that trust is positively and directly associated with customer loyalty for online services. Since mobile banking is considered an extension Internet banking (Brown et al., 2003), it is considered part of the online services. Hence a customer's trust in a mobile banking service provider is likely to positively influence the adoption of mobile banking.

## **2.7 Theoretical Framework**

This study, sought to establish the influence of customer perception on adoption of mobile banking, is informed by Technology Acceptance Model. (TAM).

### **2.7.1 Technology Acceptance Model**

This study, sought to establish the influence of customer perception on adoption of mobile banking service, is informed by TAM model. Although there has been advancement in technology and more consumers using mobile phones on a day to day basis the use of the same for conducting financial services has been minimal. The Tam model provides a framework which can be used to give the reason for this situation. Mols et al state that the diffusion of mobile banking is determined by customer acceptance.

The Tam Model Technology Acceptance Model (TAM) was developed by Davis et al (1989) to explain the behavior behind the acceptance of technologies. Davis et al 1989 theorized that perceived usefulness and perceived ease of use as variables that explain the adoption of technology this measures would be very useful to system developers and businesses as a tool for assessing the adoption of technology ensure that this are aspects in-built into the product offering. The assumptions of the TAM model are that adoption is voluntary; although this is dependent on how much control an individual has over his environment. Perceived usefulness and perceived ease of use has been widely agreed as key factors in acceptance of technologies. Previous research has shown a positive relationship between perceived usefulness and perceived ease of use in adoption of e-banking (Poon, 2008). This research tested this relationship. In this study therefore the Tam Model was used to structure the research process and help enhance the understanding of the adoption and use of mobile banking. Other metrics of perception would also be variables under study.

### **2.7.2 Theory of Perceived Attributes**

Rogers 1995 in his theory of perceived attributes identified five factors affecting the rate of adoption. The model explains the innovation decision process when an individual encounters new innovations or ideas. Diffusion is the process through which innovation is communicated over time. An innovation is an idea that is perceived as new by an

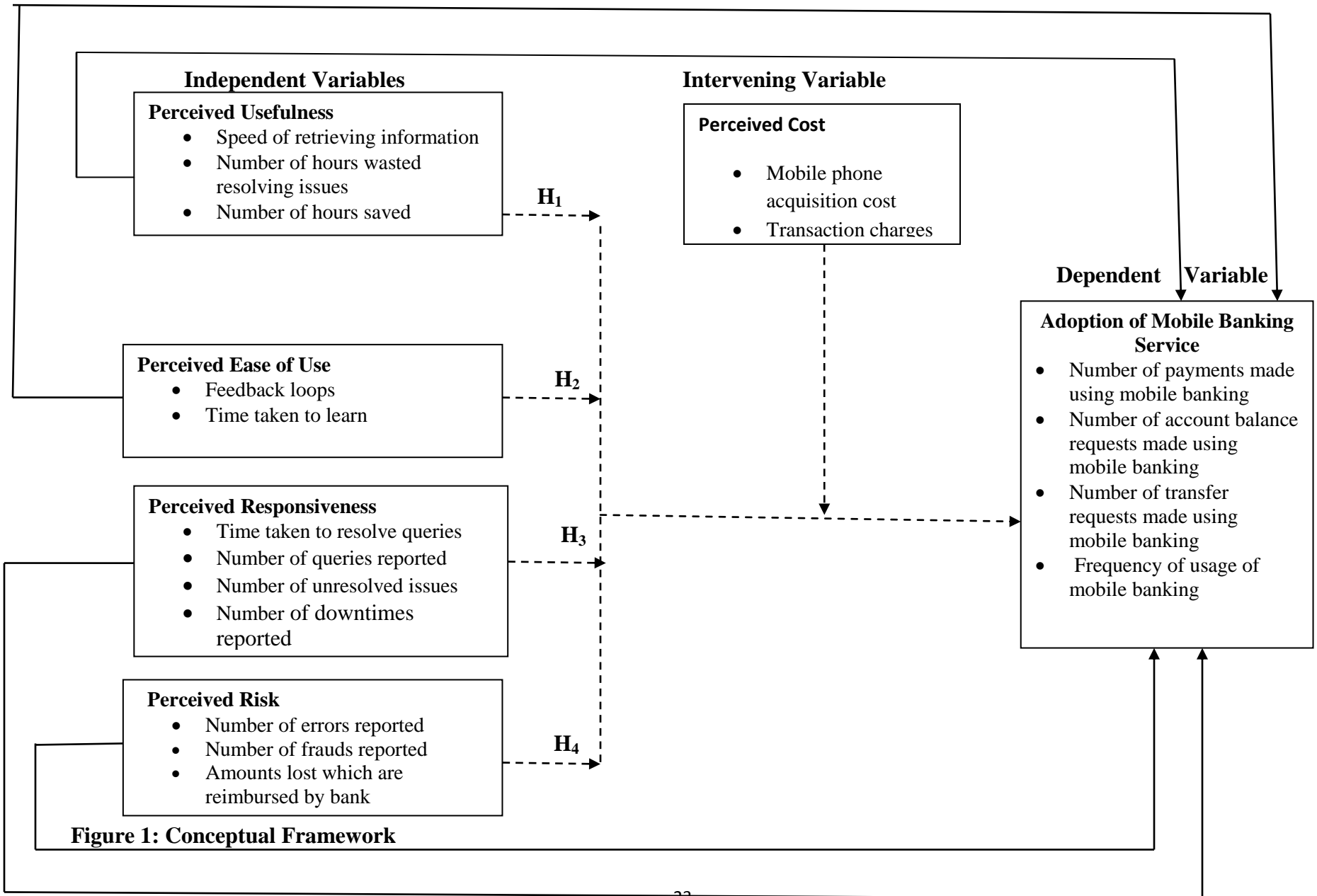


individual and or another unit for adoption whereas rate of adoption is the speed at which individuals adopt an innovation. (Rogers 1995)

The attributes of affecting the rate of adoption are; perceived attributes of innovation, innovation decision, channels of communication, nature of social system and the extent of the change agent's promotion. The perceived attributes of innovation are trialability, complexity, observability, compatibility and relative advantage.(Rogers 1995).According to Ellsworth (2000) the most important benefit of Rogers' model is the innovation attributes. The Model can be used by developers to present innovations to intended adopters. Rogers (2003) assert that the rate of adoption of innovation is determined by the individuals' perception. He also notes that the research on effects of perceived characteristics on rate of adoption of innovations is limited.

