

**FACTORS INFLUENCING THE UPTAKE OF MOBILE PHONE
BANKING. THE CASE OF STANDARD CHARTERED BANK,
NYERI BRANCH, KENYA**

BY

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OF NAIROBI**

2015

DECLARATION

This Research Project Report is my original work and has not been presented for award of a degree in any other university or any other institution of higher learning for examination.

.....

Date ...23/07/2015.....

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This Research Project Report has been submitted for examination with my approval as the University Supervisor.

.....

Date

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DEDICATION

This Research Project Report is dedicated to my son Simon Githundi Muiru, daughter Neema Susan Wairimu Muiru; for the love I have for them, late daughter Hope Wairimu Muiru who never saw the light of the day but reminds me to be hopeful, and to my late dearest friend and aunt Margaret Wambui Ng'ang'a who held too much promise to die young.

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ABBREVIATIONS AND ACRONYMS

ADC	Alternative Delivery Channels
ATM	Automated Teller Machine
CAK	Communication Authority of Kenya
CBK	Central Bank of Kenya
DIT	Diffusion of Innovation Theory
E-banking	Electronic Banking
IT	Information Technology
M-Banking	Mobile Banking
PIN	Personal Identification Number
SCB	Standard Chartered Bank
SMS	Short Message Services
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model

ABSTRACT

Kenya is said to be a global market leader in mobile money. Mpesa is the leading mobile money transfer service in Kenya with about 18 million clients and 2.1 trillion shillings moved in the year 2014(CAK report 2014). In order to take advantage of increased uptake of mobile technology, cut costs, increase penetration and increase client satisfaction, most banks in Kenya have embraced mobile banking. This study sought to establish factors influencing the uptake of mobile banking. The study was carried out in Standard Chartered Bank, Nyeri Branch, located in Nyeri County in the Republic of Kenya. Reviewed studies have shown that the main factors influencing mobile banking are; Relative Advantage, Perceived Risk, Complexity, Observability and Compatibility (Al- Jabir and Sohail, 2012; Rodgers, 2003; Chen et al., 2004). The objectives of this study were; to establish the influence of Relative Advantage of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Perceived Risk of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Complexity of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Observability of Mobile Banking on the Uptake of Mobile Banking, and to establish the influence of Compatibility of Mobile Banking on the Uptake of Mobile Banking. It sought to find out what clients view as the main factors influencing the uptake of mobile banking innovation in Kenya. The study employed a descriptive survey design. The population consisted of slightly over 3,500 personal banking customers of SCB, Nyeri Branch. A sample of 300 clients who were registered for mobile banking was chosen through probabilistic and non-probabilistic sampling methods to be able to capture the diverse demographic traits on the population. A self-administered questionnaire was distributed to the respondents. Results were subsequently analysed by use of descriptive statistics tools such as frequency distribution tables and percentages. Correlation analysis was used to establish the strength of association between the variables of interest. The study established that complexity of mobile banking and perceived risk of mobile banking negatively influence the uptake of mobile banking while Relative Advantage of mobile banking, Observability of mobile banking and Compatibility of mobile banking positively influence the uptake of mobile banking. It recommends that the bank management should invest more in advertisement to reach out to more of their unregistered clients. Further, banks should continuously invest in the upgrade of the mobile banking platform to make it more secure and introduce more services for their clients. The results provide further insights into mobile banking strategies to increase the uptake of mobile banking among mobile banking project managers, mobile banking operators and engineers.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Chapter one provides a background on research population, the concept of mobile banking and also covers the statement of the problem, research objectives and research questions that the study looks forward to answering, purpose of the study, and significance of the study, delimitations and limitations of the study.

Standard Chartered Bank is an international bank with presence in Asia, Africa and Middle East (www.sc.com/ke/about-us). It has extended its presence in Kenya by incorporation of Standard Chartered Bank Kenya Limited as a limited company. Standard Chartered Bank Kenya Limited is one of the five biggest banks by profitability in Kenya. It is also one of the oldest banks in Kenya having celebrated its presence for more than one hundred years in the year 2011 (www.sc.com/ke/about-us). It currently has 39 branches and slightly over 189,000 personal banking clients as of year 2014 as per its 2014 Digital Report (Appendix 2). The study will be carried out in Nyeri Branch, one of its upcountry branches. The branch has slightly over 3,500 personal banking clients as of March 2014 (Appendix 2). Of these clients, 1,072 are registered on mobile banking while only 362 are active on the mobile banking service. The study sought to find out why the uptake of mobile banking service is still low despite the huge benefits offered by mobile banking innovation.

Globally, reviewed studies have shown that the main factors influencing mobile banking are; relative advantage, perceived risk, complexity, observability and compatibility (Al- Jabri and Sohail, 2012; Ching et al. 2011). These studies were done in Saudi Arabia and Malaysia respectively. Korir (2012) carried out a Study on Factors Influencing Mobile Banking in Kenya. The study was carried out at Kenya Commercial Bank in Garissa. The study found out that the cost of M-banking services and security concerns influences use of mobile banking while demographic factors such as age and education did not influence mobile banking.

This study adopts the definition of Tiwari, Buse and Herstatt (2006) which defines mobile banking as any transaction involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobile access to computer mediated networks with the help of mobile telecommunication services. The scope of offered services may

include facilities to conduct bank and stock market transactions and to administer accounts. Mobile phone banking offers services such as withdrawals and deposits from banks accounts using mobile money platforms such as Mpesa and Airtel money. Clients who are subscribed to mobile banking are able to check statements, transfer funds between bank accounts, buy airtime, request for statements, request for cheque books, and apply for lending services such as personal loan top up and application for a credit card. Mobile banking is seen a key driver for customer satisfaction, reduced costs and penetration of banking services to the masses.

1.2 Statement of the Problem

Mobile money transfer service usage has continued to increase among Kenyan public as indicated by the growth in number of transactions which increased by 28.19 percent from 643.01 million transactions from the year ending June 30, 2013 to 824.26 million transactions in the year to June 30, 2014. (CBK Annual Report, 2014). This has been lauded as success in the effort to enhance financial deepening and inclusion especially among the rural urban poor and the unbanked. Technological change has been inevitable in the financial sector. The adoption of Internet Banking has changed the dimensions of competition following the introduction of Personal Computer Banking, Automated Teller Machines (ATMs) and Mobile Phone Banking, which are regarded as alternate delivery channels. The increased adoption and penetration of mobile banking has added a new distribution channel to retail banking. There were 25.93 million clients with mobile money accounts as at June 2014 (CBK Annual Report, 2014).

Most Kenyan banks have rolled out mobile banking platforms connecting their clients' bank accounts with the country's two major mobile money players, Airtel and Safaricom. This innovation is seen as beneficial to clients, the employees and the bank as technology saves time, saves money and eliminates errors which enhances client satisfaction and reduces transaction costs. This reduces the cost of operating an account in Kenya and opens the door to those who could not be able to previously access financial services. According to Lee et al. (2007), reliable and accurate banking services, personalized service and accurate records are key determinants by clients on their choice of a given alternate delivery channel. Mobile banking enables clients to access their bank accounts on the go.

E-banking is seen as the future of banking as banks shift from the costly branch banking model to embracing the cost efficient alternatives such as agency banking, E-banking, ATMs and Client Contact Centres. Yet despite these benefits, very few clients are active on mobile banking platforms in SCB- Nyeri Branch. There were 1,072 clients on mobile banking as of March 2014 which only comprises 30 percent of the personal banking clients. Of these, there were only 362 active clients on mobile banking which accounts for approximately 10 percent of the personal clients' base (SCB Digital Report, March 2014).

Considering most of these clients are on mobile phones and at least 80 percent are on mobile money (CBK 2014 annual report), it follows that there are inhibitions and/or enablers or certain factors influencing the uptake of mobile banking as an innovation. Many scholars have carried out studies on uptake of mobile banking, but none that has yet touched on factors influencing the uptake of mobile banking in the case of Standard Chartered Bank, Nyeri Branch, Kenya. Further, Studies such as Mutua (2013), who studied the effects of mobile banking in performance of Commercial banks, and Muthiani (2012), who studied factors affecting customers willingness to adopt mobile banking in National Bank of Kenya, have not extensively explored why there is low rate of mobile banking uptake in a country that has a huge uptake of mobile phone technology innovations such as mobile money. This study fills this gap. Muthiani (2012) also recommends further studies on the uptake of mobile banking among Kenyan banks.

1.3 Purpose of the Study

The purpose of this study was to establish factors influencing the uptake of mobile banking in Standard Chartered Bank, Nyeri Branch, Kenya.

1.4 Objectives of the Study

This study was guided by the following objectives;

1. To establish the influence of relative advantage of mobile banking on the uptake of mobile banking.
2. To establish the influence of perceived risk by bank clients on the uptake of mobile banking.
3. To establish the influence of complexity of mobile banking on the uptake of mobile banking.
4. To establish the influence of observability of mobile banking on the uptake of mobile banking.

5. To establish the influence of compatibility of mobile banking on the uptake of mobile banking.

1.5 Research Questions

The Research Project was guided by the following questions;

1. How does Relative advantage of mobile banking influence the uptake of mobile banking?
2. To what extent is perceived risk of mobile banking by bank clients prohibitive to uptake of mobile banking?
3. What is the influence of complexity of mobile banking on the uptake of mobile banking?
4. How does observability of mobile banking influence the uptake of mobile banking?
5. To what extent does compatibility of mobile banking influence the uptake of mobile banking?

1.6 Significance of the Study

This study sought to generate useful insights that can be used by banks to increase the uptake of mobile banking and thus improve client satisfaction and reduce costs. The study therefore was necessary to identify factors influencing mobile banking uptake especially for the target population and hence provide information on what clients want. This information can also be used to improve product design and therefore enhance mobile banking user experience for the banks clients. To the academicians and students of Project Planning and Management, this study has helped build the knowledge base in the discipline by adding on the existing literature on mobile banking uptake among Kenyan banks. The study can thus be used as a source of reference material besides suggesting areas where future research may be conducted.

1.7 Basic Assumptions of the Study

The study assumed that the respondents would be co-operative and provide accurate and correct information when responding to the research questions. It also assumed that the respondents would answer all the questions on the questionnaire and return all the questionnaires. This implies it was assumed that there would be a very high response rate. The respondents were assumed to have equal access to information on mobile banking in SCB- Nyeri Branch.

1.8 Limitations of the Study

Time constraint was a limiting factor because the study had to be concluded within a limited time frame. The researcher is an employee of the bank and thus might have been biased. There was neither assurance that the respondents would return all the questionnaires duly completed, nor was there a guarantee that the respondents would respond to all the questions put forward to them comprehensively.

1.9 Delimitation of the Study

The study was restricted to clients of SCB Nyeri Branch. Most of the clients for SCB Nyeri Branch come from Nyeri County. There are also pockets of clients from Nyandarua, Murang'a and Kirinyaga counties.

