FACTORS INFLUENING THE GROWTH OF MOBILE BANKING SERVICE IN KENYA

BY

SAMUEL G. KIURA

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DECLARATION

I declare that this research dissertation is my original work and has not been submitted to any other institution for academic purposes or has been previously published for award of a degree. I also declare that this dissertation contains no material written or published by other person except where due reference is made and author duly acknowledged.

Student Name: **Samuel Gichobi Kiura** Reg. No. **14/04048**

Signed……. Date…….

I do hereby confirm that I have examined the dissertation of

Samuel G. Kiura

And have certified that it is submitted for examination with my approval as the supervisor

Signed ……. Date …….. …….

DR. MICHAEL NJOGO

ABSTRACT

With continuous innovations, banking in Kenya has found itself unable to resist technological indulgence which has resulted to competitions and banks are forced to explore new channels for monetary services beyond the banks premises. The general objective of the study was to establish factors affecting the growth of mobile banking in Kenya. Specifically, the study was to determine how perceived ease of use; transaction costs and perceived risk have affected the growth of mobile banking in Kenya. The target population was 43 commercial banks in Kenya and the sample size was 30 commercial banks with head offices in Nairobi. Respondents were randomly selected from a sample frame of 5 staffs from data centre division of 30 commercial banks. A questionnaire was used to collect the data from the respondents. Data was analysed using descriptive statistics, correlation analysis and multiple regression analysis. The findings will help the policy makers mainly in financial services sector on how banks need to keep ahead of innovations in order to remain competitive. The study will be important to investors and government agencies like CBK and KNBS in establishing the level of impact and the growth of mobile banking in the economy.

Key words: Mobile banking service, customer. Innovation.

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TABLE OF CONTENTS

DEDICATION

I would like to dedicate this dissertation to my family for support and encouragement throughout my studies; for their patience and understanding while I was away from them for studies and to my friends for their moral and material support during my studies.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

CBK- Central Bank of Kenya

KNBS- Kenya National Bureau of Statistics

M-banking- Mobile banking

CA- Communication Authority of Kenya.

DEFINITION OF TERMS.

Customer- A customer is an individual who uses a service whereas in this context it means an individual that uses mobile banking service.

Mobile banking- Is a system that allows customers of a financial institution to conduct a number of transactions through a mobile device, tablets or PDF. (Porteous 2006)

Innovation. -Something original and more effective and as a consequence, new that ‘breaks into ‘’ the market or society (Lerfer, 2000)

Mobile Commerce- Is a business transaction conducted through mobile communication networks or the internet (Sian &Shen, 2003)

Risk- The probability of something happening in the future-good or bad: the likelihood of an occurrence of an event and the associated loss by the event or loss caused by the event (Featherman&Povlou, (2003)

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study.

Mobile banking is a revolution that is driven by the world's one of the fastest growing sectors mobile communication technology where information technology has been used under two different avenues in banking; communication connectivity and business processes (Jain.2013). In most countries, more than half of the population already use mobile banking and the market is still growing (Atman, 2013). It has evolved overtime in the last ten years creating business opportunities globally. This explosion is due to market penetration of 3G and 4G Smart mobile phones; the wireless service delivery channels becoming alternative means through which financial institutions offer services (Atman 2013). Wang, Chen and Wang(2015) observed that within the 2011 survey, over sixty per cent of mobile phone users had used mobile banking and this figure has gone up to ninety six per cent in line with 2015 survey. The main driver of this positive growth in mobile use is due to customer perception that it's easy to use, affordable and more convenient to the customers (Wang et al 2015).

Mobile banking can be defined as a facility which provides banking services such as balance enquiry, funds transfer, bill payment, transaction history via a user mobile phone (Quick, 2009) while Segun (2011) defines mobile banking as an occurrence when customers access a banks networks using cellular phones, pagers, personal digital assistants or similar devices through telecommunication wireless networks. Akpan (2009) viewed mobile banking (M-banking) as an application of mobile commerce that enables customers to bank virtually at any convenient time and place.Medhi et al, (2009) believes that the cornerstone of M-commerce is built by M-banking and many banks have taken advantage of this innovation in order to increase customer satisfactions, manage costs, increase profits and bring positive transformation of payment system in the economy. Mobile banking can also be considered as the convergence of mobile technology and financial services (Chung & Kwon, 2009).

Development of mobile banking globally is due to growth of mobile technology which has created great opportunity for banks to develop this channel to offer financial services. This tremendous transformation is taking place in all sectors of the banking industry. According to Lee, Lee and Kim (2007), mobile banking presents an opportunity for banks to expand market penetration through mobile services.

Technology is a major driver in this transformation which has resulted to breaking the legal, geographical and industrial barriers to entry and created new products and services. Currently, it's estimated that mobile phone users are approaching the three billion mobile subscriptions mark globally and advertisers and operators alike are keenly aware of the opportunity to connect with potential consumers through mobile phones(Hibberd,2007). Cruiz et al, (2010) observed that banks have very large potential to offer mobile service to people living in remote villages where only few computers are connected to the internet. As a result, there is a big untapped market for M-banking to exploit. However, Spence and Smith (2010) supported this by observing that 90% of the world population does not use banks and a large and growing percentage of the non-banking population use mobile phones. Dasgupta et al, (2011) suggested that the emerging mobile banking may give banks a good commercial opportunity providing their services to rural people who are unable to access the internet. M-banking is one of the most promising tools for achieving a cost-effective pathway to digital financial inclusion.

According to Communication Authority of Kenya, report (2014), ICT Sector has fully grown rapidly with mobile penetration rate hitting a high of 80.5 per cent as mobile subscription accrued in range from 32.2 million to 33.8 million denoting a 1.6 per cent growth (C.A,2014). Through mobile banking, transactions can be conducted more securely and at lower cost than with traditional platforms. Innovations in telecommunication sector have greatly contributed to this growth by usage of mobile devices in banking. The essence of mobile banking service innovation is to reach banking services to the unbanked in the rural areas who have no access to bank accounts and are mainly at the bottom of the economic pyramid. Thus, they are able to receive banking services such as being able to save and borrow in a cost-efficient and safe ways, view account balances, transfer funds between accounts in-house and other banking institutions, paying bills and view mini-statement. Eckhardtet al, (2009) viewed the benefits attributed to mobile banking as but not limited to portability, labour free, reduced cost, convenience, wider customer reach, high level of security, accessibility and availability. According to Dermish et al, (2012) mobile payments or branchless banking have become a key catalyst for financial inclusion and make use of agents to penetrate areas where the poor live and work. Some examples of successful mobile banking implementation in developing countries can be seen in Pakistan with Easy Paisa and T-Cash in Haiti(Achanya&Kshetni,2012)

Mobile banking services are used even in areas with little or no banking infrastructure especially in the remote rural and urban areas. Therefore, mobile commerce is popular in countries where most of their population is mainly unbanked. Consequently, the use of mobile phones has facilitated the expansion of market's social business and public service in both developing and developed countries (Spence and Smith,2010). According to Ayo, Adewoye and Oni (2010)

mobile banking helps banks to increase speed, shorten processing periods, improved flexibility of business transactions and reduces costs associated with having personnel serve customers.

Mobile banking present an opportunity for banks to expand market penetration through mobile services (Lee, Lee & Kim, 2007) and provide users with time independence, convenience and promptness' of services along with cost saving. According to Bangladesh Telecommunication Regulatory Commission (BTRC) report, there is significant growth in the use of mobile phones, with 61% of the population in Bangladesh using them. Mobile Smart phones thus becomes a tool used every day which creates opportunity for emergency of banking services to those who were previously unbanked population through M-banking. M-banking use has made basic financial services accessible to those who are low income group, minimises time taken and distance to the nearest bank branch.

In developing countries, there are more people with mobile phones than with bank accounts (Portteous D, 2007). BoatengandDuncombe,(2009) study found out that mobile phones have the potential to become low cost accessible accounts or delivery channels for financial services, in particular electronic money and mobile banking. The main reason for this is that there exists an inherent need by the poor for low cost financial services that could be delivered by the mobile phone (Boateng&Duncombe, 2009). While many of such people argue that internet and other technology based transaction is not safe, not practical and would lead to fraud, a lot of people think it's safer, flexible in time and can be done anywhere and anytime (Chowdhung&Ahmmad, 2011)

Consequently, it's important for an in-depth research analysis on the mobile banking by service providers to establish the factors influencing growth of mobile banking. A clear understanding of these factors will enable mobile banking service providers to develop suitable marketing strategies, business models, processes, awareness programmes and pilot projects (GSMA, 2009). This has been made possible by radical transformations and latest innovation that is utilized by both banks and other financial institutions.

1.1.1Global trends and growth of M-banking.

About 90 per cent of the world population today lives in areas of mobile phone coverage (Keeny&Keremane, 2007). Mobile banking has no doubt increased the volumes of transactions as a channel of banking services in the last ten years. This growth is due to innovation and development by banks to improve their service delivery to their customers.

In third world countries, Asia and Africa, M-banking is expected to grow while in most developed countries like Europe, America and some Asian countries has higher population

which use internet banking and have bank accounts. According to KPMG (2015), in United Kingdom, mobile banking adoption rate is the highest which stand at an average of 38% due to mature markets of internet banking and mobile banking. Banks in UK, launched mobile banking services between 2010 and 2011(KPMG, 2015). Prior to the launch, customers were already using internet banking to access financial services.

In New Zealand, Auckland Saving Bank (ASB) was the first bank to offer internet banking services in 1996(ASB,2011). It is estimated that New Zealand had four hundred and eighty thousand regular internet banking customers by the last quarter of 2001, reflecting a 54% growth rate over the last quarter in the previous year (Taylor, 2002).

In United State of America, most banks are currently offering their customers with new channels which have made mobile banking friendly and easy(KPMG,2015). This follows the introduction of mobile banking application in 2007, when iPhone also was released (U.S News,2007). Rapid growth of android based applications enabled banks to bring new options for their customers which enabled them to check their account balance, transfer money, pay bills and much more even faster than before, despite the time and place (Nagaraju, 2015).

According to Ratten (2011), usage of M-banking has increased additionally since more people have access to mobile devices and due to the fact that internet has become cheaper and more acceptable. Thus, some of these factors have led to growth of mobile banking globally. However, KPMG (2015) observed that, in US there are other mobile service providers who are competing with banks in mobile technology. The major challenge facing the mobile banking in the US is security and information confidentiality while using mobile services to carry out financial transactions.

In the last ten years, Africa has witnessed rapid growth of mobile banking and adoption due to high penetration of Smart phones among her population. Humphery et al, (2000) observed that use of information technology and computerization in banks in 1960s and 70s enhanced efficiencies and reduced staffing needs due to internal technological wave. Most African countries have high level of unbanked population who has no access to financial services. M-banking is a subset of banking as it allows everyone easy access to their banking operations via mobile handsets (Yu and Sang, 2009). Banks have therefore continuously developed new channels to offer services. Countries where M-banking is adopted includes Tanzania, Ghana, South Africa, Kenya and Nigeria.

The use of mobile banking in Ghana is not well pronounced like other developed countries of the world and the banking industry should have a large part to play in this (Cudjoe et al, 2015). Today, the incorporation of IT have changed many ways businesses are carried out all over the

world and it has subsequently changed the way businesses are been conducted and managed (Ngai et al,2002). The fast growth of mobile phones in a developing economy such as Ghana have caused the increase in the number of mobile users to exceed the numbers of banks (Porteous,2011)

According to Cudjoe et al,(2015),Ghanians have formed a negative behavioural pattern towards mobile banking due to perception on credibility and financial costs which have a major setback with regards to customer adoption of mobile banking services. In this regard, banks in Ghana should create more awareness through vigorous campaign by personal interactions with customers.