## **2.8 Conceptual Framework**

The interrelationships between study variables were conceptualized as shown on Figure 1



**Figure 1: Conceptual Framework**

The purpose of the study was to investigate the influence of customer perception on adoption of mobile banking using the case of CBA (K) Nairobi. The variables which were measured were dependent, independent and intervening variable. The dependent variable is the adoption of mobile banking service. The independent variables were perceived ease of use, perceived usefulness, perceived risk, and perceived responsiveness with cost of mobile banking as the intervening variable. The intervening variable has an effect on the dependent and independent variables and was not be the focus in this study since the customers are believed to have chosen to bank with Commercial Bank of Africa with awareness of the cost charged to perform transactions.

Literature review shows that there exists a relationship between perceived usefulness and adoption of mobile banking. The relationship has however not seen to be clear in the context of mobile banking. This relationship was tested in hypothesis H1. The Conceptual framework also showed a relationship between adoption of mobile banking and perceived ease of use. The extent of this relationship was tested in hypothesis H<sub>2</sub>. Review of literature indicated that a relationship between perceived responsiveness and adoption of mobile banking is possible. Sufficient attention has not been accorded to this aspect and its impact on adoption of mobile banking. This was tested in hypothesis H<sub>3</sub>. Finally the relationship between perceived risks has been seen from the literature to have a major impact on the adoption of any technology. This was be tested to see if it still has a major impact on adoption of mobile banking using hypothesis H<sub>4</sub>

## **2.9 Knowledge Gaps**

The research observed the gaps identified within the review of relevant literature as shown in the table 2.1

**Table 2.1: Knowledge Gaps**

<b>Variable</b>	<b>Author and Year</b>	<b>Findings</b>	<b>Knowledge gap</b>
Perceived Usefulness	Saleem&Rashid, (2011) Gaffar ,(2009) Sujoy , (2010)	Found out that antecedents of mobile banking satisfaction are organizational, technological and strategic and functional. The study was inclined more to organization aspects.	There was need to explore these findings in the context of customer perception.
Perceived Ease of use	Jeon & Yoon , (2010) Davis , (1989) Varsha ,(2012)	There is close relationship between technology readiness and perceived ease of use	This study sought to focus more on customer perception and adoption of technology.
Perceived responsiveness	Faizan , (2013) Kumar & Kee, (2009) Gomez (2004)	Responsiveness determines employee involvement and concern for customers and how they are to assist them on the concerns. The studies focused on how employees impact responsiveness.	The study investigated perceived responsiveness by customers and its influence on adoption of mobile banking.
Perceived Risk	Laforeti &Li (2005) Luo et al, (2010) Lim, Kim & Han, (2008) Tan & Teo ,(2008)	Perceived risk as a crucial element in technology adoption	The study sought to reemphasize the need to come up with technologies that consumers perceive as safe so that they can adopt them.

## **2.10 Summary of the Chapter**

This chapter has provided an in depth review of literature on related studies in Kenya and elsewhere. The study was informed by the Tam Model which can be enhanced using the various variables under study. The conceptual framework explains the relationship between variables with Adoption of Mobile Banking Service as the dependent variable and Perceived Usefulness, Perceived Ease of Use, Perceived Responsiveness, and Perceived Risk as the independent variables. The intervening variable is consumer awareness.

A review of empirical literature however illustrated that adoption of technology impacted by several factors including perceived risk, perceived usefulness, perceived ease of use and perceived responsiveness. Limited studies however have been done in relation to mobile banking and customer perception. This study sought to examine the interrelationships between the dependent and the independent variables as illustrated in the conceptual framework. Hypothesis was tested to examine the relationship between dependent and independent variables.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the research methodology that the researcher used in undertaking the research on the influence of customer perception on adoption of mobile banking service using the case of CBA (K).

#### **3.2 Research Design**

The literature reviewed on research design shows that previous researchers have adopted descriptive survey design using questionnaires as a survey instrument. Drawing from this therefore the research used survey design. Descriptive Survey design was employed in this research for several reasons. One is that information was collected from respondents in their natural setting. The study also sought to establish relationship between variables at the same point in time. Mugenda and Mugenda (2003) assert that descriptive survey is ideal when research entails collecting and comparing data at the same point in time.

#### **3.3 Target Population**

The study targeted 107 CBA (K) private banking customers in selected branches in Nairobi CBD namely; Wabera, Mama Ngina, Hilton and Mamlaka. The study used the CBA database to find out the kind of queries relating to mobile banking that are raised and the turnaround time taken to resolve the incidences raised. The researcher chose CBA (K) because it's the largest privately owned bank in Kenya and the results would provide a very good view on mobile banking adoption by customers of banks in Kenya. Nairobi CBD has the largest number of branches which currently stand at 4 namely; Hilton, Mama Ngina, Mamlaka, and Wabera branches.

#### **3.4.1 Sampling Size**

To come up with the appropriate sample size the researcher used simple random sampling and proportional sampling to come up with the sample size. The researcher targeted 107 respondents. The sample size was determined using the Krejcie and Morgan

(1970). Based on a target population of 107, confidence level of 3.841 confidence interval of 0.05 the sample size is 86 respondents who were studied.

### 3.4.2 Sample Procedure

The sample was collected from the sampling frame in accordance with the proportions of different strata. The customers were divided based on the branches of domicile and proportions selected based on the sample frame on the number of respondents to sample. The researcher was select specifically private banking customers who use mobile banking. The respondents were interviewed daily in the branches for one month.

Simple random sampling was used and each member of the population had an equal chance of being selected. This method was deemed appropriate to collect information from the target population considering time and cost which are factors that a researcher should consider while undertaking research.(Mugenda & Mugenda , 2003).

**Table 3.1: Sampling Frame**

The sampling frame was determined using proportions as shown in the table 3.1:

<b>Branch</b>	<b>Target Population</b>	<b>Sample Size</b>
Wabera	40	32
Mama Ngina	30	24
Hilton	30	24
Mamlaka	7	6
<b>Total</b>	<b>107</b>	<b>86</b>

### 3.5 Research Instruments

The study used questionnaire and an interview guide as the survey instruments to collect data. The interview was administered to private banking officer. The questionnaire contained a section on individual’s bio data, and another section containing questions based on the themes under study guided by the conceptual framework. The questionnaire was simple without jargon being used, leading questions were avoided and the questions were not too long. There were open ended and closed ended questions. It contained a

section that allowed respondents to give any other information that they feel is important to the study. The questionnaire was divided into 5 sections. Section A contained information on respondents demographic characteristics, Section B contained questions on perceived usefulness and adoption of mobile banking service, Section C entailed questions on perceived ease of use and adoption of mobile banking service, Section D captured questions on perceived responsiveness and adoption of mobile banking service and finally section E contained questions on perceived risk and adoption of mobile banking service. For closed ended question a point likert scale was used. This includes (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree and (5) strongly Agree. The scores were done on a scale from one to five with one being strongly disagree and 5 being Strongly Agree.