1.10 Definitions of Significant Terms

The following are the definitions of significant terms as used in the study;

Uptake of mobile banking- Refers to the action of taking up, accepting, adopting or making use of mobile phones to access and use banking services.

Relative Advantage of mobile banking- refers to the degree to which mobile banking innovation is perceived as providing more benefits than its predecessor.

Perceived Risk of mobile banking- refers to the security fears that a client has to overcome to be able to subscribe and use mobile banking service.

Complexity of mobile banking – It is the extent to which mobile banking service can be considered relatively difficult to understand and use.

Observability of mobile banking- It is the extent to which mobile banking service is visible to the members of a social system, and as such the benefits can be easily observed and communicated.

Compatibility of mobile banking- Refers to the degree to which mobile banking service is perceived as consistent with users' existing values, beliefs, habits and present and previous experiences.

1.11 Organization of the Study

Chapter One will provide a background on uptake of mobile banking, statement of the problem, research objectives and research questions that the study looks forward to answering, purpose of the study, significance of the study, delimitations and scope of the study. Chapter Two will outline the theoretical foundation of the research topic. Chapter Three will examine the research design and methodology used for the purpose of completion of the study. It also will also describe in detail, research design, target population, sample, sampling procedure and data collection instruments. Chapter Four will contain data analysis, presentation and interpretation while chapter five will provide a summary of findings, discussion, conclusions and recommendations. This will be followed by references and appendices sections.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on the factors influencing the uptake of mobile banking. From this review, broad categories have been derived which will help to identify the critical impact of factors that influence the uptake of mobile banking such as relative advantage, perceived risk, complexity, observability and compatibility of mobile banking. Additionally, the chapter addresses the theoretical framework guiding the uptake of mobile banking, empirical literature and chapter summary.

2.2 Uptake of Mobile Banking.

Mobile banking, also referred to as M-banking, is an application of mobile commerce that enables customers to bank virtually at any convenient time and place (Suoranta, 2003). It is also defined as the provision of banking and related financial services such as savings, funds transfer, and stock market transactions among others on mobile devices (Tiwari and Buse, 2007). Suoranta (2003) carried out a study in Finland conceptualising various factors and modelling the relationships between variables in the mobile banking uptake framework. Methodologically, the study takes a descriptive approach to the phenomenon under study. The data in the empirical study was collected by means of a questionnaire. The results indicate that certain attributes of mobile banking innovation drive usage or explain consumer behaviour, in particular relative advantage, compatibility, communication and trialability. By contrast, the investigation of complexity and risk of using mobile banking yielded no support as being barriers to adoption. The study realized that technology perceptions and certain demographical variables of the customers have a significant impact on the adoption behaviour.

Ching *et al.* (2011) studied the factors influencing the uptake of mobile banking in Malaysia from the point of an empirical analysis. This study aimed at extending the Technology Acceptance Model (TAM) to investigate mobile banking acceptance in Malaysia. The objective of this study was to examine the relationships between constructs of perceived usefulness and perceived ease of use, social norms, perceived risks, perceived innovativeness, and perceived relative advantages towards behavioural intention in the uptake of mobile banking.

The findings of this study revealed that perceived usefulness, perceived ease of use, relative advantage and perceived risks were the factors influencing the behavioural intention of mobile users to adopt mobile banking services in Malaysia. Al-Jabri and Sohail (2012) studied the uptake of mobile banking in Saudi Arabia. This study aimed at investigating how Rodgers Theory of Diffusion of Innovation applies to the influence of mobile banking uptake in a developing nation, like Saudi Arabia. The study used Diffusion of Innovation as a base-line theory to investigate factors that may influence mobile banking uptake and use. This research sought to examine the potential facilitators and inhibitors of mobile banking adoption. The study used six independent variables; Relative Advantage, Complexity, Observability, Trialability, Perceived Risk, and compatibility.

The study recommended that banks, in Saudi Arabia, should offer mobile banking services that are compatible with various current user requirements, past experiences, lifestyle and beliefs in order to fulfil client expectations. Further, banks should provide better mobile banking support and more services. Hence, banks attention should focus on understanding customer behavior and designing reliable mobile banking systems that will meet their needs and provide useful and quality services. The study also recommended that advertisement should focus on relative advantage and usefulness of mobile banking compared to other alternate delivery channels such as branches or use of ATM machines. Banks should seek to reduce the risk perceived by their clients by offering specific guarantees protecting them while at the same time taking their complaints seriously and resolving them urgently.

This study looked at different theories and studies on the uptake of mobile banking innovations, from which it drew the main factors influencing the uptake of mobile banking. Competition, along with changes in information communication technology, fuels the need for banks to innovate in products, services, and ADCs such as mobile banking (Frei, F. and Kalakota R., 1998). Pushed by growing consumer demand and the fear of losing market share, banks are investing heavily into new banking technology. Collaborating with hardware, software, telecommunications, and other companies, banks are introducing new ways for consumers to access their account balances, transfer funds, pay bills, and buy goods and services without using cash, or leaving home (Frei, F. and Kalakota R., 1998).

Humphrey et al. (2006) cite ATMs, telephone banking, internet banking, and e-money as being among the significant innovations affecting the banking distribution system that significantly influence banking performance. Research on individual acceptance and use of mobile banking has always considered mobile banking as a technological innovation (Al-Jabri and Sohail, 2012). Korir (2012) carried out a Study on Factors Influencing Mobile Banking in Kenya. The study was carried out at Kenya Commercial Bank in Garissa. The study found out those costs of M-banking services and security concerns influence the use of mobile banking while demographic factors such as age and education were found not to influence mobile banking.

Studies on the uptake of mobile banking use implementation, usage, utilization or satisfaction as a measure of uptake of mobile banking. However, satisfaction emerges as the single most used measure of uptake (Delone and Mclean, 2003; Raymond, 1990). This study uses perceived importance, usage and satisfaction as the measures for the uptake of mobile banking. The reason for selecting satisfaction as surrogate measure for uptake is twofold. First, “satisfaction” has a high degree of face validity. It is hard to deny the Success of a system where users say that they like it. Second, the satisfaction is widely used as a success measure (DeLone & McLean, 2003; Al-Jabri and Sohail, 2012); and post-adoption measure of M-services (Park et al., 2011). Most clients subscribe to an innovation when they perceive it as important. An innovation will be said to be satisfying if it meets the perceived needs of a user. Further a satisfied user will use an innovation more and will be more likely to recommend the innovation to friends and family. This further increases the innovation uptake levels. Studies on the uptake of mobile banking such as Al-Jabri and Sohail (2012) have treated uptake of mobile banking as an innovation and subsequently used Diffusion of Innovation Theory as a baseline theory.

2.2.1 Diffusion of Innovation Theory and Uptake of Mobile Banking

The diffusion of innovation theory (DIT) can be considered as one of the most popular theories that have attempted to explore factors that influence an individual to adopt an innovation or a new technology. DIT is a theory that seeks to explain how, why, and at what rate new ideas and technology spread in a given population. It seeks to explain the uptake of new ideas and technology spread in a given population. Further, it seeks to explain what can be done to influence the uptake of a new product or solution satisfactorily. Rogers defines diffusion as the adoption of an innovation over time by the given social system.

As a consequence, diffusion processes result in the acceptance or penetration of a new idea, behaviour, or physical innovation. Rogers identified several attributes of an innovation that are key influences on the uptake behaviour. According to Rogers, these attributes are relative advantage, complexity, compatibility, trialability, and observability. A number of previous studies have examined these factors in adoption and diffusion of Internet-based technologies and have consistently concluded that these attributes, particularly those of relative advantage, ease of use, and compatibility, as the most frequently salient factors for uptake of Internet and mobile technologies (Koenig-Lewis et al., 2010).

2.3 Relative advantage and uptake of Mobile Banking

Relative advantage refers to the degree to which an innovation is perceived as providing more benefits than its predecessor (Moore & Benbasat, 1991). Relative advantage results in increased efficiency, economic benefits and enhanced status (Rogers, 2003). Al-Jabri and Sohail (2012) took a study on factors influencing the uptake of mobile banking in Saudi Arabia. The study revealed that relative advantage is one of the key factors that influence the uptake of mobile banking. The indicator of economic benefit is captured in this study as cost. The study sought to establish whether there are benefits that accrue from use of mobile banking in SCB-Nyeri Branch. Past research has found that relative advantage of an innovation is positively related to the rate of mobile banking uptake (Moore & Benbasat, 1991).

Further research studies suggest that when a user perceives relative advantage or usefulness of a new technology over an old one, they tend to accept it (Rogers, 2003). In the context of mobile banking uptake, benefits such as immediate fulfilment of needs, and affordability to customers have been reported (Lin, 2011). Therefore, it is inferred that, when customers know and understand distinct advantages offered by mobile banking, they are more likely to adopt it. It can therefore be inferred that cost effectiveness, enhanced social status and time saving aspects of mobile banking can be viewed as indicators of relative advantage which may have a positive effect on the uptake of mobile banking. The degree of relative advantage is often described in form of economic profitability, social prestige, savings in time and effort and immediacy of reward or as a decrease in comfort (Rodgers, 1995). Luarn and Lin (2005) also argue that the cost of mobile banking is of great concern to acceptance of mobile banking.

2.4 Perceived Risk and Uptake of Mobile Banking

These refer to the security fears that a client has to overcome to be able to subscribe to mobile banking service. The security fears are heightened since mobile banking service involves clients' money that is kept in the bank for safekeeping. This attribute is also said to refer to the degree of risk in using an innovation (Ram & Sheth, 1989). Risk perception by customers usually arises due to the doubt related to the degree of inconsistency between client's judgment and real behaviour, and technology failing to deliver its anticipated outcome and its consequent loss (Koenig-Lewis, 2010). In technology uptake, there is research evidence of the importance of the perception of risk in deployment, acceptance and use of new technology or services (Ndubisi & Sinti, 2006).

In the context of mobile banking, the perception of risk is even more important due to the threat of privacy and security concerns (Luarn & Lin, 2005). Secondly, fear of loss of Personal Identification Number codes may also pose security threats. Thirdly, some users also fear that hackers may access their bank accounts via stolen PIN codes (Poon, 2008). Finally, some users may also have a fear of loss or theft of a mobile device with stored data (Coursaris et al., 2003). Therefore, perceived risk is more likely to negatively affect the uptake of mobile banking. This study then sought to find out how security factors such as pin security, security of funds and privacy are matter of concern and how they hinder the uptake of mobile banking in Kenya. According to Rodgers (2003), uptake of a new idea, behaviour, or product (i.e., innovation) does not happen simultaneously in a social system; rather it is a process whereby some people are more suitable and faster to adopt the innovation than others. Researchers have found that people who adopt an innovation early have different characteristics than people who adopt an innovation later.