The introduction of Global System of Mobil Communication (GSM) into the Nigerian market, in 2001, the demand for mobile banking has rapidly expanded (NCC, 2008). Mobile phones are increasingly becoming an essential part of the lives of the Nigerians and other developing countries of the world (Medhi et al, 2009). However, expansion of the mobile phone market in NigeriaNCC(2013) are linked to the deregulation of the communication sector and interplay of market forces. In contrast to other African countries, NCC (2013) stressed that South Africa with more developed infrastructure, has the highest broadband penetration, 6% followed by Morocco with 2.8%. The telecommunication companies operating in Nigeria are MTN,Globacom, Etisalat, Visafone, M-Tel, Intercellular, Multi-link, BhartiAirtel, StarComms and Reliance (NCC, 2013).

In Kenya, mobile banking as a medium of banking evolved with introduction of M-pesa service in March 2007. Kenya has 43 licenced commercial banks, which have undergone major changes since liberalization of the market in the 1990s. The reforms that have been taking place in the financial sector have not fully stimulated the macroeconomic factors that drive growth in the commercial banks (Meso&Kaino, 2008). Therefore, banks in Kenya have used mobile banking as one of the methods to increase their customer base. This has resulted in heavy investments in mobile technology systems to cater for large volumes of transactions.

Mobile phone user has also grown rapidly creating a great opportunity for banking service to reach the unbanked population through mobile banking. Across the developing world, there are more people with mobile phones than with account (Ndumba&Muturi, 2014). Use of M-banking has made financial services to be accessible in the rural areas where banking services were limited due to lack of bank branches. Recent development of ICT infrastructure has also created an opportunity for banks to offer financial services to low income earners in the rural areas. CAK (2013) reported that, there were about 30 million mobile phone subscribers in Kenya. This resulted to many commercial banks offering mobile banking as a channel for delivery of

financial services to their existing customers. Shi and Lee (2008) stated that in order to meet customer expectations, banks vie with each other to new and innovative services to ensure a competitive edge.

The price of mobile phones has drastically reduced due to waiver of duty by the Government and increase in mobile operators has intensified competition leading to price competition in the market. The competition among these companies is very commendable because it has contributed to vast improvement in transformation and access quality communication for people across Kenya (AlboDiaz & Ng, 2012). The major operators are Safaricom, Organge, and Airtel. Safaricom takes the highest share of market (Mas & Radcliffe, 2010).

In Kenya and other African countries, unlike developed countries like US and European and some Asian counties, the mobile phone service providers only give service platform but do not give out the mobile phones. The service companies are therefore independent of the mobile phone provision companies (Buku& Meredith, 2013).

1.2 Statement of the problem.

An appropriate banking atmosphere is considered a key pillar as an enabler of economic process (Koivo, 2002). With continuous innovations, banking in Kenya has found itself unable to resist technological indulgence which has resulted to competitions and banks are forced to explore new channels for monetary services beyond the banks premises (Yu, 2013). Driven by the challenge to expand and capture a bigger share of the banking market, some banks invest a lot in additional bricks and mortar to enlarge their geographical and market coverage whereas others have thought –about a more revolutionary approach to deliver their banking services via a brand-new medium (Yu, 2013).

With current fast diffusion of technology, banking is quickly changing from traditional methods into alternative channel through which banks are providing banking services and product. M-banking is currently being thought-about as a strategic weapon and can revolutionise the method banks operate, deliver and vie against each other, particularly when competitive benefits of ancient branch networks are wearing away speedily (Baraghani, 2007). Banking institutions cannot increase their customer base in the mobile banking sector without knowing what factors enable consumers from adopting such services. There is increasing pressure on banking institution to increase their revenue and therefore it is important to understand what drives consumer adoption of mobile banking services. Failure to understand this phenomenon may result to loss of market share and limited growth in the mobile banking sector.

Previously, studies done have addressed conceptual issues and conducted general consumer survey (Pousttchi 2003: Tanga and Karlson, 2004). However, there is little research available in the literature on factors influencing growth of mobile banking in Kenya. In the past decade, the level of experience with technology is higher and continues to grow and therefore the future of mobile banking service in Kenya looks bright and encouraging. The uptake and adoption of mobile banking service has since grown tremendously due to heavy investment by commercial banks.

There has been a number of studies in the area of mobile banking in Kenya and some African countries such as Ghana, Nigeria, South Africa and Zimbabwe. A study by AL- Fahm (2012) presented evidence for a number of variables that influenced consumer behaviour intention to use mobile banking.

Research conducted in Kenya by Okiro and Ndungu (2013) only focused on impact of mobile and internet banking on financial institutions. Previous studies show that mobile banking is still in its growth state and will continue to grow (Mobile banking, 2015) therefore it's important to examine the reason behind this by examining customer behaviour within mobile banking as well since Scandinavian nations can be seen somewhat pioneers when it comes to innovations (Tung, 2015). Polasik(2008) asserts that mobile banking has the potential to be transformational owing to various facts like existing infrastructures and target markets but there is no study in Kenya that has looked at factors that drive growth of mobile banking.

However, study conducted by Oluoch,(2012) focused on adoption of mobile banking technology; its relationship with other variables.Ndumba&Muturi (2014) directed their research on risk,trust and convenient on adoption of mobile banking while Wakungi(2015) focused on factors affecting utilization of mobile banking in selected Banks in Thika Town.

Edwin and Muturi(2016) carried out their research on factors influencing the use of mobile banking in Kenya but focused their research on M-KESHO in Bungoma County, Achieng and Ingari(2015) researched on factors influencing the adoption of mobile banking in Kenya Commercial Banks and focused on KCB Kilindini Branch.

These studies while shedding more light on the mobile banking they limited themselves only on use and adoption of mobile banking. Thus to the best of the researcher's knowledge, there is not even a single study identified that investigated the factors which influenced user's decision to use mobile banking as a channel of financial services. Consequently, the problem that this research investigated was what factors influences the growth of mobile banking service in Kenyan economy by looking at how perceived ease of use (PEOU), transactional costs (TC) and

perceived risk (PR) has contributed to rapid growth of mobile banking across the country; Kenya.

1.3 Objective of the study.

1.3.1 General objective.

To determine factors influencing the growth of mobile banking in Kenya.

1.3.2. Specific Objectives

i) To find out how perceived ease of use contribute to the growth of mobile banking in Kenya

ii) To determine how transaction cost affect growth of mobile banking in Kenya

iii) To find out how perceived risk contribute to the growth of Mobile banking in Kenya.

1.3.3. Research Questions.

i) How does perceived ease of use contribute to the growth of mobile banking in Kenya?

ii) What is the effect of transaction cost on the growth of mobile banking in Kenya?

iii) To what extent does perceived risk contribute to the growth of mobile banking in Kenya?

1.4 Value of the study.

Firstly, the findings from this research will help customers who have not signed-up the mobile banking service to make informed decision since the study revealed the benefits, risks and other important information which they require to make decisions.

It will also benefit the banking sector players as it will identify customer's needs and expectations and provide information to government agencies such as CCK,CBK,CA and public which will help in the implementation and monitoring of M-banking service. Further it will help banks identify and develop the best marketing strategy to create awareness about the mobile banking. Also, these bodies will use the study findings to assess the impact and level of adoption and growth of mobile banking service in the country. This will help in formulation of compliance policies, fraud detection mechanism and control of money laundering since the channel can be easily used for fraudulent activities.

Thirdly, the findings will help the policy makers to draw suitable laws, rules and regulations which will govern and guide the implementation and adoption of mobile banking service in Kenya. M-banking providers will also use the findings to develop suitable business models, awareness programmes, marketing strategies and pilot projects mainly to the unbanked segment of the economy, mainly rural areas.

Fourthly, the study will help donors who want to invest on mobile technology by identifying the gaps and offer support solution to develop the mobile technology infrastructure.

Lastly the research will add to the existing body of knowledge which will be useful for future decision making.

1.5 Justification of the study.

Past studies carried out in Kenya mainly focused on the adoption and use of mobile banking service but none is known done which focused on the growth of mobile banking service in the country. It's on this basis that this research will be carried out to determine the factors influencing the growth of mobile banking service in Kenya.

Lastly, considering most of the previous researches done which are relevant to this study are on adoption and use of mobile banking and internet banking in Kenya, this research will shed more light on the growth of M-banking service in Kenya and factors influencing its growth, hence justification of my study.

1.6. Scope of the study.

The research sought to determine the factors influencing the growth of mobile banking service in Kenya. The study will limit itself to the growth pattern in the banking sector on commercial banks using mobile banking service as a channel of providing financial services to their

customers. The study will focus on head office staffs for the selected commercial bank's Data Centre division which are support departments for mobile banking service.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction.

This chapter covers the theoretical review, empirical review, conceptual framework and the summary of literature review.

The chapter discusses the theories that are relevant to the study; Innovation Diffusion theory, technology acceptance theory and the theory of planned behaviour and past studies. The chapter also present a conceptual framework to demonstrate the relationships among variables and operationalization of conceptual framework and focus on the three study objectives; ease of use, transaction costs and perceived ease of use to evaluate their effect on growth of mobile banking in Kenya.

2.2 Theoretical Review

Several models and theories have been developed on information Technology (IT) adoption such as Davis'(1989) Technology Acceptance Model (TAM), Rogers' (1995) Diffusion of Innovation (DoI) and The Unified Technology Acceptance User Theory (Venkatesh, Morris, Davis & Davis 2003). Further studies contributed to the improvement of TAM model (Venkatesh& Davis 2000). Those models benefit from previous research including the Theory of Planned Behaviour (TPB) (Fishbein&Ajzen 1975) and decomposed TPB model (DTPB) (Tayor& Todd 1995).

2.2.1 Innovation Diffusion Theory.

This theory was developed by Rogers in 1995 where he defined Innovation as an idea, act, or instrument that is new to an individual or a group of people while Diffusion is a process in which new technology is transferred through certain channels of communication in time among individuals who are targeted to use new Information System (IS). It showed how in social systems diffusion of innovation takes place. Rogers (1995) further stated three valuables insights which includes; the quality of an innovation, peer to peer communication and understanding the need of different user segments. He classified innovation adopters into five groups namely innovators, early adopters, early majorities, late majorities and Laggards.

Diffusion of Innovation theory attempts to explain and describe the mechanism of how new innovations in this case internet and mobile banking is adopted and becomes successful (Clarke 2012). The theory explains and describe how new innovations like M-banking is adopted and succeeds. According to Rogers (1995), innovation compatibility with one's usual way of

working and behaving is a factor to make individuals more likely to adopt the innovation. Sevick (2004) argued that, not all innovations are adopted even if they are good. It may take a long time for an innovation to be adopted. Resistance to change may be a hindrance to diffusion of innovation though it cannot stop innovation but can only slow it down.

Rongers (1995) identified five factors that affect the adoption rate which includes relative advantage, compatibility, complexity, trialability and observability. Rogers further depended on how firms perceive these factors. According to Medlin,(2001) and Parisot, (1995) Roger's diffusion of Innovations theory is the most appropriate theory among all theories for investigating the adoption of technologies in higher education and educational environments. In Kenya, banks have seen this benefit of mobile banking and therefore are adopting new innovation in order to tap on this growing market segment.

Mannan (2013) argued that not all innovations are adopted even if they are good. Thus, it may take a long time for an innovation to be adopted. Mannan (2013) further stated that resistance to change may be an hindrance to diffusion of innovation although it might not stop the innovation, it will only slow it down.

In conclusion, Rogers (1995) argued that the rate of adoption of new innovation will depend on how the organisation perceives its relative advantage, compatibility, triability, observability and complexity. This theory is important in this research because it will help to explain how the new innovation in banking industry has been accepted as a channel of communication among individuals and how this innovation; mobile banking is adopted and becomes successful. This success story is due to user's acceptance of new technological change which makes it easy and convenient to access their bank accounts.

2.2.2 Technology Acceptance Model (TAM)

There are many theories and models used in studies which are related to innovations, acceptance and use of new technology. Focusing on the technological issue Davis (1989) advanced the TAM model, which relates the individual behavioural intentions and their ICT use. This model argued that, the actual behaviour of a person is determined by his behavioural intention to use, which is in turn influenced by user's attitude toward and perceived usefulness of the technology. However, these two; the attitude and perceived usefulness are both determined by ease of use. Adopting this model requires understanding of end-users requirements regarding usefulness and user friendliness(Pedersen,Leif,Methlie&Thorbjornsen,2002).