### **3.5.1 Validity of the Research Instrument**

The instrument validity ensured that the data collected is accurate and collects the information it is meant to collect. (Donald & Delno, 2006). The researcher ensured various types of validity are met namely; external, construct and content validity. The researcher strived to ensure that the variables under study were properly operationalized to achieve content validity and construct. This was done because it is in line with the objectives of the research. External validity was achieved by the researcher selecting a representative sample one whose results can be generalized. Internal validity was achieved by ensuring that the independent variables measured actually affect the dependent variables. Hair et al 2006 define content validity as an assessment of the correspondence between individual items and the construct through ratings by expert judges. This was used in this study. Two experts in banking were asked to provide judgment on the structure and content of the questionnaire to check if items corresponded with the construct. The questionnaire was refined in light of this.

### **3.5.2 Reliability of the Research Instrument**

Reliability of a research instrument is the extent to which the score obtained are stable and have equivalence. Donald & Delno, (2006). Reliability of the instrument relates to how consistent the instrument measures what its intended to measure. The instrument ensured that there is internal and external reliability. The researcher formulated a set of



questions guided by the themes under study which would be effective in gathering the required information.

Initial testing was done with colleagues to ensure that the respondents understood the questions. The questionnaires were refined in light of the feedback given. According to (Mugenda & Mugenda, 2003) pilot testing should be done on using 1-10% of the sample size. The researcher therefore used 8 respondents for pilot testing who were not included in the final data collection. The feedback given was be used to refine the questionnaire. Issues of clarity, vagueness, ambiguity on the questionnaire were corrected. Internal consistency reliability of the questionnaire was measured using Cronbach's alpha. Cronbach alpha increases when the correlations between items increase. Cronbach alpha ranges between negative infinity and one. A reliability score of 0.7 or higher is considered appropriate in order for researchers to use a research instrument Donald & Delno (2006).In this research, internal consistency was tested as shown in Table 3.2.The responses of questionnaires filled by the respondents in the pilot study were entered into SPSS and Cronbach's alpha results were generated as shown. All the factors show a reliability coefficient greater than or equal to 0.7 which means that the data collection instrument was a reliable instrument for data collection.

**Table 3.2: Cronbach Alpha reliability test**

<b>Determinant</b>	<b>No of items</b>	<b>Cronbach Alpha</b>
Adoption of mobile banking service	5	0.82
Perceived Usefulness	8	0.79
Perceived Ease of use	8	0.842
Perceived Responsiveness	8	0.689
Perceived Risk	8	0.778

### **3.6 Data Collection Procedures**

The researcher chose the questionnaire as the data collection instrument due to its suitability for survey design because primary data was being collected. (Saunders et al, 2007). The CBA database was also be reviewed to capture information on the kind of

queries raised relating to quality of service and the turnaround time taken to resolve the queries raised by the customers.

### **3.7 Methods of Data Analysis**

Once data was collected data it was cleaned up by checking for errors, completeness and removal of any duplicates. This data was then be analyzed using excel and statistical package for social sciences. Hypothesis was tested using t test and regression analysis done to determine the relationship between the dependent and independent variables. Regression was assist measure the extent to which the changes in independent variables affect the dependent variables. Pearson's product Moment Correlation Coefficient (r) was be used to measure the correlation between variables.

### **3.8 Operational Definition of Variables.**

Operational definition of independent, dependent and intervening variables is as shown on table 3.3:

Variable	Indicators	Measurement Scale	Analysis Tool
<b>Independent Variables</b>			
Perceived Usefulness and adoption of mobile banking service.	<ul style="list-style-type: none"> <li>• Speed of retrieving information</li> <li>• Number of hours saved</li> <li>• Number of hours wasted resolving issues</li> </ul>	Interval	Spearman's Correlation Regression
Perceived Ease of use and adoption of mobile banking service.	<ul style="list-style-type: none"> <li>• Time taken to learn</li> <li>• Feedback loop</li> </ul>	Interval	Spearman's Correlation Regression
Perceived Responsiveness and adoption of mobile banking service.	<ul style="list-style-type: none"> <li>• Time taken to resolve queries</li> <li>• Number of queries reported</li> <li>• Number of unresolved issues</li> <li>• Number of downtimes reported</li> </ul>	Interval	Spearman's Correlation Regression
Perceived Risk and adoption of mobile banking service.	<ul style="list-style-type: none"> <li>• Number of errors reported</li> <li>• Number of frauds reported</li> <li>• Amounts lost which are reimbursed by bank</li> </ul>	Interval	Spearman's Correlation Regression
<b>Dependent Variable</b>			
Adoption of Mobile Banking Service.	<ul style="list-style-type: none"> <li>• Number of payments made using mobile banking</li> <li>• Number of account balance requests made using mobile banking</li> <li>• Number of transfer requests made using mobile banking</li> <li>• Frequency of usage of mobile banking</li> </ul>	Interval	Multiple regression

**Table 3.3: Operationalization of Variables**

### **3.9 Ethical Issues**

Ethics is very important in research. (Oliver, 2008) .One of the key principles is voluntary participation by respondents and disclosure of the purpose of conducting the study to avoid deception. In light of this the researcher explained the reason why the research is being conducted prior to administering the research instrument and the respondents was voluntarily agree to participate. The respondent were assured that the information collected was confidential and only used for the purposes of the research to be conducted. Plagiarism was avoided by the researcher acknowledging all sources of information used that have been done by other people.

## CHAPTER FOUR DATA ANALYSIS, PRESENTATION AND INTERPRETATION

### 4.1 Introduction

This chapter presents an analysis of data based on the findings of the study. It contains data analysis, presentation and interpretation and findings of the study as obtained from the questionnaire and responses from interview guide.

### 4.2 Questionnaire Response Rate

Questionnaire response rate indicates the rate in percentages at which the questionnaires given to respondents were filled and returned. Table 4.1 shows the response rate from the sample size.