When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation. There are five established adopter categories according to Rodgers Theory of Diffusion of Innovation; innovators, early adopters, early majority, late majority and laggards. While the majority of the general population tends to fall in the middle categories, it is still necessary to understand the characteristics of the target population. When promoting an innovation, there are different strategies used to appeal to the different adopter categories. These categories have different appetite in accepting and using an innovation.

The first category consists of Innovators who are the people who want to be the first to try the innovation. They are venturesome and interested in new ideas. These people are very willing to take risks, and are often the first to develop new ideas. Very little, if anything, needs to be done to appeal to this population. They are ready to take risks to be able to discover or get a new experience. The second categories are the Early Adopters who are the people who represent opinion leaders. They enjoy leadership roles, and embrace change opportunities and quickly analyse potential risks and make quick decisions on whether to take them or avoid. They are already aware of the need to change and so are very comfortable adopting new ideas. Strategies to appeal to this population include how-to manuals and information sheets on implementation. They do not need information to convince them to change.

The third adopter category consists of Early Majority. Early Majority are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. They need to hear that those who have adopted the technology before them have not suffered any losses as a result of the perceived risk of the new innovation. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness. The fourth adopter category is the Late Majority. The Late Majority are the people who are sceptical of change, and will only adopt an innovation after it has been tried by the majority and is seen to better their lives. They believe that as long as most people are adopting an innovation, then it must be low risk and beneficial. Strategies to appeal to this population include information on how other people have tried the innovation and have adopted it successfully.

The last adopter category is the Laggards. They are bound by tradition and are very conservative. They hardly believe other adopters of innovation when they tell them that the perceived risk of the innovation is low or mitigated against, rather they believe that if the expected losses have not come then they are on their way. They are very sceptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups.

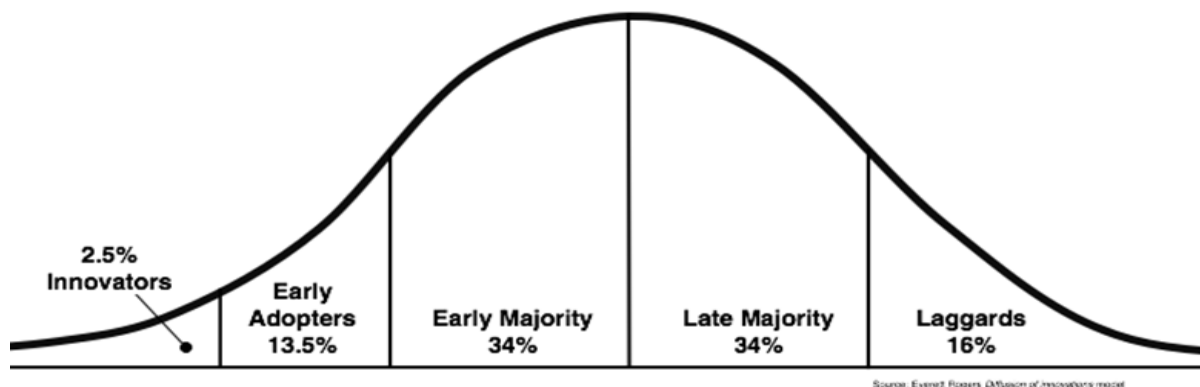


Figure 1 Adopter Categories in Theory of Diffusion of Innovation (DIT)

Source; Diffusion of Innovation, Rodgers (1995)

The stages, by which a person adopts an innovation, and whereby diffusion is accomplished, include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation. Rogers (2003) defines adoption as a decision to make full use of an innovation. In this study, we are investigating the factors that influence the uptake of mobile banking. While there are many studies that define adoption in terms of implementation, usage, utilization, or satisfaction; this study uses satisfaction as it is the most widely used single measure of uptake of mobile banking. Satisfaction has often been used as the dependent variable for IT success, DeLone & McLean (1992, 2003).

Despite the fact that this theory has been used successfully in many fields including communication, agriculture, public health, criminal justice, social work, and marketing. The possible limitations in use of DIT during this study are; much of the evidence for this theory, including the adopter categories, did not originate in mobile banking implementation projects and as such it was not developed to explain this kind of innovation. DIT does not also take into account an individual's resources or social support to adopt the new behaviour (or innovation).

2.5 Complexity and Uptake of Mobile Banking

Complexity can be explained as the extent to which an innovation can be considered relatively difficult to understand and use. If an innovation is not complex then it can be said to be easy to understand and use. Complexity negatively influences the uptake of any new innovation such as mobile phone banking. Complexity is the opposite of ease of use. Ease of use refers to the extent to which mobile banking is perceived as easy to understand and operate.

A vast body of research suggests that there is a strong impact of perceived ease of use of new technology on its adoption (Luarn & Lin, 2005). When mobile banking services have very user friendly interfaces, users see them as easy to use, and hence form positive attitudes towards them (Lin, 2011). Complexity in use is a major factor in the uptake of mobile banking. There is considerable amount of empirical research on the mobile technology to suggest that users' intention to adopt mobile banking is inhibited by the perceived complexity of the innovation (Au & Kauffman, 2008). Much of the available literature on barriers of mobile banking uptake is predominantly related to technical complexity. Complexity in use, technical infrastructure, and design of technology are reported as individual barriers in a number of studies (Vrechoupoulos et al., 2003).

Users will be inhibited to use mobile banking if they find out that it requires more mental effort, is time-consuming or frustrating. Therefore, there is evidence that perceived complexity such as in product design will inhibit or slow down the uptake of mobile banking. The study sought to establish how indicators of complexity such as product design and convenience have an influence on uptake of mobile banking. Suoranta (2003) carried out a study on factors influencing adoption of mobile banking in Finland. Its investigation of complexity and risk of mobile banking yielded no support to both being barriers to adoption. This is contrary to Au & Kauffman (2008) whose findings shows that there is considerable amount of empirical research on the mobile technology to suggest that users' intention to adopt mobile banking is inhibited by the perceived complexity of the innovation. The study done by Al-Jabri and Sohail (2012) also establishes that complexity is a key barrier to the uptake of mobile banking.

Davis (1989) developed the Technology Acceptance Model which deals more specifically with the prediction of the acceptability of an information system. The purpose of this model is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users. This model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use. Perceived usefulness is defined as being the degree to which a person believes that the use of a system will improve his performance. Perceived ease of use refers to the degree to which a person believes that the use of a system will be effortless. Several factorial analyses demonstrated that perceived usefulness and perceived ease of use can be considered as two different dimensions.

As demonstrated in the theory of Reasoned Action, the Technology Acceptance Model postulates that the use of an information system is determined by the behavioral intention, but on the other hand, that the behavioral intention is determined by the person's attitude towards the use of the system and also by his perception of its utility. The study by Davis (1989) shows that attitude of an individual is not the only factor that determines his use of a system, but is also based on the impact which it may have on his performance. Therefore, even if an employee does not welcome an information system, the probability that he will use it is high if he perceives that the system will improve his performance at work.

Besides, the Technology Acceptance Model hypothesizes a direct link between perceived usefulness and perceived ease of use. With two systems offering the same features, a user will find more useful the one that he finds easier to use (Venkatesh V. & David F.D., 2000).

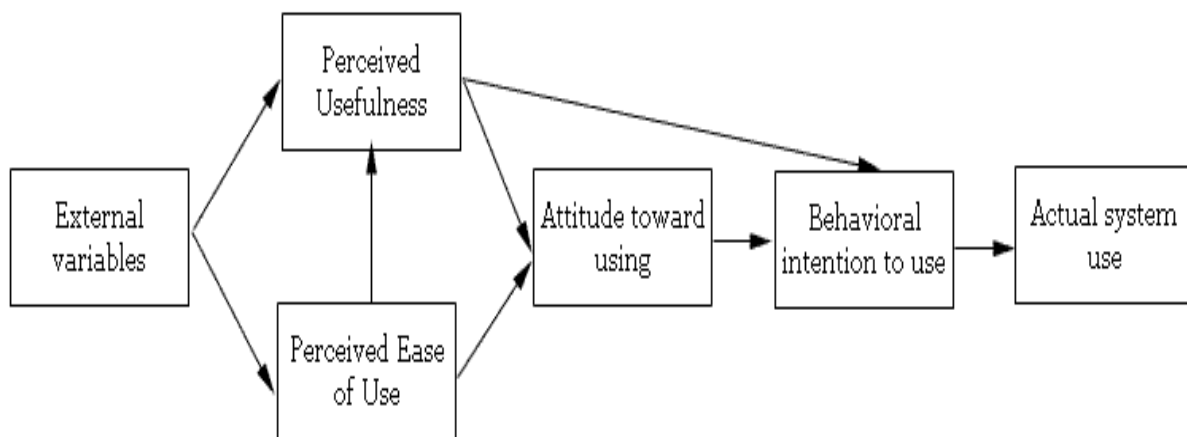


Figure 2 Technology Acceptance Model from Davis (1989)

The Technology Acceptance model indicates that when users are presented with a new innovation, there are a number of factors that influence the behavioural intention to use the innovation most notably Perceived Usefulness and Perceived Ease of Use. TAM is an information systems theory that models how users come to accept and use a new technology. TAM postulates that Perceived Ease of Use and Perceived Usefulness are the two most important factors that influence uptake levels of an innovation. Perceived Usefulness is mainly covered as the benefits that accrue from acceptance and usage of mobile banking in this study. It is captured as relative advantage in Rodgers Theory of Diffusion of innovation and as an independent variable in this study.

Davis (1986) reveals that perceived ease of use also influences in a significant way the attitude of an individual through two main mechanisms: self-efficacy and instrumentality. Self-efficacy means that the more a system is easy to use, the greater should be the user's sense of efficacy. Moreover, a tool that is easy to use will make the user feel that he has a control over what he is doing. Perceived ease of use can also contribute in an instrumental way in improving a person's performance. The model not only postulates direct relations between the external variables and system usage but also mediation through perceived ease of use and perceived usefulness. In this study, we examine complexity which is the opposite of ease of use and its influence on the uptake of mobile banking. It investigates how the attributes of product design, convenience and ease of registration influence the behavioral intention of an individual to accept and make use of mobile banking innovation.

2.6 Observability and Uptake of Mobile banking

It is said to be the extent to which mobile banking innovation is visible and provides tangible results. Observability of an innovation describes the extent to which an innovation is visible to the members of a social system, and the benefits that can be easily observed and communicated (Rogers, 2003). Moore & Benbasat (1991) simplified the original construct by redefining observability into two constructs: visibility and result demonstrability. In the context of mobile banking, observability is defined as the ability to access banking services at any time and from any location without any delay or queue, seeing the effect of mobile banking transactions immediately, and conveying the accessibility benefits to others. Through such exposure, customers gain knowledge about mobile banking and its benefits, thereby facilitating increased rate of uptake. In their study in Saudi Arabia on the uptake of mobile banking, Al-Jabri and Sohail (2012) established that observability positively influences adoption. In this study we will look at timeliness and accuracy as key indicators of results demonstrability construct while advertisement is examined as an indicator of visibility demonstrability.