The model suggests that when users are presented with a new technology two specific factors influence their decision about how and when they will use it. The two factors are perceived

usefulness, which is defined as the degree to which a person believes that using a particular application system would enhance his or her job performance and perceived ease of use which refers to the degree to which a person believes that using a particular system would free from effort (Davis 1989). This theory has proved to be very useful and has been extended on various studies (Mbogo, 2010, Tobbin, 2011,Odia, 2012, Lule, Omwansa&Waema 2012, Amin, Supinah, Aris& Baba 2012).

Mazha, (2006) observed that TAM is an information system consisting of the network of all communication channels used within an organisation; theory that models how users come to accept and use a technology. It focuses on information system use based on social psychology theory and has valid and reliable instruments (Luarn& Lin, 2004). Davis (1989) argued that future research of Information System and Information Technology usage has to address the other variables which affect usefulness, ease of use and acceptance. Subsequent studies added construct to TAM such as perceived playfulness (Moon & Kim, 2001) perceived enjoyment (Koufaris (2002) and perceived credibility (Wang et al 2003) Luarn and Kin (2004) added some construct into the original TAM model to facilitate understanding of the intention to use mobile banking service.

Toroitich et al (2016) in their study on factors affecting individual to adopt mobile banking in Kenya, a case of Kenya Commercial Bank, KCB Eldoret, concluded that factors such as perceived usefulness (PU) and perceived ease of use (PEOU) are the most significant factors affecting adoption of mobile banking technology and therefore important for M-banking service providers to emphasize the benefits of mobile banking technology to bank customers. However, it was concluded that perceived risk (PR) hinders majority of bank customers from adopting it thus providers should ensure security measures are enforced. Further, Lule et al (2012) used TAM to study mobile banking adoption in Kenya. The study revealed that perceived usefulness, perceived ease of use, perceived self-efficacy and perceived credibility significantly influenced user's attitude towards usage of M-banking service.

Cheah, Teo et al (2011) conducted an empirical analysis on factors affecting Malaysian mobile banking adoption. The study found out that such factor as perceived usefulness, perceived ease of use, relative advantage and personal innovativeness were found to be positively related with the intention to adopt mobile banking service.Masinge (2010) in his study on the factors influencing the adoption of mobile banking services at the bottom of the pyramid (BOP) in South Africa and used perceived cost, trust and perceived risk constructs to TAM model. After studying the five facets, the study concluded that perceived usefulness, perceived ease of use, perceived costs and customer trust had a significant effect on the adoption of mobile banking at the bottom of pyramid.

The model relates to innovation, acceptance and use of new technology, and that user's behaviour is determined by his intention to use, which in turn influence attitude and perceived usefulness of the technology, it will be important in this study which relates to introduction of new innovation to the end-users to make them access financial services. It will help to understand how customers have accepted and used a technology instead of visiting their bank branches.

2.2.3 Theory of Planned Behaviour Model (TPB)

This model was invented by Ajzen,(1991).It assumes that people's intentions to adopt technology is driven by attitude, subjective norms and perceived behavioural control. Further, the model explains the behavioural control and subjective norm component from a specific dimension, thus providing a more accurate way to understand and investigate person's behavioural intention to adopt or use a particular technology.

Taylor and Todd (1995) indicated that a better understanding of the relationships between structures and antecedents of intention required the decomposition of attitudinal beliefs, Shimp and Kavas (1984) argued that the cognitive components of belief could not be organised into a single conceptual or cognitive unit. Taylor and Todd (1995) also specified that based on the diffusion of innovation theory, the attitudinal belief has three salient characteristics of an innovation that influence adoption are relative advantage, complexity and compatibility Rogers (1983). Taylor and Todd (1995) showed that the decomposed model of the TPB has better explanatory power than the pure TPB and TRA models. In this study the argument is that mobile banking is a technological innovation and thus the TPB model gives a more satisfactory explanation of adoption intention among the users.

Relative advantage refers to the degree to which an innovation provides benefits which supersede those of its precursor and may incorporate factors such as economic benefits, image, enhancement, convenience and satisfaction (Roger 1983). Relative advantage should be positively related to an innovation's rate of adoption (Roger 1983,Tan and Teo 2000). Mobile banking as noted allows customers to access their bank accounts from any location, any time of day and so provide tremendous advantage and convenience to users.

Rogers (1983) notes that complexity represents the degree, to which an innovation is perceived to be difficult to understand, learn or operate. It's further defined as 'the degree to which an innovation is perceived as relatively difficult to understand and use'. New innovations that are perceived to be easier to use and less complex have a higher possibility of acceptance and use by the potential customers. Therefore, complexity would be expected to have negative relationship

to attitude. Complexity has been found to be an important factor in the technology adoption decision (Davis et al 1989)

Tornatzkey and Klein (1982) argued that an innovation is more likely to be adopted when it is compatible with the job responsibilities and value system of the individual. An innovation therefore, is likely to be adopted to the extent that its use does not violate cultural or social norms. Since Tan and Teo (2000) indicates that internet banking has been viewed as a delivery channel that is compatible with the profile of the modern day banking customer, who is likely to be computer –literate and familiar with the internet. Thus, the more one uses the internet the more one perceives it to be compatible with one's life style.

According to Ajzen (1985,1991) PBC reflects belief regarding access to the resources and opportunities needed to effect a behaviour. Accordingly, the government can play an intervention and leadership role in the diffusion of innovation. An individual with the self-assured skill to use a computer and the internet is more inclined to adopt internet banking.

Study by Moons and Pelsmacker (2015) on extended decomposed theory of planned behaviour to predict the usage intention of the electric car, concluded that DTPB with emotional adoption motivations are highly relevant. This further confirmed that emotions are the most important drivers of usage intention followed by attitude, except for people not hanging on to values of caring, adventure and tradition but the only category of people that are not significantly driven by emotions are people that value power and non-conformism. In my research, this theory is significance as it tries to explain the how the perceived ease of use, transaction cost and unbaked markets have contributed to the adoption, use and growth mobile banking technology in Kenya.

However, TPB and TAM models have similar advantages which includes; identifying definite salient beliefs which may influence technology adoption and usage. TPB is considered better than TAM in understanding technology adoption and usage in that it integrates additional factors which are not present in TAM such as the influence of significant others, perceived ability and controls. These factors have been shown to be significant determinants of behaviour (Md&Garg, 2014).

The theory relies on relative advantage and compatibility of new system. It highlights the benefits innovation has over traditional means thus ensuring economic benefits, convenience and satisfaction among users. Therefore, this theory is useful in this research as it will help to understand how customers have embraced the mobile banking innovation due to its convenience, easy to use and compatibility with their mobile phones applications.

2.3 Empirical Review.

Empirical review presents relevant empirical studies on the relationship between each independent variable and the dependent variable.

2.3.1. Perceived ease of use and Growth of mobile banking.

Davis(1989) defines perceived ease of use as 'the degree to which a person believes that using a particular system would be free of effort'. Extensive research over the past decades provides confirmation of the significant effect that ease of use has on perceived usefulness (Agarwal& Prasad, 1999; Davis et al, 1989; Hu,Chau, Sheng & Tam, 1999; Verkatesh& Morris 2000). For the service to be attractive the system must be easy to learn and easy to use so as to prevent problems using M-banking system. In this research, ease of use is one of the motivating factors which is assumed to influence perceived usefulness of mobile banking.

The consumers are assured of the usefulness in form of agreements, contracts, regulations, policies, laws, feedback, forums and other enhance initial trust between the two parties in a relationship (McKnight et al, 2004; Pavlou& Gefen,2004). Customers understand that there are suspicions and risks associated with dealing with mobile banking service due to the information irregularity between buyers and sellers which can result in opportunistic behaviours (Kim &Prabhakar, 2004)

It's worth to note that, time of performing different transactions with the bank using mobile banking is less than doing the same transaction by using offline banking. Therefore, the higher the transaction speed, the better the customer's perceived usefulness of mobile banking. The main reason customers use mobile banking service is because they find the system useful to follow up their transactions while banks benefit by reducing the number of branches which in turn reduces the cost per transaction. Thus, within mobile banking research, there is extensive research providing evidence of the significant effect of following up transaction by bank's customer's and perceived usefulness of mobile banking on usage intention (Haque et al 2009;Vijayakumar & Jayachitra,2013). Therefore, customer pursuance of account transactions greatly affects the customer's perceived usefulness of mobile banking

Study by Akturan and Tezcan (2012); Lin (2011) confirmed that customers who have a positive attitude towards mobile banking will demonstrate positive behavioural intention towards mobile banking usage. This will lead to growth of M-banking as a channel of service delivery.Maduku and Mpinganjira (2012), Koenig Lewis et al (2010) studies revealed that users who perceive mobile banking to be useful and easy to use will have a positive attitude towards usage. Finally customers who perceive mobile banking to be easy to use demonstrate a higher level of

perceived usefulness of mobile banking (Lin 2011, Luo, Zhang & Shim, 2010) Accordingly, the above cited studies reveal that there is a strong positive relationship between perceived ease of use and growth of mobile banking service as a channel of financial service delivery.

2.3.2 Transactional Cost and Growth of mobile banking.

The transaction costs of sending money through the mobile payment technology are lower than those of banks and money transfer companies(Omwensa, 2009).The cost of a payment transaction has a direct effect on consumer adoption if the cost is passed on to customers (Mallat 2007). In order to make the transaction more competitive transaction costs should be lower than bank charges. According to theory of transaction costs Ronald (19370, companies try to minimise the costs of exchanging resources with the environment and minimises the bureaucratic costs of exchanges within the company. In case the external transaction costs are higher than the internal costs, the company will grow because the company is able to perform its activities more cheaply than when the activities were performed in the market. However, if the bureaucratic costs for coordinating the activities are higher than the external transaction costs, the company will be downsized (Ronald 1927).

The cost of mobile banking should be more affordable to most consumers and be below what the banks normally charge on their bank transactions. Thus, transaction cost negatively influence the success and growth of mobile banking service. According to the theory of Transaction Cost (Ronald 1937), companies weigh the cost of exchanging resources with the environment against the bureaucratic costs of performing activities in-house. In his theoretical study of transaction cost theory, Ronald (1937) further argued that in case transactional costs are higher than companies' internal costs the company will grow because it's able to perform its activities more cheaply than if the activities were formed in the market. Ronald (1937) observed that if the bureaucratic costs for coordinating the activity are high than the external transaction costs, the company will be downsized.

Ronald (1937) further argued that, every company expand as long as the company's activities performed are cheaper within the company, than by say; outsourcing the activities to external providers in the market. Williamson (1981) in support of the theory of transaction cost observed that a transaction cost occurs 'when a good or a service is transferred across a technology separable interface'. Consequently, transaction costs arise when a product or service is being transferred from one stage to another, where new technological capabilities are needed to make the product or service. Previous study by Mallat (2007) where his study focused on exploring consumer adoption of mobile payments, a qualitative study, concluded that, the cost of paying a transaction has a direct effect on consumer adoption of mobile banking service. Transaction cost

therefore, should be low to make the cost of mobile service affordable hence competitive to the unbanked.Omwensa (2009) concluded that, transaction costs of sending money through the mobile payment technology are lower than of banks and money transfer companies. Luarnand Lin (2005) in their study towards and understanding of the behaviour intention to use mobile banking argued that, the cost consideration may prevent many people from choosing mobile money.

Kigen (2010) in his study on the impact of mobile banking on transaction costs of microfinance institutions found out that mobile banking had significantly reduced transaction cost. These studies reveal that, there is a negative relationship between the transaction cost and adoption, use and growth of mobile banking service.

Transaction costs theory helps understand how various market and hierarchies are selected. The pricing of a product consists mainly of three elements namely; the cost of production, cost of management and profit margin. Thus, transaction costs are in reference to the costs of performing a transaction through the means of an exchange in the open market and are linked to the division of work (Rotike and Gentgen, 2008). Nalukenge (2003) observed that transaction costs are subsidiary financial costs produced by numerous processes comprising the costs of penetrating and gathering appropriate information. Shankar (2007) classified transaction costs into indirect and direct where he explained direct transaction costs as the costs that consists of training costs, cost of direct organisational activities and costs of monitoring. Indirect transaction costs were viewed as distribution fixed costs of the branch office, head office depreciation and taxation costs. In all, it's cheaper to carryout transaction through mobile banking than through the counter.However, previous studies showed that transaction costs has negative effect on adoption, use and growth of mobile banking service.