**Table 4.1: Questionnaire Response Rate**

<b>Branch</b>	<b>Sample Size</b>	<b>Response Rate</b>
Wabera	32	26
Mama Ngina	24	20
Hilton	24	19
Mamlaka	6	4
<b>Total</b>	<b>86</b>	<b>69</b>

This study targeted a sample size of 86 respondents out of which 69 filled in and returned the questionnaires, making a total response rate of 80.23% as shown on table 4.1. Mugenda and Mugenda (2003) assert that the questionnaire response rate is adequate for reporting and analysis if it is 50%, 60% response rate is good while 70% is excellent. The questionnaire response rate for this survey was 80.23% which can be considered to be very good and sufficiently representative of the target population. This response rate would be considered adequate to make inferences on the population under study.

### 4.3 Demographic Characteristics of the Respondents

The study sought to find the demographic characteristics of the respondents. This included gender, age and number of years the respondent has used mobile banking service.

#### 4.3.1 Distribution of Respondents by Gender

Information on gender was sought to find out if all gender was represented in the study and if any conclusions could be drawn from the study findings based on gender and adoption of mobile banking service.

**Table 4.2: Distribution of Respondents by Gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	41	59
Female	28	41
<b>Total</b>	<b>69</b>	<b>100</b>

Table 4.2 shows that majority of the respondents, 41 out of 69 which is (59%) were male, while 28 out of 69 females contributed to 41% of the respondents. This indicates that there were more male private banking customers compared to their female counterparts.

#### 4.3.2 Distribution of Respondents by Age

The study also sought to establish the age of the respondents. Table 4.3 shows that 41 out of 69 respondents which represents 59% of sample were between the age bracket above 40 years, 15 respondents representing 22% were between 34-39 years, 9 respondents representing 13% between 30-34 and 4 respondents which is 6% sample between 24 and 29 years. This structure is because private banking customers are high net worth and most people would attain this as they get older.

**Table 4.3: Distribution of Respondents by Age**

<b>Years of Service</b>	<b>Frequency</b>	<b>Percentage</b>
24-29	4	6
30-34	9	13
34-39	15	22
40 and above	41	59
<b>Total</b>	<b>69</b>	<b>100</b>

**4.3.3 Distribution of Respondents by Mobile banking usage**

This study sought to establish years of mobile banking usage amongst the Private banking customers at Commercial Bank of Africa. This distribution is shown in table 4.4

**Table 4.4: Distribution of Respondents by Mobile banking service adoption**

<b>Years of usage</b>	<b>Frequency</b>	<b>Percentage</b>
0-1 years	2	3
1-2years	10	14
Never	48	70
3-4 years	7	10
Above 5 years	2	3
<b>Total</b>	<b>69</b>	<b>100</b>

From the findings, 48 respondents which is 70% of the sample size do not use mobile banking service, 2 respondents representing 3% of sample have used mobile banking service for less than a year, 10 respondents equivalent to 14% for 1-2 years, 7 respondents equivalent to 10% for 3-4 years while 2 respondents representing 3% of all respondents have used it for over 5 years. These findings are significant since they indicate that 70% of all respondents have not used mobile banking and hence the need to establish customers' perception of mobile banking service that has hindered adoption.

**Table 4.5: Factors influencing Adoption of mobile banking service**

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<b>Variable</b>	<b>Mean</b>	<b>Std. Deviation</b>
Influence of perceived usefulness on Adoption	4.20	0.973
Influence of perceived ease of use on Adoption	3.89	0.808
Influence of perceived responsiveness on Adoption	2.41	0.940
Influence of perceived risk on Adoption	3.16	0.820

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On a scale of 1 – 5, with 1 representing low influence and 5 representing strong influence the respondents indicated that perceived usefulness with a mean of 4.20 and a standard deviation of 0.973, and perceived ease of use with a mean of 3.89 and a standard deviation of 0.808 have a high influence on adoption of mobile banking service at Commercial Bank of Africa. Further, the respondents indicated that perceived responsiveness with a mean of 2.41 and a standard deviation of 0.940 and perceived risk with a mean of 3.16 and a standard deviation of 0.820 have no influence on adoption of mobile banking service.

#### **4.4 Presentation and Interpretation of the Findings on the Variables**

This section contains findings from the study. Analysis of data entailed running a multiple regression so that the relationship amongst the study variables can be tested. SPSS version 20 was used for this analysis. Hypothesis testing to determine the level of significance of dependent variable against the independent variable was tested through multiple regression and correlation. The level of significance for hypothesis testing was  $p < 0.05$ . Correlation was tested using Pearson's product Moment Correlation Coefficient ( $r$ ) which was developed by Karl Pearson and is used in social sciences as a tool to measure the strength of linear relationship between two variables (Huber, 2004).

##### **4.4.1 Multiple Regression Model**

Multiple regression analysis was conducted as to determine the relationship between Perceived Usefulness, Perceived Ease of Use, Perceived Responsiveness, and Perceived Risk in against the dependent variable which is Adoption of Mobile Banking Service in



Commercial Bank of Africa. The data was then run through SPSS and a regression model was generated.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

**Where:**

Y= is the dependent variable (Adoption of Mobile Banking Service)

X<sub>1</sub>= is an explanatory factor (independent variable), Usefulness

X<sub>2</sub>=is an explanatory factor (independent variable), Ease of use

X<sub>3</sub>= is an explanatory factor (independent variable), Responsiveness

X<sub>4</sub>= is an explanatory factor (independent variable), Risk

β<sub>0</sub>=Constant (Y intercept), β=Coefficient and ε=Error term

**Table 4.6: Coefficients of Regression Equation**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Constant		1.477	.646		2.285	0.026
Usefulness	X <sub>1</sub>	0.380	.097		3.922	0.0002
Ease of use	X <sub>2</sub>	0.210	.157		1.337	0.004
Responsiveness	X <sub>3</sub>	0.029	.091		0.315	0.818
Risk	X <sub>4</sub>	0.024	.115		0.208	0.998

From table 4.6, the established multiple linear regression model for this study therefore becomes  $Y = 1.477 + 0.380X_1 + 0.210X_2 + 0.029X_3 + 0.024X_4$

This model indicates that a unit increase in Adoption of Mobile banking service leads to 0.38 unit increase in perceived usefulness of mobile banking service, 0.21 units increase in perceived ease of use of mobile banking service, 0.029 unit increase in perceived responsiveness and 0.024 unit increase in perceived risk of mobile banking service.