2.7 Compatibility and Uptake of Mobile banking

Compatibility refers to how consistent the innovation is with the values, experiences, and needs of the potential adopters. It is also said to be the degree to which a service is perceived as consistent with users' existing values, beliefs, habits and present and previous experiences (Chen et al., 2004). Compatibility is a vital feature of innovation as conformance with user's lifestyle can propel a rapid rate of adoption (Rogers, 2003). Research has shown that compatibility is a significant antecedent in determining clients' attitude towards mobile banking adoption in

Malaysia (Ndubisi & Sinti, 2006). Compatibility has further been found to be influential in the use of mobile payments (Chen et al., 2004), and uptake of mobile banking (Lin, 2011). Thus, it is also likely that the relation between compatibility and registration and use will hold in the context of uptake of mobile banking. Since most of Kenyans are in mobile money platforms such as Mpesa, it can be said that mobile phone banking is compatible as customers are able to move money between mobile money and mobile banking platforms.

Ease of Use is explained further in Technology Acceptance Theory (TAM). In a study carried out in Finland, Suoranta (2003) found out that compatibility drives acceptance and usage of mobile banking innovation. The study findings are also supported by Al-Jabri and Sohail, (2012), who established that compatibility, has a positive effect on mobile banking uptake. Korir (2012) finds that ownership of a mobile phone has no significant effect on the use of mobile banking as almost all bank clients own mobile phones.

Most of the studies on uptake of mobile banking have relied on theories of Diffusion of Innovation and Technology Acceptance Model (Al-Jabri and Sohail, 2012; Suoranta, 2003). They have shown that the main factors influencing the levels of uptake of mobile banking are; relative advantage, perceived risk, complexity, observability and compatibility. Reviewed literature revealed that there has been little effort to look at the applicability of these theories in Kenya (Korir, 2012; Muthiani, 2012; Mutua, 2013). Despite this, the criticisms on these two theories show that there exists a link between amounts of resources deployed and the uptake of mobile banking. From the existing data, it was evident that mobile banking uptake is still low and as such there was need to investigate further not only the inhibitors but also what positively influences the uptake of mobile banking. In this study we sought to establish how factors such as relative advantage, perceived risk, complexity, observability and compatibility influence the uptake of mobile banking.

2.8 Conceptual framework

This study sought to extend the Theory of Diffusion of Innovation to investigate factors influencing the uptake of mobile banking in Standard Chartered Bank, Nyeri Branch, Kenya. The Uptake of Mobile Banking is taken as the dependent variable (DV). The independent variables are Relative Advantage, Perceived Risk, Complexity, Observability and Compatibility. Figure 3 shows the different types of variables and their relationships. It further indicates the indicators for all variables in this study.

Independent Variables (IVs)

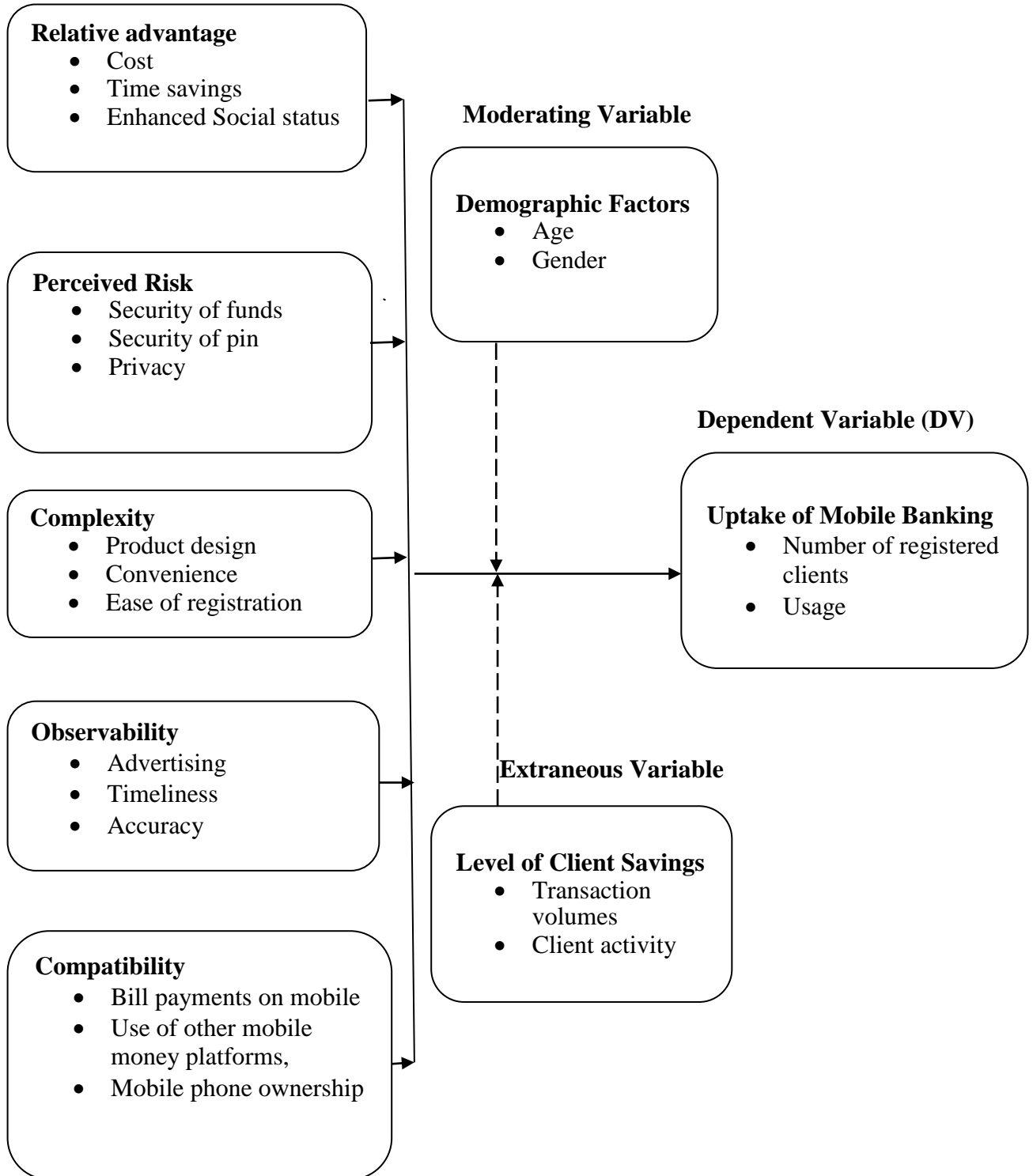


Figure 3 Conceptual Framework; the research model

2.9 Summary

Chapter Two dealt with theoretical framework and conceptual framework guiding the study. Literature review was carried out for Independent Variables such as Relative Advantage of mobile banking, Perceived Risk of mobile banking, Complexity of mobile banking, Observability of mobile banking and Compatibility of mobile banking and the Dependent Variable which is the Uptake of Mobile Banking. Rodgers theory of Diffusion of Innovation and Technology Acceptance Model were reviewed in respect to acceptance and use of mobile banking service. Finally, a conceptual framework showing the relationship among all the variables was developed showing the indicators that were to be reviewed in design of research instruments and to guide the remaining part of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology which was used in the study. The following topics will be discussed; research design, target population, sampling procedure, data collection method and instruments used.

3.2 Research Design

The research design adopted was aimed at showing how the problem under investigation will be solved. Research design is a plan, a roadmap and a blueprint strategy of investigation conceived so as to obtain answers to research questions (Kothari, 2004). The study adopted a descriptive survey design to establish the influence of; Relative Advantage, Perceived Risk, Complexity, Observability and Compatibility of mobile banking on the uptake of mobile banking service in the target population. Orodho (2005) observes that descriptive research designs are used in preliminary and explanatory studies to allow the researcher gather facts and interpret them for clarification. Such studies deal with feelings, perceptions, behaviour and role as well as group status. A survey is well suited to studies in which individuals are used as a unit of analysis in order to measure generalizations. The survey will be best suited for this study because the data required for analysis will be collected from a large population, in which it might be hard to observe the features of each individual.

According to Mugenda and Mugenda (2003), a descriptive survey design determines and reports the way things are, and attempts to describe possible behaviour, attitude, values and characteristics of such things. Cooper and Schindler (2003) observe that descriptive studies are structured with clearly stated questions to be investigated. This study uses a questionnaire as the main research instrument. The questions set on the questionnaire are mainly likert type items or use the likert scale for ease of analysis. The descriptive design was selected in this study because it would allow the researcher to gather numerical and descriptive data to assess the relationship between the variables. This would make it possible for the researcher to produce statistical information on factors influencing the uptake of mobile banking.

3.3 Target Population

The population of interest in this research consisted of clients of Standard chartered Bank, Nyeri Branch. This population lives in Nyeri County and its environs. It has opened personal bank accounts with SCB Nyeri Branch. The age of these clients is above 18 years as only persons with national identification documents have the capacity to open an account with the bank. The target population consists of slightly over 3,500 personal banking clients of Standard Chartered Nyeri Branch, Kenya (Appendix 3).

3.4 Sampling Size and Procedures

The study used both probability and non- probability sampling techniques to create a sampling frame for SCB Nyeri Branch clients. Stratified sampling is one of the probability techniques to be used in order to ensure that responses for customers who do not visit teller counters will be captured. Convenience sampling will also be used as the sample chosen is one which will be readily available for data collection. The target population was divided into two strata; clients visiting teller counters and clients visiting service desks. Five respondents were picked from each stratum every day for thirty continuous bank working days. The respondents chosen over the data collection period will total a sample of 300 bank clients who are already registered for mobile banking. This sample is chosen from the target population of slightly over 3,500 bank clients of SCB Nyeri Branch (Appendix 2). Considering a confidence level of 95%, a confidence interval of 5.42% and a known population of 3,573 (Appendix 2), a sample size of 300 respondents was determined and deemed sufficient for analysis. Table 3.1 describes the number of respondents who will be selected from each of the strata per day in order to form the sample population of 300 bank clients.