2.3.3 Perceived risk and Growth of mobile banking.

Perceived risk is the breaking point where a customer chooses to assume risk or not. Previous studies on consumer perception of risk were conducted in the context of online banking. (Tan and Teo, 2000, IM, Kim & Han 2008; Wu & Wang, 2005). However, perceived risk variable has only been modelled as a single construct. Lee (2009) conducted a study on perceived risk on the context of internet banking adoption. The perceived risk was divided into five facets; 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). This breakdown illustrated a detailed view of the traits relating to internet banking and provided a better understanding of the concept (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 et al 2003.Lee (2009) observed that a similar set of risk factors can be derived for mobile banking by using the five risk facets as a basis.

The facets can be described for mobile banking service as follows; Performance risk refers to losses incurred by deficiencies or malfunctions of mobile banking service (Lee 2009). Thus an error resulting from banking technology could impact a customers' behaviour and cause him/ her to be reluctant to utilise the bank services and this would apply to cell phone banking as well (Litter and Melanthious 2006).

Risks of security and privacy. This risk could result from a potential loss due to fraudulent activities or by a hacker compromising the security of a mobile banking user. However, study by Luarn and Lin (2005) used the construct perceived credibility which is defined as the extent to which a person believes that using a mobile banking will have no security or privacy threats. In this study, security/privacy risk will be considered to be similar to lack of credibility.

Risk of convenience and time. This risk could be as a result of loss of time and problems experienced by waiting for payments to be effected and the setbacks relating to finding specific functions (Lee,2009). Risks as to social behaviour: This type of risk could be as a result of dissatisfaction by a person's family or his/her friends regarding the use of mobile banking (Lee,2009).

Finally, financial risk is the potential for monetary loss due to transaction errors or bank account misuse (Lee 2009). Lee (2009) and Lee & Kim (2007) found that performance risk, security risk, social risk financial risk and time all emerged as negative factors in the intention to adopt mobile banking. However, social risk was found to have an insignificant effect on the intent to adopt mobile banking (Lee 2009).

According to Imn et al (2008) the ease of use needs to be highlighted when a new technology is deployed and is seen to be a high risk by users. Further, Im et al (2008) found that when deploying a technology perceived by users to be high risk, managers needs to emphasis ease of use while when deploying a technology perceived to be low risk managers needs to focus more on communicating the usefulness of the technology

A study conducted by Tan and Teo (2000) on the adoption and use of internet banking shown that perceived risk is important factor that impacts banking adoption. It was established that perceived risk is indeed a major factor that affects the adoption of cell phone banking even though perceived risk was used as a single attribute. It's observed that performance risk,

security/privacy risk and financial risk are found to be negatively related to growth of mobile banking service in Kenya because perceived risk creates grounds for doubts and uncertainty in the customer's mind especially because they are not sure about their security while using mobile banking service. The perceived risk has a negative effect on influencing growth of mobile banking service in Kenya.

2.3.4 Demographics factors and growth of mobile banking.

The impact of demographic factors on a user's adoption of M-banking service has been extensively studied. Age, Gender, education level and Income level have been studied to be important elements that influence the use of mobile phones as a banking platform. Some of the studies done include;

Oluwalayo (2013) examined the role mobile phones play in the use of M-banking services among farming households in South Western region of Nigeria. His study concluded that age and gender both influence the adoption of the mobile banking services, while age and education levels increases the usage of mobile phones as a banking platform. However, age appeared as a weak determinant based on empirical evidence.

Kishore &Sequeria (2016) in their recent study that examined adoption of mobile banking service in rural Karpataka in India that; age strengthened the relationship between attitude and behavioural intention. Tobbin (2012) observed that age and gender may have an effect on how individuals in rural areas perceive the ease of use of mobile banking services based on a qualitative study. However, Faniran and Odumeru (2015) concluded that gender had no influence on the adoption of mobile banking service.

Riquelne and Rios (2010) study on how gender moderate the adoption of mobile banking service revealed that the moderating effect of gender of perceived ease of use is evident among women that had used their mobile phones for electronic banking. The study further revealed that the importance of social influence is more relevant among women than men. Converse to Oluwatayo's(2013) finding that there is positive relationship between increase in education and adoption, Mustapaha's (2016) outcome showed that there is a weak negative relationship between education level and the adoption of mobile banking services.

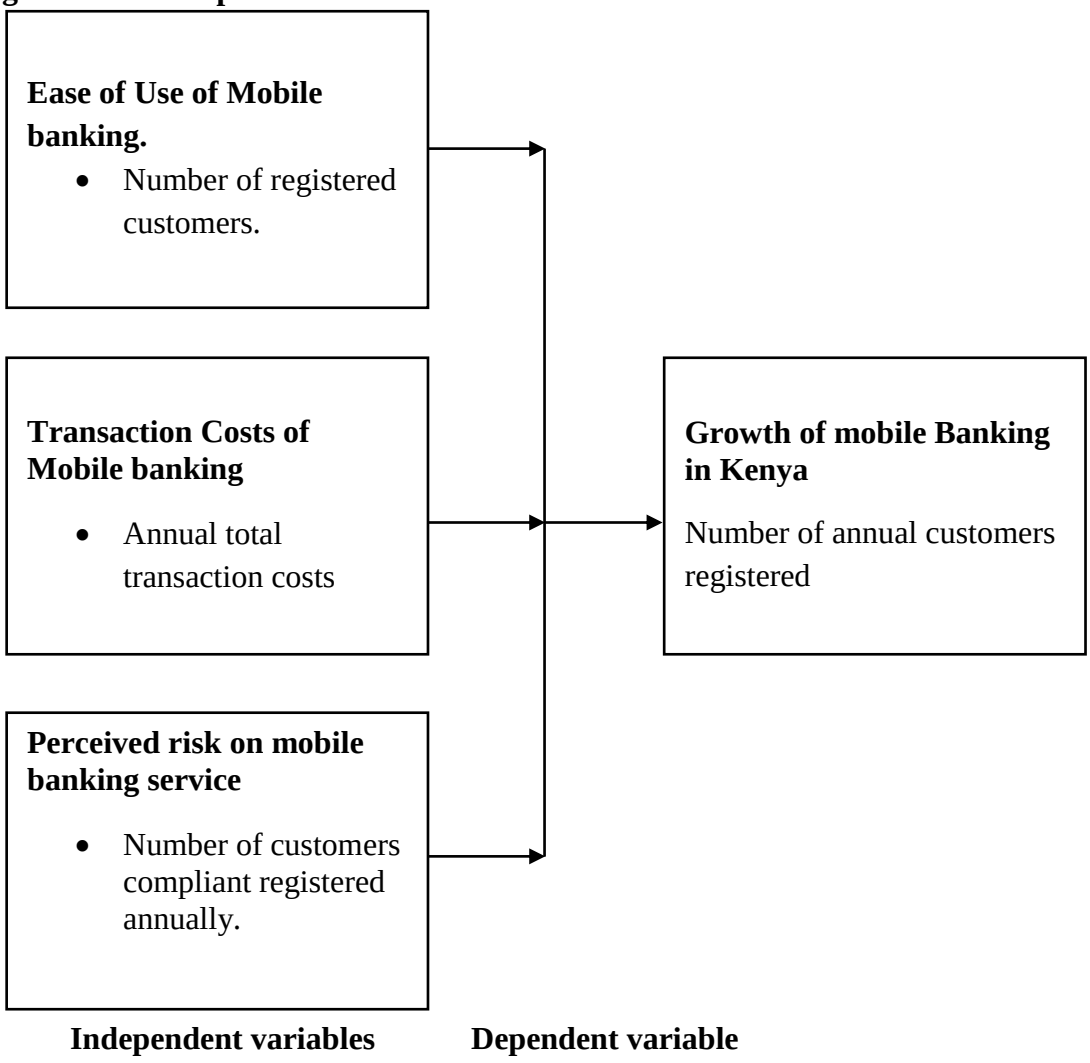
According to Oluwatayo (2013) study conducted in rural Nigeria, it observed that an increase in house hold size and poverty levels are negative determinants for mobile phones to be used as financial platforms for transactions. The research viewed the main reason for this is the

significant cost for poor people to charge their batteries and buy recharge cards. However, a research conducted on an urban region on the impact of income level on usage concluded that individuals with low income are likely to use electronic banking. (Okeke&Okpala 2014)

2.4. Conceptual framework.

A conceptual frame work is a diagrammatic presentation of variables showing the relationship between the independent variables and dependent variable. It's a tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny. It helps the researcher to explain the relationship among interlinked concepts such as the dependent and independent variables (Kombo, 2006). In this study the researcher will seek to establish the relationship between the independent variables (ease of use, transaction cost, perceived risk) and the dependent variable (growth of mobile banking in Kenya). The study will have sought to establish the effect of the three independent variables on growth of mobile banking in Kenya. The conceptual framework below in Figure 2.1 schematically presents the relationship between the independent variables and dependent variable.

Figure 2.1: Conceptual Framework



2.6. Operationalization of the variables

This is the process of study that defines variables into measurable factors. It helps to measure variables empirically and quantitatively. The measurement scales include ordinal, nominal, interval and ratio.

Table 2.1: Operational Variables

Types of Variables	Variable	Measurement	Level of Measurement
Independent Variable	Transaction costs of mobile banking service	Annual total transaction costs of mobile banking service	Normal/Ordinary
Independent Variable	Perceived risk of mobile banking service	Number of complaints by customers registered annually	Normal/Ordinary
Independent Variable	Ease of use of mobile banking service	Number of mobile customers registered annually	Normal/Ordinary
Dependent Variable	Growth of Mobile banking service	Number of annual registered customers	Normal/Ordinary

2.6. Summary of literature Review.

This chapter looked at theoretical framework by discussing the theories on which the research is based. The theories looked at includes; Diffusion of Innovation (DoI), Technology acceptance model (TAM) and Theory of planned behaviour (TPB). According to theory of planned behaviour, the central factor in human behaviour is behavioural intention which is influenced by attitude towards behaviour and perceived behavioural control while Diffusion of innovation theory explains how, over time an idea or product gains momentum and diffuses through a specific population or social system. Technology acceptance model on the other hand is an information communication system theory that models how users come to accept and use a new technology. This model focusses on the benefits of using a new technological system while the theory of Planned Behaviour model assumes that people's intentions to adopt technology is driven by attitude, subjective norms and perceived behavioural control and therefore provides a more accurate way to understand and investigate person's behavioural intention to adopt or use a particular technology.

The chapter further looked at empirical studies on each relevant independent variable and its relationship with dependent variable. Previous studies on perceived ease of use of mobile banking service revealed that there is positive relationship with growth of mobile banking service while transaction costs of mobile banking service have negative relationship with growth of mobile banking in Kenya. Previous studies concluded that there is strong negative relationship between perceived risk and growth of mobile banking service as a channel of financial service delivery.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

A research methodology guides the researcher in collecting, analysing and interpreting observed facts (Bless &Achola 1988). This chapter describes the research design that was used in carrying out the study, the target population, sampling design, data collection procedure and the method that was used to analysis the data.

3.2 Research design

This study adopted the descriptive research design. Ogula (2005) describes research design as a plan, structure and strategy of investigation to obtain answers to research questions and control variance while Kothari(2004) described research design as a plan, a roadmap and blue print strategy that is used by researcher to collect and analysis data so as to obtain answer to research questions. The main feature of research design is to describe specific characters of a large group of customers through questionnaires. The research design used in this study was descriptive research design. The research is aimed at collecting information from the respondents in relation to their access to mobile banking services. Descriptive research seeks to describe users of a product, determine the proportion of the population that users the product or predict future demand of a product, in this case mobile banking service.