#### 4.4.2 Correlation Analysis

Spearman's product moment correlation was conducted at 95% confidence level and was a two tailed test. Table 4.7 indicates the correlation matrix between the independent variables (Perceived Usefulness, Perceived Ease of Use, Perceived Responsiveness and Perceived Risk) and Adoption of Mobile banking Service.

**Table 4.7: Spearman Correlation**

	Usefulness	Ease of Use	Responsive ness	Risk
Usefulness	1.000*0.6			
Sig.(2-tailed)	<b>0.232</b>			
ease of use	0.410	1.000		
Sig.(2-tailed)	0.023	.		
Perceived responsiveness	0.028	0.049	1.000	
Sig.(2-tailed)	0.232	0.	.	
Perceived risk	0.000	-0.161	0.197	1.000
Sig.(2-tailed)	0.232	0.623	0.058	.

From the table 4.8, the findings show there exists a positive significant relationship between usefulness at 0.6 and adoption of mobile banking. These results are in consonance with the findings from the multiple regression models. However there exists a weak relationship between ease of use and adoption of mobile banking service at 0.410.

#### 4.5 Influence of Perceived Usefulness on Adoption of Mobile Banking service

**Table 4.8: Regression perceived usefulness**

Model	Sum of squares	df	Mean square	F	sig.
Regression	16.60	1	16.600	30.412	0.0002
Residual	36.572	67	0.545		
Total	53.172	68			

**Table 4.9: Coefficients perceived usefulness**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance	
	B	Std. Error	Beta			
1	(Constant)	2.114	0.259		8.168	0.000
	Perceived Usefulness	0.448	0.081	0.559	5.515	0.0002

Table 4.9 indicates that there was a significant relationship (with t statistic p value  $<0.0002 < 0.05$ ) between perceived usefulness and adoption of mobile banking service in Commercial Bank of Africa. The results support hypothesis  $H_1$  that there is a significant relationship between perceived usefulness and adoption of mobile banking service (with t statistic p value  $<0.0002 < 0.05$ ). This means that if customers perceive mobile banking as useful and convenient option to do banking then they would adopt the mobile banking service.

At 5% confidence level and at a p-value ( $P < 0.05$ ), results table 4.9, Perceived Usefulness has a positive correlation of (0.448) with Adoption of mobile banking service at Commercial Bank of Africa. Correlation findings Table 4.7 the strength of relationship between perceived usefulness and adoption of mobile banking service is 0.60. These results concur with the findings of the regression run on the same variable.

#### 4.6 Influence of Perceived Ease of Use on Adoption of Mobile Banking service

**Table 4.10: Regression Perceived Ease of Use**

Model	Sum of squares	df	Mean square	F	sig.
Regression	8.952	1	8.953	13.565	0.0004
Residual	44.219	67	0.660		
Total	53.172	68			

**Table 4.11: Coefficients perceived ease of use**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
1 (Constant)	1.784	0.464		3.844	0.0003
Perceived Ease of use	0.525	0.1428	0.410	3.683	0.0004

Coefficients Table 4.11 and Regression Table 4.10 indicates that there exists a significant relationship between perceived ease of use (with t statistic p value  $<0.0004 < 0.05$ ) and adoption of mobile banking service in Commercial Bank of Africa .This findings support hypothesis H<sub>2</sub> and conclude from the regression finding that perceived ease of use has a significant influence on adoption of mobile banking service. These findings also concur with the findings from prior studies. This means that customers would adopt mobile banking service if it's a technology that is simple to use.

Findings from correlation table 4.8, shows at 5% confidence level and at a p-value ( $P<0.05$ ), there exists a positive relationship between perceived ease of use and adoption of mobile banking service at 0.525.However the relationship between perceived ease of use and adoption of mobile banking service is weak as shown in Table 4.7 at 0.410.

#### **4.7 Influence of Perceived Responsiveness on Adoption of Mobile Banking service**

**Table 4.12: Regression Perceived Responsiveness**

Model	Sum of squares	df	Mean square	F	sig.
Regression	0.042	1	0.042	0.053	0.818
Residual	53.130	67	0.793		
Total	53.172	68			

**Table 4.13: Coefficients Perceived Responsiveness**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
1 (Constant)	3.380	0.341		9.908	0.000
Perceived Resp .	0.025	0.106	0.028	0.231	0.818

Table 4.12 shows there exists no significant relationship between perceived responsiveness with ( $p = 0.818 > 0.05$ ) and adoption of mobile banking service in Commercial Bank of Africa. We therefore do not accept hypothesis  $H_3$  and conclude from the regression finding that there is no significant relationship between perceived responsiveness and adoption of mobile banking service. Correlation results from Table 4.7 show that there is a weak positive relationship between perceived responsiveness and adoption of mobile banking service at 0.028

#### 4.8 Influence of Perceived Risk on Adoption of Mobile Banking service

**Table 4.14: Regression Perceived Risk**

Model	Sum of squares	df	Mean square	F	sig.
Regression	0.000	1	0.000	0.000	0.998
Residual	53.172	67	0.794		
Total	53.172	68			

**Table 4.15: Coefficients Perceived Risk**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
1 (Constant)	3.454	0.476		7.262	0.000
Perceived Risk	0.000	0.132	0.000	0.002	0.998

Coefficient Table 4.15 and Regression Table 4.14 shows there exists no significant relationship perceived risk with ( $p = 0.998 > 0.05$ ) and adoption of mobile banking service in Commercial Bank of Africa. We therefore conclude that hypothesis  $H_4$  is not supported, that there is a significant relationship between perceived risk and adoption of mobile banking service. Results from correlation table 4.7 at 5% confidence level and at a p-value ( $P < 0.05$ ), indicate no relationship between perceived risk and adoption of mobile banking service at 0.000.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, DISCUSSION CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The study aimed at achieving four objectives. First was to establish the influence of perceived usefulness on adoption of mobile banking service, second to establish the influence of perceived ease of use on adoption of mobile banking service ,third to establish the influence of perceived responsiveness on adoption of mobile banking service and finally to establish the influence of perceived risk on adoption of mobile banking service.