Table 3.1: Sampling frame

Strata	Respondents to be Chosen per day	Sample size for 30days
Clients visiting teller counters	5	150
Client visiting service desks	5	150
Totals	Respondents per day-10	Total sample size-300

3.4.1 Methods of Data Collection

Both primary and secondary data was sourced and utilized for the purposes of addressing research objectives. Primary data was collected through use of questionnaires while secondary data was extracted from existing published and unpublished records such as CBK Annual Report for year 2014 and SCB Digital Report for the month of March, 2014. Questionnaires were used for collecting information from the bank clients chosen as part of the sample. The questionnaires had structured, open and closed ended questions. The open ended questionnaires were used to collect qualitative data while the close ended ones were used to get quantitative data. The questionnaires were divided into two sections. The first section of the questionnaires sought to get demographic information of the respondents. The Second part sought information on factors influencing the uptake of mobile banking. The variables in the questionnaires are mainly developed based on the themes in the literature review section and in particular the Theory of diffusion of innovation and research objectives. The researcher also gave ample time to the respondents to fill in the questionnaires so that they do not feel as if there were under pressure.

3.4.2 Pilot study

A pilot study was carried out to test the reliability and validity of the questionnaires. The aim of the pilot survey was to test whether the design of questions was logical and if questions set will be clear and will be easy to understand. It also assisted to find out whether the responses given could be easily analysed. The pilot study was undertaken on a sample consisting of 5% of the respondents. Any questions found to be interpreted differently during the piloting phase were rephrased so that they could have the same meaning to all respondents. The piloting phase thus assisted in assessing the reliability of the research instrument which is an important step in improving the quality of the questionnaire.

3.4.3 Validity of instruments

The validity of the research instrument, in this case the questionnaire was tested through examination of construct validity by my research lecturers and colleagues. Construct validity is defined as the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). The main research instrument used in this study is the questionnaire. My colleagues and lecturers who are experts in the field of research were given the questionnaire which was already prepared to assess the degree to which they were to measure and establish the content of particular questions. Their advice and corrections was effected on the identified questions to increase validity.

3.4.4 Reliability of instruments

This was tested and improved during the piloting phase by administering the questionnaires to a group of individuals with similar characteristics as the actual sample size. Test-Retest method was used to improve reliability of the questionnaire to be used as it increases the consistency of a measure over time. Test-Retest reliability is a measure of reliability obtained by administering the same questionnaire twice over a period of time to a group of respondents. Scores obtained from the administered questionnaires were correlated to get the coefficient of reliability. A Spearman's correlation coefficient of 0.8 was realized and thus was deemed acceptable. A Spearman's correlation coefficient greater than seven shows that there exists a strong positive correlation between any 2 sets of data. This implies that when the same questionnaire is administered twice over time, it gives almost similar results.

3.5 Data Collection Procedure

Data collection took place for a period of 30 bank working days during the month of April and May 2015. The study relied mainly on the analysis of the primary data collected for the purpose of making conclusions and recommendations. Primary data was collected using structured questionnaires, structured interview guide and observation method. The questionnaires were directly administered to the respondents by the researcher during the normal working hours of SCB Nyeri Branch. Observation was carried out at the same period as when the questionnaires were been administered. The observation made was mainly on ease of use of the mobile platform and on responses given through gestures.

3.6 Data Analysis

This involved a careful analysis of the completed questionnaires in order to ensure that there were no gaps and that collected data was accurate and consistent with other information gathered. Quantitative data was coded by the researcher for efficiency in order to reduce the replies given by the respondents to a small number of classes. After the coding was complete, the data was further classified on the basis of common characteristics and attributes. The raw data was assembled and tabulated in form of statistical tables to facilitate further analysis. Descriptive and inferential statistics are used to analyse the data. This involves the use of frequency tables and other measures of central tendency such as the mean, mode, median to analyse the collected data. Inferential analysis has also been used to establish the existent and extent of the influence of Relative Advantage, Perceived Risk, Complexity, Observability and Compatibility on the Uptake of Mobile Banking. A five point likert type scale was used to

capture the extent of the influence of the independent variables to the uptake of mobile banking. The likert scale has been used in designing of questionnaires as it is an acceptable technique for the purposes of carrying out parametric analysis.

The statistical package for social sciences (SPSS) version has been used to aid in correlation analysis. The focus of the study was to determine the relationships between the variables of interest; therefore, in addressing these study objectives, the Pearson's Product Moment Correlation Coefficient (r) has been used. The Pearson's Product Moment Correlation Coefficient (r) is a correlation analysis technique that is used to show the extent of association between variables of interest.

3.7 Ethical Issues

The respondents were informed of the confidentiality of the information they were to give as client confidentiality on clients account information is a legal obligation. Confidentiality was ensured by advising clients not to write their names or their bank account numbers on the questionnaires. This was to prevent exposure of such confidential account information to unauthorized party. The researcher ensured that the filling of questionnaires was voluntary. The study endeavoured to educate clients on filling of questionnaires for ease of undertaking collection of data from the field. This was meant to make the respondents feel at ease and comfortable while filling in the questionnaire. The respondents were informed of the objectives and significance of the research in order to convince them to participate voluntarily in the filling of questionnaire. A high level of the respondent's confidentiality was maintained throughout the study as the researcher was bound by laws of Kenya which guaranteed privacy of bank clients account information.

The measurement of the various variables was as shown in the Table 3.2.

Table 3.2 Operationalization of Variables

VARIABLE	TYPE OF VARIABLE	INDICATORS	MEASUREMENTS	SCALE OF MEASUREMENT	TOOLS OF ANALYSIS
Uptake of Mobile Banking	Dependent	Subscriptions Usage	Number of clients subscribed. Frequency of use	Nominal	Descriptive
Relative Advantage	Independent	Cost of transactions Time savings Enhanced social Status	Client Satisfaction with pricing Perceived status Satisfaction with time savings.	Ordinal	Descriptive
Perceived Risk	Independent	Security of funds Security of pin Privacy concerns	Client Satisfaction with banks security measures for funds, pin and privacy	Ordinal	Descriptive
Complexity	Independent	Product Design Convenience Ease of Registration	Client Satisfaction with ease of registration, convenience offered Satisfaction with design of mobile banking platform	Ordinal	Descriptive
Observability	Independent	Level of advertisement Timeliness and Accuracy of Mobile banking Transactions	Client Satisfaction with Level of advertisement, timeliness, and accuracy of mobile banking transactions	Ordinal	Descriptive
Compatibility	Independent	Bill payments on Mobile Use of other mobile money platforms Mobile phone ownership	Clients satisfaction with Perceived complementarities	Ordinal	Descriptive

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the Data analysis, presentation and interpretation of findings on the data collected from clients of Standard Chartered Bank, Nyeri Branch Kenya based on factors influencing the Uptake of Mobile Banking. The study sampled 300 Clients from the target population of slightly over 3,500 clients (appendix 3). The data was interpreted as per the research questions. The analysis and presentation of data was done through descriptive statistics. Correlation analysis was done to examine the strength of association between independent variables and the dependent variables. The findings were presented in form of frequency tables and percentages.

4.2 Questionnaire Return Rate

During the study 300 questionnaires were given to the respondents out of which 257 were returned. The collection of data was in respect to factors influencing the uptake of mobile banking at Standard Chartered Bank, Nyeri Branch, Kenya. The respondents were introduced to the study and socialized about its purpose. They were further sensitized on voluntariness of participation. Those who were willing to participate were given the questionnaire to fill after which they delivered the same to the researcher. Table 4.1 shows the distribution of responses.

Table 4.1 Response Return Rate

Respondents	Frequency	Percentages (%)
Responses	257	87
Non response	43	13
Total	300	100

Table 4.1 shows a questionnaire response rate of 87% and a non-response rate of 13%. Mugenda and Mugenda (2003) points out that for generalizations, a response rate of 50% is adequate for analysis, 60% is good while a response rate of 70% and above in social sciences is considered sufficiently high and appropriate for data analysis. It can thus be deemed that the questionnaire response rate of 87% is sufficiently high and appropriate for data analysis.

4.3 Demographic Factors

The study targeted all bank clients visiting the service and teller counters of SCB Nyeri Branch. Section A of the questionnaire contained questions aimed at getting demographic information. This section represented the demographic details of the respondents which included age, gender, marital status and distribution of the respondents by level of education obtained and source of income. Tables 4.3, 4.4, 4.5 and 4.6 present these details.

4.3.1 Composition of Respondents by Age

The research sought to establish the age of the respondents by including the age question in the questionnaire. Age is very important because it acts as one of the measures of how representative a sample is in respect to the population. Clients under the age of 35 years tend to be more than older clients. The results obtained were presented in table 4.2.

Table 4.2 Distribution of Respondents by Age

Age Distribution (Years)	Frequency	Percentage (%)
18-35	152	59
36-55	87	34
55 and above	16	6
Non Response	2	1
Total	257	100

According to the Table 4.2, 59% of the respondents were aged between 18 and 35 years old, 34% were aged between the 36 and 55 years while 6% were in the age bracket of above 55 years old. Table 4.2 shows that the majority of the respondents were youth. The youth are considered well informed and proficient in use of modern technology. The youth are thus better suited in this kind of survey as acceptance and use of mobile banking is related to acceptance and use of modern technology.

4.3.2 Composition of Respondents by Gender

The research sought to establish the distribution of respondents' gender. The results obtained are tabulated in Table 4.3.

Table 4.3 Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	131	51.0
Female	126	49.0
Total	257	100.0

Table 4.2 shows that male respondents were 51% while female respondents were 49% of the total respondents. This shows the study was not gender biased as both genders participated almost equally.

4.3.3 Composition of Respondents by Marital Status

Table 4.4 shows the marital status of bank clients who responded in the study.

Table 4.4 Distributions of Respondents marital status

Marital Status	Frequency	Percentage (%)
Single	70	27
Married	187	73
Divorced	-	-
Total	257	100

Table 4.4 shows that the majority of the respondents (73%) were married while 27% of the respondents were single. None of the respondents indicated their status as divorced. The sample can thus be deemed representative as majority of Kenyans are either married or single.

4.3.4 Composition of Respondents by Level of Education Attained

The study sought to establish the distribution of level of education among respondents because the level of education enables one interact and communicate more in life. Table 4.5 shows the distribution of respondents by level of education attained.

Table 4.5 Distribution of Respondents by Level of education Attained

Level of Education	Frequency	Percentage (%)
None	1	0
Primary	34	13
Secondary	45	18
Technical and Vocational	92	36
University	80	31
Non Response	5	2
Total	257	100

Table 4.5 shows that the majority of the respondents (36%) had Technical and Vocational level of education, while 31% had university education. It also shows that 18% of the respondents specified their level of education attained as Secondary, one of the respondents had not undergone any formal education and 2% of the respondents did not give their education level. This shows that majority of the respondents had basic education and thus they had knowledge and skills required to fill the questionnaires appropriately. The respondent with no formal education was assisted to fill the questionnaire by the researcher.

4.3.5 Composition of Respondents by Source of Income

Table 4.6 shows the source of income of the respondents.