3.3. Target population

Burns and Grove (2003) states that a population is all the elements that meet the criteria for inclusion in a study while Cooper and Schindler (2014) defines population as the total collection of individuals whom researcher seeks to make inference. According to Polit (2001), a sample is a proportion of a population while Lind (2008) defines a sample as a subgroup of the population. Bluman (2009) observes that the use of a sample enable a researcher save a lot of time and money and get more detailed information. The target population for the study was 43 commercial banks in Kenya (CBK,2017).

3.4 Sample size and sampling technique

Use of a sample enable a researcher save a lot of time and money and get more detailed information (Bluman, 2009). A sample is a true representation of the population. A simple

random sampling technique was used to select the study respondents from the target population of 43 commercial banks. A sample frame of five employees from Data Centre Division of 30 commercial banks was used. From the sample frame, one respondent was randomly selected to fill the questionnaire. The method was used because it gives each member an equal chance to be selected.

3.5Instrumentation

A structured questionnaire with closed -ended questions was used to collect primary data. Structured questionnaire is one in which questions asked are precisely decided in advance and are in line with the research objectives. A formal standardized questionnaire is a survey instrument that is used to collect data from individuals about themselves. The survey questionnaire consisted of two parts. The first part mainly focused on the respondent's demographic information. Demographic variables that were considered includes; gender, age, level of education, marital status, income level, work status and whether the respondents are currently using mobile banking service and time it takes them to reach the nearest bank branch.

The second section/part asked each of the respondent's perception of the statement based on the variables in the research model using a five- point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The dependent variable for this study had been identified as the growth of mobile banking service whereas the independent variables are perceived ease of use, transaction costs and perceived risk. According to Zikmund (2003), using a likert scale allows respondents to indicate their attitudes by checking how strongly they agree or disagree with the constructed statements. Five alternatives are generally offered; strongly agree, agree, uncertain, disagree or strongly disagree (Zikmund 2003). Bron et al (2003) used the five point Likert scale in a study on the adoption of mobile banking in South Africa.

3.6 Data collection

Primary data was collected by using a questionnaire distributed to 30 commercial banks through a contact staff. After the researcher finishes with the distribution, the respondents were given one week to fill the questionnaire. This time was considered adequate since the contact persons had full knowledge of the mobile banking service and therefore did not require any prior training about the general mobile banking concept and questions were easy to understand. Collection of questionnaires was done upon the expiry of one week by visiting the contact staffs in each of the 30 commercial banks. In case some staffs were found not have finished completing the questionnaire, the researcher gave them an additional three days to return them by mailing using the mailing addresses provided during distribution.

3.7 Reliability and viability tests.

Reliability refers to the degree to which measurements used can yield suitable results because they are free from errors. According to Hair, Black, Babin&Aderson (2006) reliability is the assessment of the degree of consistency between multiple measurements of a variable. This research used Cronbach's alpha to assess the reliability of the variable. Field (2009) and Tan &Teo (2000) argued that Cronbach's alpha of the sub-scales ranged from 0.6 to 0.925 which indicate an acceptable internal consistency and reliability measures for the questionnaire. Meaning that if the results exceed the minimum alpha of 0.690 the constructs measures will be deemed reliable. A higher value of above 0.6 indicate that the variables are reliable while the values above 0.9 are regarded as most reliable but anything below 0.6 are regarded inconsistent with the reliability scales as according to George and Mallery (2003) who suggested that in order for a scale to be reliable, the Cronbach's alpha value should be above 0.6.

Validity is about having some level of similarity in the original idea of research and the actual idea after getting the results. According to Saunders et al (2000) the concept of validity measures whether the findings in the research are really about what they appear to be about and check the relationship between variables. To ensure validity, a pilot test was used while a pre-test was sent to five respondents to see if the questionnaire contains anything that was hard to interpret.

3.8. Data Analysis.

According to (Wagner, Halley &Zaino 2011) data analysis is the process of analysing, cleaning, transforming and modelling data which is collected. The quantitative data collected was analysed using descriptive statistics, correlation analysis and multiple regression analysis. T-test were used to explain the statistical significance of each independent variable while the coefficient of determination was used to explain the proportion of the variation in the growth of mobile banking in Kenya that is explained by the variation in transaction costs, perceived ease of use and perceived risk. The graphs and charts were also used to present the findings

Ingari and Achieng (2015) used multiple regression models in their study on factors influencing adoption of mobile banking in Kenya commercial Banks. Mobile banking service was taken as dependent variable where various measures of mobile banking growth like ease of use of mobile phones, transaction costs and perceived risk were taken as independent variables. Thus the regression analysis model that was used in this research is

$Y_T = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ where

Y=Growth of Mobile banking service in Kenya (dependent variable)

X_1 =Ease of use rate

X_2 = Transaction costs rate

X_3 = Perceived risk

e = Error term. It's normally distributed above the mean zero.

β_1, β_2, β_3, = Regression coefficients of independent variables.

β_0 = constant.

3.9. Diagnostic tests

Various tests which are applicable to time series such as unit roots tests, Heteroscedasticity,Multicollinearity tests and normality tests were done to ensure the model fits the study.

3.9.1Heteroscedasticity tests

Heteroscedasticity checks whether the error term is constant across the observations. If the model is well fitted, then there should be no pattern to the residuals plotted against the fitted values. However, if the variance of the residual is non-constant then the residual variance is said to be heteroscedastic. To detect for heteroscedastic, graphical and non-graphical methods are used. The tests used to detect heteroscedastic are the White's test and Breusch-Pagan test. These two tests, test the null hypothesis that the variance of the residual is homogenous. Thus, in case the P-value is less than 0.05, reject the null hypothesis and accept the alternative hypothesis that the variance is not homogenous.

3.9.2Multicollinearity tests

This test is done using pearson correlation coefficients. Multicollinearity is a phenomenon in which two or more predictors variables in a multiple regression model are highly correlated meaning that one can be linearly predicted from the others with a substantial degree of accuracy. In this case, the research will be carried out to find out whether the variables are highly correlated or not. The rule of the thumb is that a correlation coefficient of more than 0.8 indicates serious multicollinearity (O'Brien, R.M, 2007)

3.9.3. Normality Test

It is very important to test for normality on the dependent variable in time series. To test for normality on dependent variable, plots are used such as histogram, Box plots, Q-Q plots, and P-P plots where histograms are used to test whether the variable is normally distributed. In case not normally distributed, Box plot is used to identify if the variable has any outlier which is either mild or extreme. In case of extreme, drop the outlier from the analysis.

The main reason for this test was because of checking whether the data set is well modelled to suit the normal distribution and to compute how likely it would be for a random variable underlying the data set to be normally distributed (Rozali, Nonadiah, Wah, Yap Bee 2011). Consequently, checking for outliers in data will reveal whether the data set exhibit outliers thus significant Skewness and Kurtosis coefficient.

CHAPTER FOUR
ANALYSIS AND FINDINGS

4.1. Introduction

This chapter presents the analysis, findings and discussions. The findings are presented in percentages, frequency distributions, table and graphs. This chapter analyses the variables involved in the study and estimates of the model presented in the previous chapter. The analysis of the findings is based on the specific objectives of the study. Descriptive and Inferential statistics were used for analysis.

4.1.1. Response Rate

The respondents comprised of employees from Data Centre Division of 30 commercial banks. Out of the 30 issued questionnaires, 24 questionnaires were returned duly filled and this represented 80% of the total questionnaires as shown in the figure 4.1 below. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, and a response rate greater than 70% is very good. Hence the response rate in this study was satisfactory. The other 20% of the questionnaires were non-responsive because of non-availability of the respondents, incomplete questionnaires while some respondents were not interested in the entire exercise.

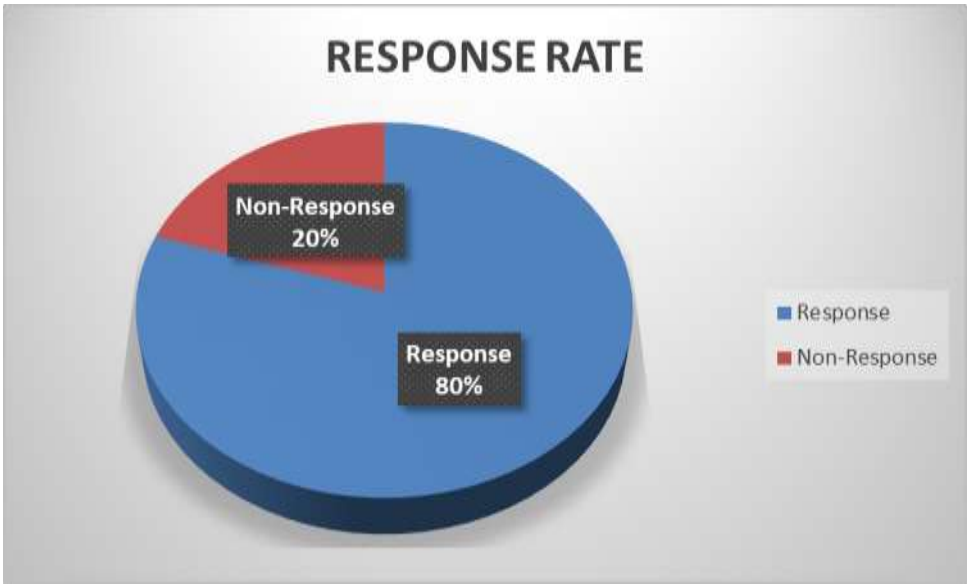


Figure 4.1: Response rate

The researcher having received the duly completed questionnaires edited, coded and analyzed the data that reflected the perceptions, attitudes, behaviors or values of the respondents.

4.2. Pilot Test Results

Pre-testing is essential to identify problems in the questionnaire, removing ambiguities and other sources of bias and error which improves the reliability and validity of survey questions.

4.2.1 Validity of the Instruments

Validity is enhanced by the use of items confirmed in the literature as the representative measures of the behavior or values being measured. Validity can be assessed by use of expert opinion or judgement. This was conducted to establish the "face validity" criterion required before conducting the pilot study. For this study, the survey instrument was emailed to two expert groups consisting of three academics and two professionals in the field.

Each of the items was reviewed by the experts for its content, scope, and purpose. Experts were asked to comment on various aspects of the survey design such as the clarity or ambiguity of definitions, item representativeness, appropriateness of the scale, and clarity of instructions. As a result, from the outcome of the experts, the following amendments were made:

Section B: The parameters being assessed were amended to include more objective oriented items in line with the research questions

Section B & C: Double-barreled questions were identified, and the informal fallacy was amended.

Section C: Ambiguous, hanging statements were amended

Section D: Non-value adding parameters to the study were amended and some content incorporated into previous items that tied in together with the variables in those sections.

The alignment, formatting and font was appropriately adjusted to conform to required standards.

4.2.2. Reliability of the Instruments

Reliability is carried out by testing whether the items grouped under a factor are internally consistent and stable. Cronbach's alpha is used to measure the reliability of the research instrument with a Cronbach value of 0.80 considered as good and 0.70 as acceptable and 0.60 as poor.

A reliability analysis was carried out to measure the extent to which the indicators were without bias. For ease of using the tool the constructs were tested separately. Table 4.1 below displays the findings.

Table 4.1: Reliability Analysis

Variable	Cronbach's Alpha
Ease of Use	.791
Perceived Risk	.856
Transaction Cost	.794

Growth of Mobile Banking	.774

The Cronbach's Alpha values lie between .77 and .85: an indication that the internal consistency of the items under measurement were considered to be good.

4.3. Demographic Information

This section comprises of information on the respondent's demographics such as gender, age and level of education.

4.3.1. Respondents Gender

Based on the study results as shown on figure 4.2, majority of the respondents were male at 54% while the least were female at 46%. This is an indication that gender representation and balance applies in the selected commercial banks.