#### **5.2 Summary of Findings**

The study findings show that several factors influence customers' perception on adoption of mobile banking service in Commercial Bank of Africa. The variables studied were perceived usefulness, perceived ease of use, perceived responsiveness and perceived risk. The studied variables, Perceived Usefulness and Perceived Ease of Use influence Adoption of Mobile Banking Service while Perceived Responsiveness and Perceived Risk have no influence on Adoption of Mobile Banking Service. The study established that there exists a significant relationship between Perceived Usefulness and Adoption of Mobile Banking Service (with t statistic p value  $<0.0002 < 0.05$ ) and correlation coefficient of 0.6. Similarly The study there was a significant relationship between Perceived Ease of Use and Adoption of Mobile Banking Service (with t statistic p value  $<0.0004 > 0.05$ ) and correlation coefficient of 0.410.

However the findings showed that that there was no significant relationship between Perceived Responsiveness and Adoption of Mobile Banking Service (with t statistic p value  $=0.818 > 0.05$ ) and correlation coefficient of 0.028. The findings also indicated that that there was no significant relationship between Perceived Risk and Adoption of Mobile Banking Service (with t statistic p value  $=0.998 > 0.05$ ) and correlation coefficient of 0.0002. The findings of this study thus seek to answer the question why there is need for banking institutions to find out what customers' perceptions are and how it influences adoption of mobile banking service

### **5.3 Discussions**

The discussions of findings from this study are presented as follows;

#### **5.3.1 Influence of perceived Usefulness on Adoption of Mobile Banking service**

The results support the hypothesis H<sub>1</sub> that there is a significant relationship between perceived usefulness and adoption of mobile banking service (with t statistic p value  $<0.0002 < 0.05$ ). This findings means that if customers perceive mobile banking as useful and convenient option to do banking then they would adopt the mobile banking service as compared with traditional mobile banking service. Banking institutions should therefore take advantage of this and develop better technologies that add value to mobile banking service in order to promote perceived usefulness

This result is consistent with the expectations of TAM model in mobile banking context (Luarn & Lin 2004), who assert that perceived usefulness has appositive effect on adoption on mobile banking service. This is also in tandem with findings by Laukkanen 2007, in his study in Finland which was grounded on the Tam model that perceived usefulness significantly affect intention to adopt mobile banking. Koenig-Lewis et al 2007, who conducted a research in Germany and grounded their study on Tam and IDT theories found that perceived usefulness influence adoption of mobile banking. The result of this study concurs with findings from previous researchers.

#### **5.3.2 Influence of perceived Ease of Use on Adoption of Mobile Banking service**

Hypothesis H<sub>2</sub> that there is a significant relationship between perceived ease of use and adoption of mobile banking service is supported by the findings ( $p = 0.0004 < 0.05$ ). These findings suggest that consumers seek a simple and easy environment to use for banking. Technology advancement has enabled developments of smart phones which have supported the adoption and growth of mobile banking service. Although smart phones have encouraged adoption of mobile banking, some limitations arise on compatibility of mobile banking platforms with some mobile phones. Therefore banks should collaborate with mobile phone developers and banking software developers to come up with technologies that are compatible thus promoting ease of use which the findings have shown that perceived ease of use influences adoption of mobile banking service. Moreover other banks should learn from these findings that training customers at



the initial stage about mobile banking technologies, changes customers' perception on mobile bank technologies and in turn intention to adopt mobile banking service.

These findings demonstrate a support of findings from prior studies. Previous studies from TAM Model and extended TAM Model (Mathieson et al., 2001; Tan and Teo, 2000) show that there is perceived ease of use has a significant effect on adoption of mobile banking service. This means that customers would adopt mobile banking service if they perceive the technology that as simple to use. One of the reasons for this could be the fact that all customers are provided with training on mobile banking during account opening and they have a choice of which mode they prefer to use either USSD or mobile banking application. The technologies used are always refined to reduce any complexities. As such ease of use influences adoption of mobile banking service for the private banking customers at Commercial Bank of Africa. These findings however contradicts the Koenig-Lewis et al 2010 in a study conducted in Germany, which indicated that perceived ease of use are not salient features that affects intentions towards mobile banking adoption.

### **5.3.3 Influence of perceived Responsiveness on Adoption of Mobile Banking service**

Hypothesis H<sub>3</sub>, that perceived responsiveness has a significant influence on adoption of mobile banking service with ( $p = 0.818 > 0.05$ ). This means that perceived responsiveness does not have a significant influence on adoption of mobile banking service. Joshua and Koshi (2005) assert that perception and expectation of service quality was better in performance in new generation banks compared to the old. This then could be explained by the fact that customers are aware of the turnaround time of various services, breach of which is taken seriously by customers and management. Moreover the fact that service excellence and adherence to service level agreements is a key feature of service provision by Commercial bank of Africa. From the findings perceived responsiveness does not influence adoption of mobile banking service

This also contradicts findings from other studies that responsiveness has a significant influence on adoption of service (Allred & Addams, 2000). According to Jawardhena & Foley 2000, there exists a strong correlation between transaction processing speed and

user satisfaction. Jun and Cai 2001, concur with this findings and assert that the slow response of customer queries affect the interaction with e-platform and in turn the adoption of the mobile banking service. The difference in findings between this research and other scholars could be explained using results from interview schedule which shows that Commercial Bank of Africa is very strict on employees adhering to service level agreements and turnaround time provided for specific services. The key informant indicated that; “Commercial Bank of Africa has systems which are set to measure how issues are resolved from when the queries are raised to when issue is resolved. The mobile banking platform is also monitored and reports generated on downtimes, service availability and service response time.” This reports are analyzed by quality assurance team and relevant teams updated on what need to be done to improve the system. To ensure adherence to this by staff, a reward mechanism is in place which reflects adherence or breach of service level agreements.

Other banks and micro finance institutions can use this as a basis to improve service performance levels on the mobile banking platform and service. They can learn from Commercial Bank of Africa and establish mechanisms to monitor platforms. Adherence to service level agreements can also be done by establishing reward mechanisms.

#### **5.3.4 Influence of perceived Risk on Adoption of Mobile Banking service**

Table 4.7 shows that hypothesis H<sub>4</sub> is not supported, that there is a significant relationship between perceived risk and adoption of mobile banking service. According to the key informant interview; “there have been nil Cases of fraud reported in relation to mobile banking”. The respondents agree that there should be room for user authentication when using mobile banking service. This confidence in safety of mobile banking platform could be attributed to the fact that the respondents do not perceive risk as a factor influencing adoption of mobile banking service.