Table 4.6 Distribution of Respondents by Source of Income

Source of Income	Frequency	Percentage (%)
Self-employment Activities	131	51
Employer	116	45
Non Response	10	4
Total	257	100

Table 4.6 shows that majority of the respondents (51%) derive their source of income from self-employment activities, 45% derive their income from being employed while 4% did not indicate their level of income. This shows that majority of the respondents have a source income and as such they had funds to enable them to register and use mobile banking innovation.

4.4 Uptake of Mobile Banking

The study sought to measure the dependent variable which is the uptake of mobile banking. The study used the available secondary data from SCB Digital Report for March 2014(Appendix 3). Table 4.7 shows the analysed data on clients indicating their status of registration for mobile banking.

Table 4.7 Registration for Mobile Banking

Category	Frequency	Percentage (%)
Registered	1072	30
Not Registered	2501	70
Total	3573	100

Analysed results from Table 4.7 show that majority of the respondents (70%) had not registered for mobile banking while only 30% had registered. The results indicate that there was a low uptake level of mobile banking noted on the target population. Table 4.8 shows the frequency of use of SCB Mobile Banking Service. The respondents were asked how often they use it.

Table 4.8 Respondents Frequency of Use of the Mobile Banking Service

Category	Frequency	Percentage (%)
Very Often	44	17
Often	28	11
Sometimes	51	20
Rarely	103	40
Not at All	31	12
Total	257	100

Most of the registered respondents (40%) rarely used the mobile banking service. The study also found out that 12% of the registered respondents had not used the service while 20% uses the service sometimes. The respondents who indicated that they rarely use and those who do not use at all the mobile banking form the majority. This then reveals that the majority of the respondents registered for the mobile banking have low usage of the service.

The Respondents were also asked to rate how strongly they would agree or disagree to recommend SCB Mobile Banking Service to friends and family. Table 4.9 shows how strongly respondents registered for mobile banking could agree or disagree to recommend the SCB Mobile Banking Service to family and friends.

Table 4.9 How Registered Clients Would Recommend SCB Mobile Banking Service

Category	Frequency	Percentage (%)
Strongly disagree	15	6
Disagree	5	2
Neutral	44	17
Agree	93	36
Strongly agree	100	39
Total	257	100

As per table 4.8, 39% of the respondents strongly agreed they would recommend the service to family and friends while 36% agreed they would recommend the service. This implies that majority of clients were satisfied with the mobile banking service. The findings from Table 4.9 reveal that mobile banking uptake levels have a high potential for growth through promotion and referrals by the current users to their friends and family. As to the main reasons influencing a client’s decision to register to mobile banking, the respondents were asked to rate how important; cost/pricing, security of funds and pin, convenience, product design, advertising and ease of registration are to their decision to register for the SCB Mobile Banking Service. Table 4.10 shows their responses.

Table 4.10 Main Reasons Influencing Registration for the Mobile Banking Service

Reason	Very Important	Important	Neutral	Slightly Important	Not Important	Total
Cost/pricing	21%	25%	34%	11%	9%	100%
Security of pin and funds	67%	33%	-	-	-	100%
Convenience	74%	25%	-	1%	-	100%
Product design	32%	56%	4%	5%	3%	100%
Advertising	4%	22%	41%	15%	18%	100%
Ease of registration	17%	51%	17%	15%	-	100%

In respect to cost/Pricing, most of the respondents (34%) were neutral, followed (25%) who agreed of its importance while (21%) thought it was very important. Most of the respondents were of the view that cost was not of significant importance in their decision on whether to subscribe to mobile banking. The respondents rated security of pin and funds as very important at 67% and important at 33%. They also rated convenience as very important at 74%, important at 25% and slightly important at 1%. This shows that security of pin and funds as well as convenience are important reasons for consideration in the respondents decision to accept and use mobile banking service. Product design was perceived as very important at 32% and Important at 56%. This shows that the respondents are influenced by product design in their decision to accept and use mobile banking service. As to advertising, majority respondents were neutral at (41%) and thus their decision on acceptance and use of mobile banking was not influenced by advertisements. Majority of respondents considered ease of registration as important (51%) in their decision to register for mobile banking. This indicates that ease of registration for mobile banking increases levels of acceptance and usage of the mobile banking service.

Analysed results from Table 4.10 shows that convenience (74%) and security of Pin and funds (67%) are ranked as the most important reasons considered by the respondents on their decision on whether to register for mobile banking. Product design at 56% and ease of registration at 51% are perceived by majority of the respondents as important reasons for consideration in registration of mobile banking. Most of the respondents are non-committal on whether cost of mobile banking transactions (34%) and advertising (41%) are important in consideration for registration of mobile banking service.

4.5 Correlation Analysis of the Variables

While descriptive statistics are used to analyse the type of relationship (if any) between the variables, correlation analysis is used to examine the strength of association between the variables. As such inferential analysis was done on the collected data by use of correlation analysis technique to test extent of association between the independent variables and the dependent variable. A five point likert scale was mainly used in the questionnaire. A likert scale presents an interval level of measurements which makes it easier to perform parametric analysis. Data collected by use of questionnaire was analysed using SPSS with the aim of getting Pearson's Product Moment Correlation Coefficient (r).

The results were counterchecked by use of scientific calculator in computation of Pearson's Product Moment Correlation Coefficient (r). Interpretation of correlation has been done in the usual way, that is positive correlation between X and Y implies a possibility of a proportional increase or decrease in the value of X for an increase or decrease respectively in the value of Y and vice versa. Similarly, Negative correlation will imply a possibility of proportional decrease or increase in the value of X for an increase or decrease respectively in the value of Y and vice versa. Coefficient of correlation may be between -1 and +1. Nearer the correlation to +1 or -1 the possibility in the above statements are very high while it is low when correlation coefficient is nearer to zero. A likert scale represents a sum of likert type items and as such it ends up being a reasonable estimation.

The Pearson Product Moment Correlation Coefficient is a measure of the strength of the linear relationship between two variables. It is referred to as Pearson's Correlation, Pearson correlation Coefficient or simply as the Correlation Coefficient. If the relationship between the variables is not linear, then the correlation coefficient does not adequately represent the strength of the relationship between the variables. The symbol for Pearson's correlation is Rho " ρ " when it is measured in the population and "r" when it is measured in a sample. Since the study dealt almost exclusively with samples, it used r to represent Pearson's correlation unless otherwise noted. When the sample is representative of the population, Pearson's 'r' is an unbiased estimate of Pearson's Rho " ρ " and that the characteristics of a sample can be inferred to be the same as that of the population.

Pearson's correlation coefficient when applied to a sample is commonly represented by the letter r and may be referred to as the sample correlation coefficient or the sample Pearson correlation coefficient. The formula for r gotten by substitution of estimates of the covariances and variances based on a sample for two variables; X and Y. So if we have one dataset $\{x_1, \dots, x_n\}$ containing n values and another dataset $\{y_1, \dots, y_n\}$ containing n values then that formula calculation for r is given as:

$$r = r_{xy} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2} \sqrt{\sum_{i=1}^n (y_i - \bar{y})^2}}$$

where:

- $\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$ (the sample mean); and analogously for \bar{y}

The use of scientific calculators and computer software such as SPSS for data analysis simplifies the otherwise long calculations that could have resulted in calculation of Pearson's Product Moment Correlation Coefficient. Correlation analysis was carried out with a view to understand the relationship between each of the factors influencing the uptake of mobile banking and the dependent variable, which is the uptake of mobile banking. This analysis was based on the data captured on a five point rating scale running from one to five, where one represented strong disagreement or dissatisfaction and a five represented strong agreement or satisfaction with statement in question. This indicated the level of satisfaction, which was the single most important measure of the uptake of mobile banking in the study. The sum of likert type items representing the indicators of each independent variable was gotten (X variable), and analysed against the five point scale measure of satisfaction (Y variable). The correlation between X variable and the Y variables was examined using SPSS and scientific calculators for each independent variable and the dependent variable (the Uptake of Mobile banking). Table 4.20 presents the results of the analysis.

Table 4.11 Correlation (r) for the Relationship between the Independent Variables and the Uptake of Mobile Banking

Independent Variables	The Uptake of Mobile Banking (DV) (Pearson Product Moment Correlation 'r')
Relative Advantage of Mobile Banking	0.823
Perceived Risk of Mobile Banking	-0.926
Complexity of Mobile Banking	-0.852
Observability of Mobile Banking	0.900
Compatibility of Mobile Banking	0.788
n	257

4.6 Influence of Relative Advantage on the Uptake of Mobile Banking

The respondents were asked to indicate whether they perceived the cost of the mobile banking transactions as cheaper relative to over the counter and ATM transactions. Table 4.12 shows their responses. Strongly agree and agree were combined into one score to represent all the favourable responses while strongly disagree and disagree were combined to represent unfavourable responses. The non responses were taken to also represent uncertain responses.

Table 4.12 How Relative Advantage Influences Registration and Use of Mobile Banking

Respondents Statement	Agree	Uncertain	Disagree
Mobile Banking transactions are more affordable than Over the counter and ATM transactions	75%	13%	12%
I would transact more if the transaction costs were further reduced	84%	4%	12%
I am satisfied with pricing of mobile banking transactions	72%	1%	27%
Registration and use of Mobile Banking Service saves time	96%	2%	2%
Registration and use of Mobile Banking Service enhances social status	78%	11%	11%
Average Score	81%	6.2%	12.8%

Analysed results from Table 4.12 shows that 75% of the respondents were satisfied by affordability of mobile banking transactions relative to transactions done over the counter and at the ATM. Majority of the respondents (84%) indicated that they would transact more if mobile banking transaction costs are reduced. Further, 72% Of the respondents were satisfied with pricing of the Mobile Banking Service. Analysed data from table 4.12 shows that an overwhelming majority of the respondents (96%) agree that registration of mobile banking saves time. This is in contrast to only 2% of the respondents who disagree and 2% who are uncertain. Generally, 81% of the respondents agree that relative advantage influences registration and use of the Mobile Banking Service. The results presented in Table 4.11 for correlation analysis indicate that there exists strong positive correlation between Relative Advantage of Mobile Banking and the Uptake of mobile Banking at 0.823.

4.7 Influence of Perceived Risk on the Uptake of Mobile Banking

The study sought to find out whether clients were satisfied with pin security, security of funds and maintenance of privacy in their usage of SCB Mobile Banking Service. Improved security of pin and funds and maintenance of privacy lowers the perceived risk of registering and using mobile banking service. It also sought to establish whether respondents feared losing their mobile phones while doing mobile banking transactions. Table 4.13 below shows a summary of the responses. Strongly agree and agree were combined into one score to represent all the favourable responses while strongly disagree and agree were combined to represent unfavourable responses. The non-responses were taken to represent uncertain responses.