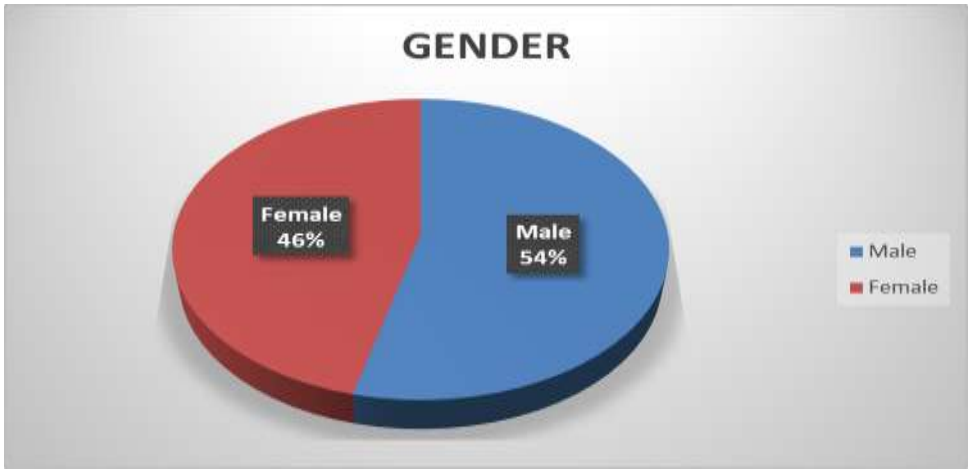


Figure 4.2: Gender

4.3.2. Respondents Age

Based on the study results as shown on figure 4.3, majority of the respondents were between the ages 36-45 who were 48% closely followed by those in the 26-35 age bracket who were 43%. Those between the ages of 46-55 were 7% and the minority group was for those above 56 years of age who were 3%. This is an indication that most commercial banks have a relatively youthful and middle-age personnel going by the distribution below and majority are considered to be between Generation X and Millennials hence can comprehend matters mobile banking.

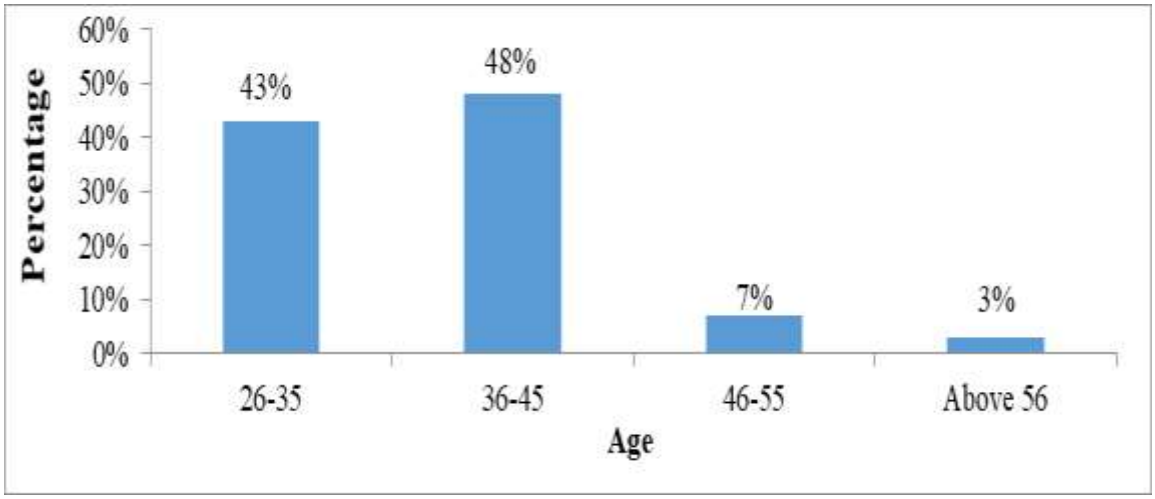


Figure 4.3: Respondents Age

4.3.3. Level of Education

Figure 4.4 below shows the education level of the respondents. The study showed that 72% attained a bachelor's degree as their highest level of education while 12% had a diploma. The study further established that those who had attained a masters and PhD level of education tied at 8%. This study thus indicated that there was a high level of knowledge among the respondents. It could also be implied as a measure of ease of understanding the research questions for this study.

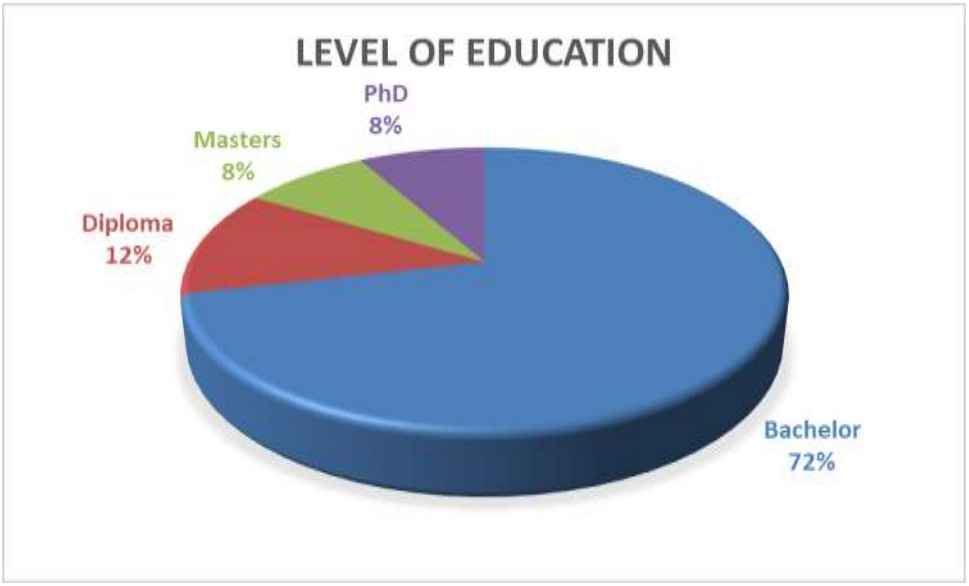


Figure 4.4: Level of Education

The study then sought to find out whether most of the commercial banks customers use mobile banking. From the findings, it was revealed that 92% of the customers use mobile banking while 8% do not. This is an indication of high levels of adoption of mobile banking among the commercial banks. Figure 4.5 shows the findings.

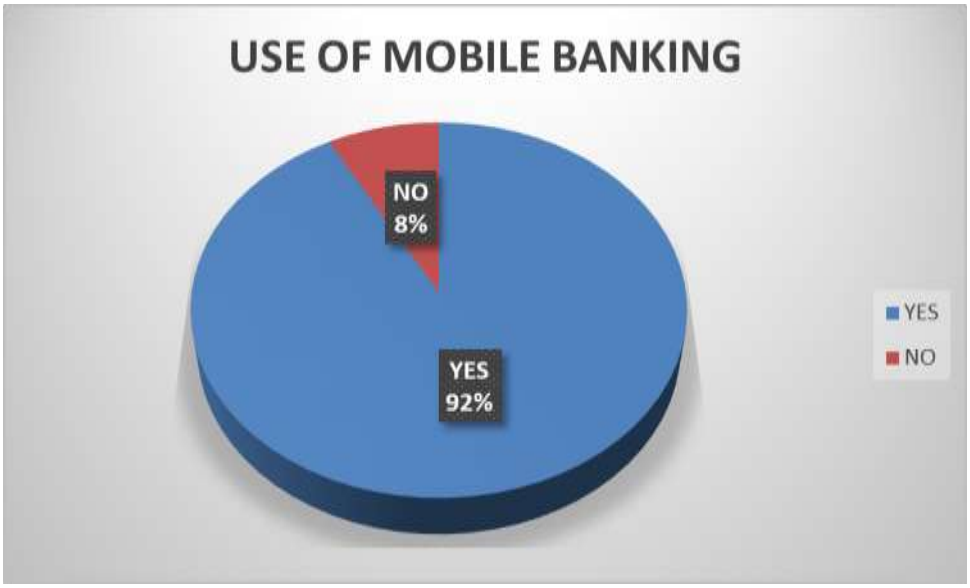


Figure 4.5: Use of Mobile Banking

The researcher also sought to find out whether customers also transact their bank account transactions using bank physical branches. Findings reveal that 96% use their physical bank accounts while 4% do not use the physical bank accounts. This is an indication that traditional banking is still popular among most customers of the commercial banks selected. This is shown in figure 4.6.

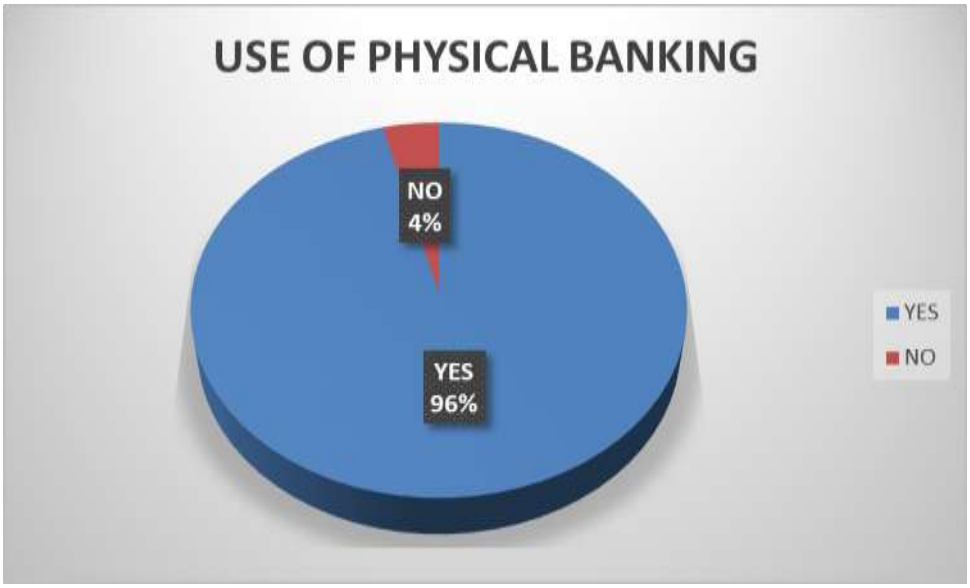


Figure 4.6: Use of Physical Banking

It was prudent to know the average amount of time a customer takes to get banking services in their nearest branches. Responses show that majority 42% said less than 30 minutes, followed by 38% who said less than 20 minutes and 20% who said less than an hour. There were no responses for Less than 2 hours and Above 2 hours. This is an indication that on average it takes less than 25 minutes to get served going by the mean for top responses. This is showed in Table 4.2

Table 4.2: Service duration

Period	Frequency	Percent
Less than 20 minutes	9	38
Less than 30 minutes	10	42
Less than 1 hour	5	20
Less than 2 hours	0	0
Above 2 hours	0	0
Total	**24**	**100**

Next the study sought to find out whether the customers use mobile banking services to access other financial services. Responses show that 100% (24) agreed that the customers of the selected commercial banks use the mobile platform for other financial uses.

With the above it was revealed that 100% use it to check bank balance, 96% to transfer money, another 96% for cash withdrawal, 92% to pay utility bills. A further 92% to buy airtime and a minimal 12% to borrow loans. All these were expected findings except for the 12% recorded in borrowing of loans. It would have been expected that a majority of the customers would borrow more through mobile banking. A number of factors could explain this ranging from the little amounts one can borrow through such a platform, fear of the untried and untested methods or high payment terms imposed. This is a display of how mobile banking has many uses and all of which have been embraced by the subscribers in the different commercial banks. These findings are shown in table 4.3

Table 4.3: Other services

Other Services

	YES	**NO**	**Total (%)**
Check Bank Balance	100.0 (24)	0 (0)	100 (24)
Transfer Money	96.0 (23)	4.0 (1)	100 (24)
Cash Withdrawal	96.0 (23)	4.0 (1)	100 (24)

Pay Utility Bills	92.0 (22)	8.0 (2)	100 (24)
Buy Airtime	92.0 (22)	8.0 (2)	100 (24)
Borrow Loans	12 (3)	88.0 (21)	100 (24)

4.4. Ease of Use

The study then sought to find out the contribution of perceived ease of use to the growth of mobile banking. A five-point likert scale was used where Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree= 4, Strongly Agree = 5.