Findings from this study contradict findings from previous scholars. Prior studies (Laforeti & Li, 2005; Lee & Kim 2007) found that perceived risk has a negative influence on adoption of banking service. This suggests that perceived risk has no influence on adoption of mobile banking service in the context of Commercial Bank of Africa. One

possible reason could be the stringent security measures put in place by Commercial Bank of Africa to safeguard customers' finances against frauds. Wu and Wang 2005, in a study of mobile commerce found that perceived risk influences the intention to use an e-platform. Tan and Teo 2000, concur with this findings and assert that security is an integral feature that customers look at in assessing the value they would get from mobile banking service. In a study conducted on internet banking adoption, Brown et al 2003, revealed that perceived risk is a determinant factor in adoption of mobile banking service.

Although perceived risk is not a factor influencing adoption of mobile banking at Commercial Bank of Africa, which is attributed to the safeguards put in place for the mobile banking platform, customers still show that some aspects like user authentication still remain an important feature in ensuring safety of the platform. Banks should strive to enhance safety of platforms in an attempt to enhance adoption of mobile banking service. Mobile service providers and mobile phone manufacturers can also assist in enhancing security by providing traceability capability inbuilt into the handsets.

#### **5.4 Conclusions**

Mobile banking is a banking service used to provide anytime anywhere banking without having to visit the banking halls. It is important for banks and technology providers to study the influence of customer's perception on adoption of mobile banking service. This Study adopted the Tam model to objectives to study the influence of customer's perception using selected branches of Commercial Bank of Africa on adoption of mobile banking service. The study used a sample of 69 respondents and concluded that perceived usefulness and perceived ease of use influence adoption of mobile banking service while, perceived responsiveness and perceived risk do not influence adoption of mobile banking service. The study findings contradict previous studies that all the variables under study influence adoption of mobile banking service. Conversely this could be explored by future researchers.

Perceived usefulness and perceived ease of use forms a basis for adoption of mobile banking service. The variation to use mobile banking service could be attributed to the nature of respondents who are high net worth customers and the nature of the bank which

have established strong safeguards against frauds and its strict adherence to service level agreements with customer hence the lack of influence of perceived risk and perceived responsiveness on adoption of mobile banking service.

### **5.5 Recommendations for policy action**

1. Banking institutions should take advantage of these findings that indicate that perceived usefulness influence adoption of mobile banking service and develop better technologies that add value to mobile banking service in order to promote perceived usefulness.
2. Banks should collaborate with mobile phone developers and banking software developers to develop technologies that are compatible thus promoting ease of use which the findings have shown influences adoption of mobile banking service. Moreover training customers at the initial stage about mobile banking technologies, changes customers' perception on mobile bank technologies and in turn intention to adopt mobile banking service.
3. Service excellence and adherence to service level agreements is a key feature of responsiveness of banking service. Banks and micro finance institutions should strive to adhere to service level agreements with customers and establish monitoring mechanisms on adherence to this. A reward mechanism should also be established to encourage employees to adhere to service level agreements.
4. A robust security system is an integral feature that customers look at in assessing the value they would get from mobile banking service. Aspects like user authentication should be inbuilt into mobile banking platforms to enhance security. In light of this, banks should establish safe and secure systems which will enhance uptake of various bank technologies created to enhance service provision and competitive edge.

## **5.6 Suggestions for Further Research**

Based on the findings from this study, the researcher makes the following suggestions for further research;

1. The researcher recommends that the research model could be extended by adding more variables to study. Tam Model (Davis, 1989) has been adopted in this research. The study shows that perceived usefulness and perceived ease of use to be the factors influencing adoption of mobile banking. Further studies could be done using more statistical analysis tools and not only limited to regression and correlation.
2. Other studies should be conducted to establish why customers still do not adopt mobile banking on other categories of bank customers. This is because the study focused on private banking customers who have a high net worth.
3. That a study be conducted to find out the influence of customers perception on adoption of mobile banking service in the context of a public listed bank which have a large customer base and operates in a different structure.

## **5.6 Contributions to body of knowledge**

The study contributes to the body of knowledge by highlighting the factors that are considered to influence customer's perception on adoption of mobile banking based on the Tam Model. It demonstrates that the kind of service provided by the bank would shape the customers perception and in turn influence adoption of mobile banking service. The study reveals the influence of customers' perception on mobile banking and the activities that need to be improved to enhance adoption of mobile banking service. To do this, banks need to invest in technologies and make improvements to mobile banking platforms in light of the findings showing the aspects that consumers deem as important to shape their perception on adoption of mobile banking service.

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**APPENDIX I**  
**LETTER OF TRANSMITTAL OF DATA COLLECTION INSTRUMENTS**

Verah Okombo,  
P.O Box 30347-00100  
Nairobi,  
10<sup>th</sup> June 2015

Dear Respondent,

RE: REQUEST FOR INFORMATION

I am a Master's student at the School of Continuing and Distance Education at the University of Nairobi currently conducting a research study on adoption of mobile banking service.

You have been selected as one of the respondents to assist in providing the requisite data and for undertaking this research project. I kindly request you to spare a few minutes and answer a few questions. The information obtained was be used for academic purposes only, and was be treated with utmost confidentiality. Your identity will be anonymous and your name shall not be recorded.

Kindly respond to all the questions honestly and truthfully.

Yours faithfully,

Verah Okombo,

0720665088.

**APPENDIX II  
QUESTIONNAIRE**

This questionnaire is designed to gather research information regarding M&E integration on development projects in Kenya. The questionnaire has six sections. For each section, kindly respond to all items using a tick [ ] or filling in the blanks where appropriate.

**SECTION A: DEMOGRAPHIC CHARACTERISTICS**

**Respondent's Particulars**

**Respondents Number: 0001**

Respondent's branch.....

a) What is your gender

Male	Female

b) Specify the age bracket years

<b>18-25</b>	<b>24-29</b>	<b>31-34</b>	<b>35-39</b>	<b>Above 40</b>
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c) Specify the number of you have used mobile banking

<b>Never</b>	<b>1-2 years</b>	<b>3-4 years</b>	<b>5 years</b>	<b>Greater than 5 years</b>
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**SECTION A: ADOPTION OF MOBILE BANKING SERVICE**

**1.1 To what extent do the following represent your usage in the past one month?**

Use the scale where 1= Never, 2= Once, 3= Twice 4= Thrice and 5= Greater than thrice

<b>ITEM</b>	<b>CONSTRUCT</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1</b>	I transfer money from my account using mobile banking					
<b>2</b>	I check my account balance through mobile banking					
<b>3</b>	I make payments using mobile banking					
<b>4</b>	I perform card services using mobile banking					
<b>5</b>	I query my account information via mobile banking					

**1.2 Given a chance i would use mobile banking more(please state your answer)**

.....  
 .....