Table 4.13 Satisfaction with Risk Related Factors on the Usage of Mobile Banking Service

Respondents Statement	Agree	Uncertain	Disagree
I am not satisfied with pin security when using mobile banking	2%	2%	96%
I am not satisfied with security of my funds when using mobile banking	1%	21%	78%
I am not satisfied with banks maintenance of my privacy while using mobile banking	10%	33%	57%
There is fear of loss of my mobile phone because of using Mobile Banking	4%	6%	90%
Average Score	4.25%	15.5%	80.25%

As to whether the respondents were not satisfied with pin security, data from Table 4.13 shows that majority of respondents (96%) disagreed, 2% were uncertain while only 2% agreed. 78 % of the respondents disagreed that they were not satisfied with security of their funds while using mobile banking, 21% and 1% were uncertain and agreed respectively. As to whether the respondents were not satisfied with banks maintenance of their privacy, majority at 57% disagreed, 33% were uncertain and 10% agreed.

Table 4.13 shows that most of the respondents at 90% did not fear losing their mobile phone as they were doing mobile banking transactions. Further, 4% feared losing their mobile phones and only 6% were uncertain on whether they could lose their phones while doing mobile banking transactions. Generally, majority of respondents felt that they were satisfied by measures taken by the bank to ensure the security of their pin, security of their funds, security of their mobile phones and ultimately maintenance of their privacy. Table 4.13 shows that most of the respondents at 90% did not fear losing their mobile phone when doing mobile banking transactions. Further, 4% feared losing their mobile phones and only 6% were uncertain on whether they could lose their phones while doing mobile banking transactions. Generally, majority of respondents felt that they were satisfied by measures taken by the bank to ensure the security of their pin, security of their funds, security of their mobile phones and ultimately maintenance of their privacy.

On the strength of association between Perceived Risk of mobile banking and the Uptake of mobile banking, the results presented in Table 4.11 for correlation analysis indicate that there exists a strong negative correlation between Perceived Risk of Mobile Banking and the Uptake of Mobile Banking ($r'=-0.926$). This implies that bank should take measures to reduce the perceived risk by clients in order to increase uptake levels of mobile banking.

4.8 Influence of Complexity on the Uptake of Mobile Banking

Complexity of mobile banking makes it difficult for bank clients to register and use a banks mobile banking service. The study investigated how product design, convenience and ease of registration influence the uptake of mobile banking. Improvement in the design of mobile banking platform, perceived ease of registration and perceived convenience increase the uptake of mobile banking. On the contrary, Inconvenience, difficult registration process and unfriendly user interface leads to reduced rates of uptake of mobile banking. The respondents were asked to show their levels of satisfaction or dissatisfaction with the banks fulfilment of clients’ needs in terms of product design, convenience and ease of registration. The respondents were asked to indicate their level of their satisfaction with the design and performance of the mobile banking platform. Their responses are captured in table 4.14.

Table 4.14 Satisfaction with Design of the Mobile Banking Platform

Category	Frequency	Percentage (%)
Extremely satisfied	59	23
Satisfied	156	61
Indifferent	10	4
Dissatisfied	32	12
Extremely Dissatisfied	-	-
Total	257	100

Data from table 4.14 shows that majority of respondents (61%) are satisfied with design of the mobile banking platform. 23% of the respondents are extremely satisfied as opposed to 12 % who are extremely dissatisfied. Further, only 4% of the respondents are indifferent to the design of mobile banking platform. Overall, 84% of the respondents are satisfied with the design of mobile banking platform. Generally, majority of the respondents were satisfied with the design of the mobile banking platform.

The respondents were also asked to indicate the type of transactions they usually carry out on SCB Mobile Banking Platform. Their responses are shown in table 4.15.

Table 4.15 Transactions Carried Out on Mobile Banking Platform

Category	Frequency	Percentage (%)
Funds transfers	254	99
Air time purchase	181	70
Checking of balances	190	74
Application for lending services	8	3
Request for mini-statement	57	22
Cash deposits	151	59

Majority of the respondents were doing fund transfers (99%), followed by; Air time purchase at 70%, Cash deposits at 59%, Request for mini-statements at 22% and on the extreme end application of lending services at 3%. The analysed results show that funds transfer, airtime purchase and checking of balances as the most common type of transactions carried out on the mobile banking platform. Table 4.16 shows how the respondents rated the level of agreement or disagreement with dimensions of other complexity related factors that influence registration and usage of mobile banking. Strongly agree and agree were combined into one score to represent all the favourable responses while strongly disagree and disagree were combined to represent unfavourable responses. The non-responses were also taken to represent uncertain responses.

Table 4.16 Respondents Satisfaction with Complexity Related Indicators in Registration and Usage of Mobile Banking

Respondents Statement	Agree	Uncertain	Disagree
Mobile banking is not a very convenient way of accessing my bank account	6%	5%	89%
It is not important for me that any service and/or product used be convenient	-	1%	99%
It is not very easy to register for mobile banking	10%	2%	88%
Average Score	5.3%	2.7%	92%

From Table 4.16, it is clear that an overwhelming majority of the respondents (99%) consider convenience as an important attribute of any service or products they use. As to whether mobile banking is not a convenient way of accessing bank account, 89% percent of the respondents were in disagreement, 5% were uncertain while 6% were in agreement. Majority of Clients (88%) were also in disagreement that it is not very easy to register for mobile banking. 2% were uncertain on whether it was not easy to register for mobile banking while 10% were in agreement. Generally, Majority of clients at 92% were satisfied that ease of registration and convenience are very significant in registration and use of mobile banking. Results for correlation analysis between the Complexity of Mobile Banking and the Uptake of Mobile Banking indicates the existence of a strong negative correlation between Complexity of Mobile Banking and the Uptake of Mobile Banking ($r=-0.852$).

4.9 Influence of Observability on the Uptake of Mobile Banking.

The study sought to establish the influence of observability of mobile banking on the uptake of mobile banking. The respondents were asked questions on the following attributes of Observability; Advertising, Timeliness and Accuracy. The respondents were asked to indicate the channel of advertisement from which they first heard about SCB Mobile Banking Service. Table 4.17 shows their responses.

Table 4.17 Advertisement Channels from where Respondents First Heard About Mobile Banking

Category	Frequency	Percentage (%)
Word of Mouth from SCB staff	182	71
Television and/or Newspapers	23	9
Other Bank Clients	52	20
Brochures	-	-
Others	-	-
Total	257	100

Table 4.17 shows that majority of the respondents (71%) first heard about mobile banking from staff of Standard Chartered Bank. 20% of the respondent first heard about mobile banking from other bank clients while another 9% first heard from television and/or newspapers. Generally, use of word of mouth was the most successful channel for convincing clients to register for mobile banking.

Table 4.18 shows the preferable channels of advertisement of mobile banking by as indicated by the respondents.

Table 4.18 Advertisement Channels from where Respondents Would Prefer to Hear about Mobile Banking Solutions

Category	Frequency	Percentage (%)
Word of Mouth from SCB staff	110	43
Television and/or Newspapers	111	43
Other Bank Clients	28	11
Brochures	8	3
Others	-	-
Total	257	100

Table 4.18 shows that about 86% of the respondents prefer to hear about mobile banking solutions through Word of Mouth from SCB Staff and Television and/or Newspapers channels of advertisement. This can be interpreted to mean that majority of the respondents would prefer to hear about mobile banking solutions from either word of mouth from SCB staff or advertisements on television and/or newspapers. The respondents were also asked rate their level of agreement or disagreement on satisfaction with observability related attributes of advertisement, timeliness and accuracy. Table 4.19 presents the analysed responses from the respondents. Strongly agree and agree were combined into one score to represent all the favourable responses while strongly disagree and disagree were combined to represent unfavourable responses. The non-responses were taken to also represent uncertain responses.

Table 4.19 How Respondents Satisfaction with Observability Related Attributes Influence the uptake of Mobile Banking

Respondents Statement	Agree	Uncertain	Disagree
I am satisfied with how I was introduced to Mobile Banking	58%	26%	16%
Mobile banking transactions are executed timely	95%	15%	-
Mobile banking transactions are executed accurately	98%	2%	-
Average Score	83.7%	11%	5.3%

Table 4.19 shows that majority of the respondents (58%) were satisfied with how they were introduced to mobile banking. This shows that the respondents were satisfied with the forms of advertisements that were used to reach them. Analysed data from Table 4.19 reveals that 95% were satisfied that mobile banking transactions were executed timely while only 5% were indifferent. As to whether mobile transactions are executed accurately, 98% were in agreement while only 2% were indifferent. Overall, majority of respondents at 83% were satisfied with positive influence of observability attributes of Advertising, Timeliness and Accuracy. Correlation analysis between Observability of Mobile Banking was done and results presented in Table 4.11. Results from Table 4.11 show that there exists a strong positive correlation between Observability of Mobile Banking ($r=0.900$) and the Uptake of Mobile Banking.

4.10 Influence of Compatibility on the Uptake of Mobile Banking

The study sought to establish how compatibility of mobile banking influences Uptake of Mobile Banking. The respondents were asked to rate their level of agreement or disagreement with statements that are dimensions of compatibility of mobile banking. Table 4.20 shows their responses. Strongly agree and agree were combined into one score to represent all the favourable responses while strongly disagree and disagree were combined to represent unfavourable responses. The non-responses were taken to also represent uncertain responses.

Table 4.20 How Compatibility of Mobile Banking Influences Uptake of Mobile Banking

Respondents Statement	Agree	Uncertain	Disagree
I pay my bills using Mobile Banking	6%	22%	72%
I pay my bills using other mobile money services	73%	9%	18%
I use other mobile money services such as Mpesa	98%	2%	-
Ownership of a mobile phone made it easier to register for Mobile Banking	99%	-	1%
Use of mobile banking is compatible with my values and lifestyle	91%	9%	-
Average Score	73.4%	8.4%	18.2%

Analysed data from Table 4.20 show that majority of clients do not pay bills through mobile banking (72%), 6% pay using mobile banking while 22% are uncertain on whether they pay bills using mobile banking. This shows that there is low usage of mobile banking service for payment of bills. On the contrary, majority of the respondents (73%) pay bills using other mobile banking services such as Mpesa. Majority of these respondents at 98% were also registered to other mobile money services such as Mpesa. As to whether ownership of a mobile phone made it easier for them to register for Mobile banking, most of the respondents (99%) agreed. Further, 91% of the respondents agreed that use of mobile banking is compatible with their values and lifestyles. Generally, majority of the respondents (73.4%) were satisfied that attributes of Compatibility of mobile banking influence the uptake of mobile banking. On the extent of the strength of association between Compatibility of Mobile Banking and the Uptake of Mobile banking, results presented in Table 4.11 show that there exists a strong positive correlation. These results are consistent with those from descriptive analysis of the same data.