Findings reveal that majority of the respondents agreed that mobile banking apps provide all financial services required by customers (Mean = 4.66, SD = 0.513). Respondents also agreed that mobile banking encourages customers to explore or navigate through various financial options available in the bank (Mean = 4.48, SD = 0.622). Further, respondents agreed that mobile banking is easy to use to accomplish banking transactions (Mean = 4.36, SD = 0.606). Also, they were in agreement that mobile banking operational steps are easy to remember (Mean = 4.31, SD = 0.807). Others also responded that mobile banking users can activate various financial options on the menu with ease (Mean = 4.20, SD = 0.792). They were also in agreement that mobile banking app can facilitate for the correction of errors and mistakes made by the user (Mean = 4.18, SD = 0.785). Mixed feelings were however elicited on whether use of mobile banking is easy to learn (Mean = 3.93, SD = 0.834). Also mixed feelings were recorded on whether mobile banking services are accomplished without lengthy time delays and whether the mobile banking app effortlessly work with other components such as a printer without phone configuration. (Mean = 3.71, SD = 1.034), (Mean = 3.44, SD = 1.1) respectively.

The above findings are an indication that to a larger degree ease of use contributes to the growth of mobile banking among commercial banks in Kenya.

The results are shown in table 4.4 below

Table 4.4: Ease of Use

	N	Mean	Std. Deviation
Mobile banking apps provide all financial services required by customers	24	4.66	0.513

Mobile banking encourages customers to explore or navigate through various financial options available in the bank	24	4.48	0.622
Mobile banking is easy to use to accomplish banking transactions	24	4.36	0.606
Mobile banking operational steps are easy to remember	24	4.31	0.807
Mobile banking users can activate various financial options on the menu with ease	24	4.20	0.792
Mobile banking app can facilitate for the correction of errors and mistakes made by the user	24	4.18	0.785
Use of mobile banking is easy to learn	24	3.93	0.834
Mobile banking services are accomplished without lengthy time delays	24	3.71	1.034
mobile banking app effortlessly work with other components such as a printer without phone configuration	24	3.44	1.1
Valid N (listwise)	24		

4.5. Perceived Risk

The study next sort to find out how perceived risk contribute to the growth of mobile banking. Findings revealed that majority of the customers feel unsafe to provide personal private information over mobile banking (Mean = 4.28, SD = 0.817). This could be an indication that they fear being defrauded. Also there were mixed reactions on some aspects of perceived risk. For instance, there were mixed feelings whether customers worry about hacking and fraud on their accounts which may lead to a financial loss (Mean = 3.89, SD = 0.848). The mixed feeling would be due to there being a certain number worry about it and some do not. Mixed feelings were also recorded where it was revealed that network problems affect the performance of mobile banking in the banks going by (Mean = 3.36, SD = 1.160). It could be implied that some of the respondents are aware of services not fully dependent on network while others are not aware. However the respondents strongly disagreed that careless mistakes are made during data entry leading to loss of money and that it may discourage the use of mobile banking. Findings are presented in table 4.5

Table 4.5: Perceived Risk

	N	Mean	Std. Deviation
Customers feel unsafe to provide personal private information over mobile banking	24	4.28	0.817
Customers worry about hacking and fraud on their accounts which may lead to a financial loss	24	3.89	0.848
Network problems affect the performance of mobile banking in our bank	24	3.36	1.160
Careless mistakes made during data entry leading to loss of money may discourage the use of mobile banking	24	3.08	1.282
Valid N (listwise)	24		

4.6. Transaction Costs

The study also sought to find out whether transaction costs contributed to growth of mobile banking. Responses revealed that majority of the customers find it cheaper to transfer funds through mobile banking than over the counter (Mean = 4.66, SD = 0.513). This is an indication that mobile banking is cheaper compared to traditional over the counter banking. Another majority revealed that cost of depositing money through mobile banking is negligible (Mean = 4.52, SD = 0.595). To a moderate extent they agreed that customer's use of mobile banking service is not affected by monthly maintenance fee (Mean = 4.20, SD = 0.679). The moderate extent response could be triggered by a certain segment of the respondents thinking that the monthly maintenance fee affects. Also to a neutral extent they revealed that customers find transaction cost of withdrawing cash using mobile banking app relatively cheap (Mean = 3.87, SD = 0.974). The response is triggered possibly by some thinking mobile banking is not cheap. The respondents were also indifferent as to whether access costs for mobile banking service is expensive (Mean = 3.08, SD = 1.282). Generally, form the above findings it can be said that mobile banking is relatively cheaper compared to traditional banking. Findings are shown in table 4.6

Table 4.6: Transaction costs

	N	Mean	Std. Deviation

Customers find it cheaper to transfer funds through mobile banking than over the counter	24	4.66	0.513
Cost of depositing money through mobile banking is negligible	24	4.52	0.595
Customer's use of mobile banking service is not affected by monthly maintenance fee	24	4.20	0.679
Customers find transaction cost of withdrawing cash using mobile banking app relatively cheap	24	3.87	0.974
Access costs for mobile banking service is expensive	24	3.08	1.282
Valid N (listwise)	24		

4.7: Growth of Mobile Banking

The dependent variable was also assessed under various parameters. Findings show that the number of mobile banking application users in the banks have grown over the years going by (Mean = 4.68, SD = 0.628); also the bank's revenue from mobile banking have been increasing over the years (Mean = 4.44, SD = 0.659). Further, the bank's Mobile banking geographical coverage has been expanding over the years (Mean = 4.38, SD = 0.780) and also enhanced the bank's growth in competitive advantage (Mean = 4.22, SD = 0.785). It was also revealed that mobile banking has become a driver in growing the sampled banks profitability (Mean = 4.19, SD = 0.625). Generally, it can be said that mobile banking has grown in the selected banks and in turn translates to the banks growth. Findings are shown in table 4.7

Table 4.7: Growth of Mobile Banking

	N	Mean	Std. Deviation
The number of mobile banking app users in our bank have grown over the years	24	4.68	0.628
Our bank's revenue from mobile banking have been increasing over the years	24	4.44	0.659
Our bank's Mobile banking geographical coverage have been expanding over the years	24	4.38	0.780
Our mobile banking services have enhanced our growth in competitive advantage	24	4.22	0.785
Mobile banking has become a driver in growing our profitability	24	4.19	0.625
Valid N (listwise)	24		

4.8. Inferential Statistics

4.8.1. Study Diagnostics

The study tested the data for normality using Shapiro Wilk test (numerical method) since the sample population was small (less than 50). The results obtained are in Table 4.8.

Table 4.8: Normality test

Study Variables	Orientation	Shapiro-Wilk
Ease of Use	Independent variable	0.076
Perceived Risk	Independent variable	0.094

Transaction Costs	Independent variable	0.581
Growth of Mobile Banking	Dependent variable	0.059

Source: Research Data (2018)

The p-value for all the study variables was greater than 0.05 level of significance; indicating that the data was normally distributed. This was an indication that the data was normally distributed. The study tested existence of multi-collinearity and obtained the results in Table 4.9.

Table 4.9: Test for multi-collinearity

Study Variables	Tolerance(1-R2)	VIF (Variance Inflation Factor)
Ease of Use	0.403	2.481
Perceived Risk	0.309	3.241
Transaction Costs	0.484	2.065

N=24

The values for tolerance for each study variable was greater than 0.1. Since the tolerance for all predictor variables were greater than 0.1 or 10%, the study concluded that there is no problem of multi-collinearity among them. So the estimators computed were considered reliable.

Linear regression analysis was used to determine the significance of the coefficients of the independent variables in explaining the variation in dependent variables. Model summary was used to determine the proportion of the dependent variable explained by the explanatory variables while ANOVA was used to determine the fitness of the model used in the analysis. Correlation analysis established the direction of the relationship between the variables.

Correlation results show that Ease of use has a strong positive association with growth of mobile banking (R = 0.778). Perceived risk showed moderate relationship with growth of mobile banking (R= 0.518). Transaction costs have a weak and positive relationship with growth of mobile banking (R = 0.300). The results were expected however it is the researcher's discretion that the transaction costs weak relationship could be explained by factors external to the model in question. Table 4.10 below shows correlation results.

Table 4.10: Correlation results

Variables	Growth of Mobile Banking	Ease of Use	Perceived Risk	Transaction Costs
Growth of Mobile Banking	1			
Ease of Use	.778	1		
Perceived Risk	.518	.640**	1	
Transaction Costs	.300	.386	.095	1

Regression Analysis

To establish the relationship between growth of mobile banking, Ease of Use, Perceived Risk and Transaction costs a multiple regression analysis was conducted. The regression model used was as follows;

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where;

Y = Growth of Mobile banking service in Kenya

β_0 = constant

ε = the error term of the model.

X_1 = Ease of Use

X_2 = Perceived Risk

X_3 = Transaction Cost

Determination coefficient (R squared) was carried out to determine the proportion of the variation in dependent variable that is attributed to the changes in the explanatory variables. The study established R2 of 0.651 which implies that 65.1% of the variation in Growth of Mobile banking is attributed to the changes in explanatory variables (Ease of Use, Perceived Risk, and Transaction Cost). It means that the goodness of fit test is adequate. A correlation coefficient of 0.806 depicts there is a good linear dependence of Growth of Mobile banking, Ease of Use, Perceived Risk, and Transaction Cost hence a strong correlation between the dependent variable and Independent variables. The findings are shown in table 4.11 below

Table 4.11: Model summary

Model	R	R Square	Adjusted R square	Std. Error of the estimate
1	.806[a]	.651	.619	.34567

a. Predictors: (constant), Ease of Use, Perceived Risk, and Transaction Cost

b. Dependent Variable: Growth of Mobile Banking

Source: Research Findings

ANOVA (Analysis of Variance)

ANOVA is utilized to establish the significance of the relationship between Growth of Mobile Banking and the independent variables. Findings show there is a significant joint relationship between Growth of Mobile Banking, Ease of Use, Perceived Risk, and Transaction Cost at 95% level of confidence given the level of significance 0.003 which is below P value of 0.05. Findings are shown on table 4.12 below

Table 4.12: ANOVA

Model	Sum of Squares	Df	Mean square	F	Sig.
Regression	0.067	11	0.006	1.000	0.003[a]
Residual	0.054	9	0.006		
Total	0.121				

a. Predictors: (constant), Ease of Use, Perceived Risk, and Transaction Cost

b. Dependent Variable: Growth of Mobile Banking

Source: Research findings

Regression Coefficient Results

Table 4.13: Regression coefficient results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	0.049	0.045		1.071	0.097
Ease of Use	0.041	0.025	0.258	1.612	0.024
Perceived Risk	1.704	0.507	0.573	3.361	0.003
Transaction Cost	0.016	0.004	1.052	4.522	0.000

Dependent Variable: Growth of Mobile Banking

Source: Research Findings

Hence the model: Y = 0.049 + 0.041 X1 + 1.704X2 + 0.016 X3

The above model shows that when all other variables have a value of zero then mobile banking growth is 0.049. A unit increase in ease of use translates to 0.041 increase in mobile banking growth. Also a unit increase of perceived risk translates to 1.704 increase in mobile banking growth. Transaction cost unit increase translates to 0.016 increase in mobile banking growth. This is an indication that ease of use, perceived risk and transaction costs affect the growth of mobile banking in the commercial banks. Findings also show that the model is statistically significant at 5% level of significance.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

In this chapter, discussions of the study findings in relation to theoretical and empirical literature documented in the past were presented. After which conclusions and recommendations were drawn. Finally, suggestions for future studies and limitations of the study were also discussed. In brief the study was guided by descriptive research design and targeted 43 commercial banks out of which 30 were sampled. Both descriptive and inferential statistics were adopted in the study. Results of the study have revealed positive and significant relationship between ease of use, perceived risk, transaction costs and growth of mobile banking.