**SECTION B: USEFULNESS AND MOBILE BANKING SERVICE**

**2.1 To what extent does this represent your opinion on usefulness of mobile banking service?**

Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

ITEM	CONSTRUCT	1	2	3	4	5
1	Mobile banking gives the flexibility of banking anywhere					
2	Mobile banking saves on time					
3	Mobile banking allows prompt service using a different channel					
4	Mobile banking is useful					
5	Generally, using mobile banking is advantageous					
6	Use of mobile banking wastes time resolving misaligned transactions					
7	Mobile banking is efficient in service delivery					
8	Mobile banking helps in speedy retrieval of account information					

**SECTION C: EASE OF USE AND MOBILE BANKING SERVICE**

**3.1 To what extent does this represent your opinion on ease of use of mobile banking service?**

Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

ITEM	CONSTRUCT	1	2	3	4	5
1	Mobile banking interface is simple					
2	Mobile banking interface is easy to use					
3	Learning to use mobile banking would be easy					
4	The instructions on mobile banking are clear					
5	It takes me a lot of time to learn how to use mobile banking					

6	Generally, using mobile banking to accomplish banking tasks is easy					
7	Mobile banking interface does not need much training in order to use					
8	Using mobile banking does not require a lot of mental effort					

**SECTION D: REPOSIVENESS AND MOBILE BANKING SERVICE**

**5.1 What is your opinion on responsiveness of mobile banking service?**

Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

ITEM	CONSTRUCT	1	2	3	4	5
1	Mobile banking inquiries receive responses upon any inquiry					
2	Mobile banking inquiries receive responses within the stipulated turnaround time					
3	The resolution offered is satisfactory					
4	Employees are knowledgeable to answer mobile banking queries					
5	The bank has good intentions in addressing customer concerns					
6	Mobile banking provides real time account information					
7	The transactions may be incomplete due to network downtime					
8	I have experienced network downtime without prior notice					

**SECTION E: RISK AND MOBILE BANKING SERVICE**

**5.1 What is your opinion on risk of mobile banking service?**

Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

ITEM	CONSTRUCT	1	2	3	4	5

1	Mobile banking use should provide room for user authentication					
2	Mobile banking use poses a security threat to me by losing money to hackers					
3	Mobile banking use leads to unedited account balances					
4	Providing private information when using mobile banking is risky					
5	Mobile service providers offer a safe environment to transact					
6	The bank maintains error-free records					
7	I feel safe in all my transactions with the bank.					
8	When errors occur I'm worried the bank was not refund					



## **Thank you for your Participation**

### **APPENDIX III**

#### **IN-DEPTH INTERVIEW GUIDE: Private banking officer**

##### ***INTRODUCTORY REMARKS***

I am a Master's student at the School of Continuing and Distance Education at the University of Nairobi currently conducting a research study on adoption of mobile banking service for partial fulfillment of for award of the degree of Masters of Arts in Project Planning and Management.

I kindly request you to spare a few minutes for an interview with you by asking you some questions relating to private banking customers. The information obtained will be used for academic purposes only, and will be treated with utmost confidentiality.

1. What qualifies a customer to use mobile banking facilities?
2. How is on boarding done for mobile banking service?
3. What is your view about the current adoption rate of mobile banking services of customers?
4. What do you think contribute to the adoption rate at CBA amongst private banking customers?
5. What are the challenges faced by the bank about the adoption rate of mobile banking?
6. What's your opinion on the factors that influence customer's perception of mobile banking service?
7. Kindly rank the factors based on importance given to each?
8. What explanation would you give for the ranking provided?
10. What are the major issues faced by the customers in regards to mobile banking services?
11. What kind of queries do you receive on mobile banking?
12. How are the queries handled?

13. How do you ensure adherence to set timelines?
14. How many mobile banking frauds have been reported in the past year?
15. What explanation would you give for the fraud cases reported?

**APPENDIX IV**  
**TABLE FOR DETERMINING SAMPLE SIZE FOR A GIVEN POPULATION**

Table for Determining Sample Size for a Given Population									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size  
"S" is sample size.

Source: Krejcie & Morgan, 1970

**APPENDIX V**  
**APPROVAL LETTER FROM THE UNIVERSITY**



**UNIVERSITY OF NAIROBI**  
COLLEGE OF EDUCATION AND EXTERNAL STUDIES  
SCHOOL OF CONTINUING AND DISTANCE EDUCATION  
DEPARTMENT OF EXTRA-MURAL STUDIES  
NAIROBI EXTRA-MURAL CENTRE

Your Ref:

Our Ref:

Telephone: 318262 Ext. 120

Main Campus  
Gandhi Wing, Ground Floor  
P.O. Box 30197  
NAIROBI

14<sup>th</sup> July, 2015

REF: UON/CEES//NEMC/22/110

**TO WHOM IT MAY CONCERN**

**RE: VERAH OKOMBO- REG NO L50/68816/2013**

The above named is a student at the University of Nairobi, College of Education and External Studies, School of Continuing and Distance Education, Department of Extra-Mural Studies pursuing Masters in Project Planning and Management.

She is proceeding for research entitled "influence of customer perceptions on the adoption of mobile banking service in Kenya". A case of selected branches of commercial bank of Africa

Any assistance given to her will be appreciated.

  
**CAREN AWILLY**  
CENTRE ORGANIZER  
NAIROBI EXTRA MURAL CENTRE



**APPENDIX V  
RESEARCH PERMIT**

**APPENDIX V  
RESEARCH PERMIT**



**NATIONAL COMMISSION FOR SCIENCE,  
TECHNOLOGY AND INNOVATION**

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97 East, 1st and 2nd  
States Highway  
P.O. Box 30213-00100  
NAIROBI-KENYA

Ref. No.

Date:

31<sup>st</sup> July, 2015

NACOSTI/P/15/8348/7326

Verah J. Okombo  
University of Nairobi  
P.O. Box 30197-00100  
NAIROBI.

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *"Influence of customer perceptions on adoption of mobile banking in Kenya. The case of selected branches of CBA,"* I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 3<sup>rd</sup> September, 2015.

You are advised to report to the Chief Executive Officers of the selected Banks, the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. S. K. LANGAT, OGW  
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officers  
Selected Banks.

The County Commissioner  
Nairobi County.

National Commission for Science, Technology and Innovation, P.O. Box 30213, Nairobi, Kenya