5.2. Discussions of the Findings

5.2.1. Ease of Use

To find out the relationship between ease of use and growth of mobile banking the study elicited responses on some elements relating to the same and it was revealed that majority of the respondents agreed that mobile banking apps provide all financial services required by customers (Mean = 4.66, SD = 0.513). Respondents also agreed that mobile banking encourages customers to explore or navigate through various financial options available in the bank (Mean = 4.48, SD = 0.622). Further, respondents agreed that mobile banking is easy to use to accomplish banking transactions (Mean = 4.36, SD = 0.606). This is in line with Verkatesh& Morris (2000), who opine that for the service to be attractive the system must be easy to learn and easy to use so as to prevent problems using M-banking system. Hence the above findings are an indication of a system that is easy to learn and easy to use. Also, they were in agreement that mobile banking operational steps are easy to remember (Mean = 4.31, SD = 0.807). This is an indication that they perceive mobile banking to be easy to use and thus demonstrate a higher level of perceived usefulness of mobile banking as is in line with Lin (2011). Others also responded that mobile banking users can activate various financial options on the menu with ease (Mean = 4.20, SD = 0.792). They were also in agreement that mobile banking app can facilitate for the correction of errors and mistakes made by the user (Mean = 4.18, SD = 0.785). Mixed feelings were however elicited on whether use of mobile banking is easy to learn (Mean = 3.93, SD = 0.834). Also mixed feelings were recorded on whether mobile banking services are accomplished without lengthy time delays. This considers time of performing different transactions with mobile banking because as Haque (2009) says the higher the transaction speed, the better the customer's perceived usefulness of mobile banking. Mixed reactions were also elicited as to whether the

mobile banking app effortlessly work with other components such as a printer without phone configuration. (Mean = 3.71, SD = 1.034), (Mean = 3.44, SD = 1.1) respectively.

5.2.2. Perceived Risk

The study next sort to find out how perceived risk contribute to the growth of mobile banking. Findings revealed that majority of the customers feel unsafe to provide personal private information over mobile banking (Mean = 4.28, SD = 0.817). This could be an indication that they fear being defrauded. This is in line with Kim &Prabhakar (2004) who assert that customers understand that there are suspicions and risks associated with dealing with mobile banking service due to the information irregularity between buyers and sellers which can result in opportunistic behaviors. This could be the case in this study. Also there were mixed reactions on some aspects of perceived risk. For instance, there were mixed feelings whether customers worry about hacking and fraud on their accounts which may lead to a financial loss (Mean = 3.89, SD = 0.848). This could be due to security and privacy risks as brought out by Luarn and Lin (2005). The authors assert that this risk could result from a potential loss due to fraudulent activities or by a hacker compromising the security of a mobile banking user. Also the mixed feeling would be due to there being a certain number worry about it and some do not. Mixed feelings were also recorded where it was revealed that network problems affect the performance of mobile banking in the banks going by (Mean = 3.36, SD = 1.160). It could be implied that some of the respondents are aware of services not fully dependent on network while others are not aware. However the respondents strongly disagreed that careless mistakes are made during data entry leading to loss of money and that it may discourage the use of mobile banking. This could be due to financial risk as assessed by Lee (2009). It is the potential for monetary loss due to transaction errors or bank account misuse.

5.2.3. Transaction Costs

The study also sought to find out whether transaction costs contributed to growth of mobile banking. Responses revealed that majority of the customers find it cheaper to transfer funds through mobile banking than over the counter (Mean = 4.66, SD = 0.513). This is consistent with Omwensa (2009) study that the transaction costs of sending money through the mobile payment technology are lower than those of banks and money transfer companies. This is an indication that mobile banking is cheaper compared to traditional over the counter banking. Another majority revealed that cost of depositing money through mobile banking is negligible (Mean = 4.52, SD = 0.595). To a moderate extent they agreed that customer's use of mobile banking service is not affected by monthly maintenance fee (Mean = 4.20, SD = 0.679). The moderate extent response could be triggered by a certain segment of the respondents thinking that the monthly maintenance fee affects. Also to a neutral extent they revealed that customers

find transaction cost of withdrawing cash using mobile banking app relatively cheap (Mean = 3.87, SD = 0.974). The response is triggered possibly by some thinking mobile banking is not cheap. The respondents were also indifferent as to whether access costs for mobile banking service is expensive (Mean = 3.08, SD = 1.282). Generally, form the above findings it can be said that mobile banking is relatively cheaper compared to traditional banking. The above findings are in line with Kigen (2010) who in his study on the impact of mobile banking on transaction costs of microfinance institutions found out that mobile banking had significantly reduced transaction cost. These studies reveal that, there is a negative relationship between the transaction cost and adoption, use and growth of mobile banking service.

5.2.4. Growth of Mobile Banking

The dependent variable was also assessed under various parameters. Findings show that the number of mobile banking application users in the banks have grown over the years and also the bank's revenue from mobile banking have been increasing over the years. Further, the bank's Mobile banking geographical coverage has been expanding over the years and also there has been enhanced bank's growth in competitive advantage. It was also revealed that mobile banking has become a driver in growing the sampled banks profitability. Generally, it can be said that mobile banking has grown in the selected banks and in turn translates to the banks growth.

5.3. Conclusion

This study concludes that ease of use has a positive relationship with growth of mobile banking through mobile banking apps providing all financial services required by customers, also through mobile banking encouraging customers to explore or navigate various financial options available in the bank.

The study also concludes that mobile banking is easy to use to accomplish banking transactions and its operational steps are easy to remember. Hence there is a higher level of perceived usefulness for mobile banking.

It can also be concluded that perceived risk is real in adoption and utilization of mobile banking. Customers fear being defrauded and feel unsafe to provide personal private information over mobile banking. These are attributed to security/privacy risk, performance risk and financial risk.

This study also concludes that transaction costs have an effect on growth of mobile banking. It clearly showed that mobile banking is cheaper compared to traditional banking. This involved monthly charges, withdrawal and deposit charges and service charges.

It is therefore generally concluded that ease of use, transactional costs and perceived risks have an effect on the number of mobile banking application users in the banks growing over the years, and also the bank's revenue from mobile banking increasing over the years and lastly mobile banking has become a driver in growing the sampled banks profitability In a nut shell the independent variables have a relationship with the growth of mobile banking.

5.4. Recommendation of the Study

The study recommends that for the commercial banks to enhance the ease of use they should make the mobile banking app to work effortlessly with other components such as a printer without phone configuration and also to make it easier to learn to foster consumer friendliness.

It is recommended that the commercial banks should mitigate all risks inherent in the usage of the mobile banking application and specifically curb performance, security and privacy, and financial risk factors in the app usage.

The study also recommends that transaction costs for mobile banking be kept relatively cheap and specifically monthly maintenance fees, cash withdrawal fees and access fees where respondents had mixed responses.

5.5. Suggestions for Further Studies

The study suggests that further studies could be done utilizing qualitative data to get in-depth raw views of the respondents.

Another study could be done focusing on general internet banking and not only mobile banking. The same should be assessed utilizing the variables in this study.

Comparative studies could be done trying to relate local mobile banking and those beyond the borders to assess for efficacy per geographical region context.

Another study could be done by focusing on a certain mobile banking app in a particular bank and not on a general context.

5.6. Limitations of the Study

The study relied on primary data which was drawn from employees; there were instances when some declined to respond to the questionnaire. This did not affect the final findings since the final response was reliable. The researcher was unable to authenticate the ranking criteria and there is need for future scholars to evaluate the ranking criteria before drawing data from such respondents. The study suffered the drawbacks associated from using a small sample there is need for future studies to see how they can increase their sample sizes. Finally, the study relied

on questionnaires in future there is need to use both mixed methods i.e quantitative and qualitative means of data collection as such to have deeper understanding on the study details.

Table 4.9: ANOVA

Model	Sum of Squares	Df	Mean square	F	Sig.
Regression	0.067	11	0.006	1.000	0.003[a]
Residual	0.054	9	0.006		
Total	0.121				

a. Predictors: (constant), Mission, vision and values, strategic leadership, Strategic monitoring and evaluation

b. Dependent Variable: Firm Performance

Source: Research findings

Regression Coefficient Results

Table 4.10: Regression coefficient results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	0.049	0.045		1.071	0.097
Mission, vision and values	0.041	0.025	0.258	1.612	0.024
Strategic leadership	1.704	0.507	0.573	3.361	0.003
Strategic monitoring and evaluation	0.016	0.004	1.052	4.522	0.000

Dependent Variable: Firm Performance
Source: Research Findings

Hence the model: Y = 0.049 + 0.041 X1 + 1.704X2 + 0.016 X3

The above model shows that when all other variables have a value of zero then the Firm performance is 0.049. A unit increase in Mission, vision and values translates to 0.041 increase in Firm performance, also a unit increase of Strategic leadership translates to 1.704 increase in Firm performance. A unit increase in Strategic monitoring and evaluation translates to 0.016 increase in Firm performance. This is an indication that Mission, vision and values, Strategic leadership and Strategic monitoring and evaluation affect the performance of Britam Insurance Company. Findings also show that the model is statistically significant at 5% level of significance.

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APPENDIX 1: Questionnaire

Factors influencing growth of mobile banking in Kenya

Please fill in the section by ticking the sections applicable to your statements

	SECTION 1: DEMOGRAPHIC DETAILS		
	Demographics	**Categories**	**Mark with a cross (X)**
1	Gender	Male	
		Female	
2	Age	Below 25 Years	
		26 – 30 Years	
		31 -45 Years	
		Above 45 Years	
3	Marital Status	Single	
		Married	
		Divorced	
4	Income Level	Between Kshs. 1 - 20,000	
		Between Kshs. 21,000 – 50,000	
		Between Kshs. 51,000 – 80,000	
		Between Kshs. 81,000 – 100,000	
		Above Kshs. 100,000	
5	Education Level	Secondary School level	
		Certificate level	
		Degree level	
		Masters level	
		PHD Level	
6	Do most of your customers use mobile banking?	Yes	
		No	
7	Do they also transact their bank account transactions using bank physical branch?	Yes	
		No	
8	On average, how long does a customer take to get services in the nearest branch?	Less than 20 minutes	
		Less than 30 minutes	
		Less than 1 hour	

		Less than 2 hours	
		Above 2 hours	
9	Do they use mobile banking service to access other financial services?	Yes	
		No	
10	If the answer to question 9 is yes, what do they use mobile banking for?	Buy airtime	
		Check account balance	
		Transfer money	
		Pay utility bills	
		Cash withdrawal	
		Others (Please specify)	

SECTION B: SPECIFIC RESEARCH INFORMATION

	CONSTRUCT **a) Ease of use**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
		1	**2**	**3**	**4**	**5**
11	Use of mobile banking is easy to learn					
12	Mobile banking apps provide all financial services required by our customers					
13	Mobile banking operational steps are easy to remember					
14	Mobile banking users can activate various financial options on the menu with ease					
15	Mobile banking encourages customers to explore or navigate through various financial options available in our bank					
16	Mobile banking services are accomplished without lengthy time delays					
17	Mobile banking app can facilitate for the correction of errors and mistakes made by the user					
18	Our mobile banking app effortlessly work with other components such as a printer without phone configuration					
19	Mobile banking is easy to use to accomplish banking transactions					

b) PERCEIVED RISK

20	Network problems affect the performance of mobile banking in our bank					
21	Careless mistakes made during data entry leading to loss of money may discourage the use of mobile banking					
22	Customers worry about hacking and fraud on their accounts which may lead to a financial loss					
23	Customers feel unsafe to provide personal private information over mobile banking					
24	Customers feel unsecure sending sensitive information across mobile banking					

c) TRANSACTION COSTS

25	Access costs for mobile banking service is expensive					
26	Customers find it cheaper to transfer funds through mobile banking than over the counter					
27	Customers find transaction cost of withdrawing cash using mobile banking app relatively cheap					
28	Cost of depositing money through mobile banking is negligible					
29	Customer’s use of mobile banking service is not affected by monthly maintenance fee					

d) GOWTH OF MOBLE BANKING

30	The number of mobile banking app users in our bank have grown over the years					
31	Our bank's revenue from mobile banking have been increasing over the years					
32	Our bank's Mobile banking geographical coverage have been expanding over the years					
33	Our mobile banking services have enhanced our growth in competitive advantage					
34	Mobile banking has become a driver in growing our profitability					

I take this opportunity to sincerely thank you for accepting to fill this questionnaire

Regards

Samuel G. Kiura