These results reveal that complexity of mobile banking and perceived risk of mobile banking negatively influence the uptake of mobile banking while Relative Advantage of mobile banking, Observability of mobile banking and Compatibility of mobile banking positively influence the uptake of mobile banking. Further, results from Correlation analysis reveal that Perceived Risk is the single most important factor negatively influencing the uptake of mobile banking at ' $r=-0.926$ ', followed by Complexity of mobile banking at ' $r=-0.852$ '. Further, Observability is the single most important factor positively influencing the uptake of mobile banking at ' $r=0.9$ ', followed by relative advantage of mobile banking at ' $r=0.823$ ' and Compatibility of mobile banking at ' $r=0.788$ ' respectively.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the findings of the study which were then discussed against what was revealed in the literature review. From the discussions, a conclusion was reached and recommendations and suggestions for further study were done.

5.2 Summary of the Findings

Relying on the responses given by the respondents, the researcher came up with findings which were used to make conclusions and give recommendations. The main findings are based on the results of data analysis in Chapter Four. This study used perceived importance, usage and satisfaction as the measures for uptake of mobile banking. The objectives of this study were; to establish the influence of Relative Advantage of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Perceived Risk of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Complexity of Mobile Banking on the Uptake of Mobile Banking, to establish the influence of Observability of Mobile Banking on the Uptake of Mobile Banking, and to establish the influence Compatibility of Mobile Banking on the Uptake of Mobile Banking. It sought to find out what clients view as the main factors influencing the uptake of mobile banking innovation in Kenya. The study also sought to find answers to the research questions.

5.2.1 Relative Advantage of Mobile Banking and the Uptake of Mobile Banking

As to how Relative advantage of mobile banking influences the uptake of mobile banking, the majority of clients were satisfied that; mobile banking transactions are affordable (75%) and that the use of mobile banking enhances their social status (78%). From descriptive analysis, it is clear that an overwhelming majority of respondents (96%) are satisfied that the use of mobile banking saves time. Majority of the respondents did not perceive the cost attribute as important in their consideration to register for mobile banking. Generally, the findings reveal that 81% of respondents affirmed satisfaction with general attributes of relative advantage.

In consideration to correlation analysis done, The Pearson's Product Moment Correlation Coefficient (r) was 0.823. Results from correlation analysis indicate that there exists a strong positive relationship between relative advantage and the uptake of mobile banking. The study established that relative advantage (81%) positively influences the uptake of mobile banking. That is, the more benefits that mobile banking offers, the more the number of clients who are likely to accept and make use of the mobile banking innovation.

5.2.2 Perceived Risk of Mobile Banking and the Uptake of Mobile Banking

As to which extent is perceived risk of mobile banking by bank clients prohibitive to uptake of mobile banking, the respondents were satisfied with pin security (96%), security of funds (78%) and maintenance of privacy (57%). All respondents perceived security of pin and funds as important in their decision to register for mobile banking. Generally, approximately 80.3 % of the respondents were satisfied with perceived risk related attributes. A safe and secure mobile banking platform reduces perceived risk. Correlation analysis done on the data shows there exists a strong negative correlation between Perceived Risk of Mobile Banking and the Uptake of Mobile Banking ($r'=-0.926$). Subsequently, the study established that Perceived risk to a very large extent is prohibitive to the uptake of mobile banking.

5.2.3 Complexity of Mobile Banking and the Uptake of Mobile Banking

On the influence of complexity of mobile banking on uptake of mobile banking, 84% were satisfied with product design, 88% by ease of registration and 89% by convenience offered by the mobile banking platform. The study also found out that all respondents considered convenience as important in their decision to register for mobile banking. Generally, majority of the respondents (92%) were satisfied with complexity related attributes. These attributes measured how easy it was to use mobile banking platform as their minimize complexity. The Pearson's Product Moment Correlation Coefficient between Complexity of mobile Banking and the Uptake of Mobile Banking is -0.852. Correlation analysis therefore indicates the existence of a strong negative correlation between Complexity of Mobile Banking and the Uptake of Mobile Banking. Thus, the study established that complexity negatively influences the uptake of mobile banking.

5.2.4 Observability of Mobile Banking and the Uptake of Mobile Banking

The study also sought to find out how Observability of mobile banking influences the uptake of mobile banking. 86% of the respondents prefer to be reached through word of mouth or television and/or newspapers. It was also established that a majority of respondents were satisfied with; channels used to reach them (58%), timely execution of mobile transactions (95%), and execution of mobile transactions accurately. In general, 83 % of the respondents were satisfied with attributes related to results demonstrability and visibility demonstrability constructs of Observability. Correlation analysis on the data shows that there exists a strong positive correlation between Observability of Mobile Banking ($r=0.900$) and the Uptake of Mobile Banking. It is therefore established that Observability of mobile banking to a large extent positively influences the uptake of mobile banking.

5.2.5 Compatibility of Mobile Banking and the Uptake of Mobile Banking

As to what extent does compatibility of mobile banking influence the uptake of mobile banking, the study established that an overwhelming majority of the respondents (96%), were satisfied that ownership of a mobile phone made it easier for them to register for mobile banking. Further, 98% had registered for other money services such as Mpesa and Airtel while only 73% were using them to pay bills. Surprisingly, only 6% of the respondents were paying bills using mobile banking platform. Satisfaction with compatibility related factors stood at 73.4%. On the extent of the relationship between Compatibility of Mobile Banking and the Uptake of Mobile banking, the Pearson's Product Moment Correlation coefficient (r) of 0.788 indicates that there exists a strong positive correlation. It is thus established that compatibility of mobile banking has a strong positive influence on the uptake of mobile banking.

The results from Correlation analysis indicate that Perceived Risk is the single most important factor negatively influencing the uptake of mobile banking at ' $r=-0.926$, followed by Complexity of mobile banking at ' $r=-0.852$. Further, Observability is the single most important factor positively influencing the uptake of mobile banking at ' $r=0.9$, followed by relative advantage of mobile banking at ' $r=0.823$ and Compatibility of mobile banking at ' $r=0.788$ respectively. These findings supported applicability of Rodgers theory of Diffusion of Innovation in establishing factors influencing the uptake of mobile banking in SCB Nyeri Branch, Kenya.

5.3 Discussion of the Findings

The study established that complexity of mobile banking and perceived risk of mobile banking negatively influence the uptake of mobile banking while Relative Advantage of mobile banking, Observability of mobile banking and Compatibility of mobile banking positively influence the uptake of mobile banking. It further confirms the applicability of Rodgers theory of Diffusion of Innovation in the study of factors influencing the uptake of mobile banking in Kenya. The results of this study are consistent with those of study carried by Al-Jabri and Sohail in Saudi Arabia in the year 2012. These findings are also consistent with those of Korir (2012) who established that the cost of mobile banking service influences the uptake of mobile banking.

5.3.1 Relative Advantage of Mobile Banking and the Uptake of Mobile Banking

The study establishes that there exists a strong positive relationship between relative advantage and the uptake of mobile banking. Analysis using descriptive statistics establishes that relative advantage positively influences the uptake of mobile banking (81%). That is, the more benefits that mobile banking offer, the more the number of clients who are likely to accept and make use of the mobile banking innovation. Correlation analysis of the data also indicates a strong positive correlation between Relative Advantage of mobile banking and the Uptake of Mobile Banking. These results are consistent with the finding that some benefits such as immediate fulfilment of needs, and affordability to customers were reported as influencing the uptake of mobile banking by Lin (2011).

5.3.2 Perceived Risk of Mobile Banking and the Uptake of Mobile Banking

The study established that Perceived risk is very prohibitive to the uptake of mobile banking (80.3%). Correlation analysis of the data shows there exists a strong negative correlation between Perceived Risk of mobile banking and the Uptake of Mobile Banking. This was contrary to a study by Suoranta done in Finland in the year 2003 which found out that Perceived Risk had no significant influence on adoption or uptake of mobile banking. These results are affirmed by Ndubisi & Sinti (2006) whose study reveals that in technology uptake, there is research evidence of the importance of the perception of risk in deploying new technology or services. Further, in the context of mobile banking, the perception of risk is even more important due to the threat of privacy and security concerns (Luarn & Lin, 2005). These findings are also consistent with those of Korir (2012) who established that security concerns influence the uptake of mobile banking.

5.3.3 Complexity of Mobile Banking and the Uptake of Mobile Banking

The findings showed that majority of the respondents (92%) were satisfied with complexity related attributes. Correlation analysis of the data shows there exists a strong negative correlation between Complexity of mobile banking and the Uptake of Mobile Banking. These attributes measured how easy it was to use mobile banking platform as they minimize complexity. Thus, the study found out that complexity negatively influences the uptake of mobile banking. From these findings, it is very clear that compatibility is regarded as one of the most important factors influencing the uptake of mobile banking. These results are contrary to those of Suoranta (2003) whose study indicated that it found out that there was no significant influence by complexity on the uptake of mobile banking.

5.3.4 Observability of Mobile Banking and the Uptake of Mobile Banking

In respect to Observability of Mobile Banking, the results showed that 83 % of the respondents were satisfied with attributes related to demonstrability and visibility constructs of Observability. Correlation analysis of the data shows there exists a strong positive correlation between Observability of mobile banking and the Uptake of Mobile Banking. It was therefore established that Observability of mobile banking positively influences the uptake of mobile banking. These findings are consistent to those by Al-Jabri and Sohail (2012) whose study established the existence of a positive correlation between the two variables.

5.3.5 Compatibility of Mobile Banking and the Uptake of Mobile Banking

It was established that compatibility of mobile banking had a strong positive influence on the uptake of mobile banking (73.4%). Correlation analysis of the data shows there exists a strong positive correlation between Compatibility of mobile banking and the Uptake of Mobile Banking. Compatibility is a vital feature of innovation as conformance with user's lifestyle can propel a rapid rate of adoption (Rogers, 2003). Research has shown that compatibility is a significant antecedent in determining consumers' attitude towards mobile banking adoption in Malaysia (Ndubisi & Sinti 2006; Al-Jabri and Sohail, 2012). Compatibility has further been found influential in the use of mobile payments (Chen et al. 2004), and uptake of mobile banking (Lin, 2011). These findings draw a similar conclusion that compatibility positively influences the uptake of mobile banking.

5.4 Conclusions

This study sought to establish factors that influence the uptake of mobile banking in Standard Chartered Bank, Nyeri Branch, in Kenya. It used satisfaction as the single most important measure of uptake as per reviewed studies (Ndubisi & Sinti 2006; Al-Jabri and Sohail, 2012; Lin, 2011). The study also incorporated the elements of perceived importance and usage to complement satisfaction in the study. Collected data was analysed by use of descriptive statistics and inferential statistics. This was done by use of frequency distribution tables and correlation analysis using Pearson's Product Moment Correlation analysis. The results of descriptive analysis were consistent with those of correlation analysis. The study concludes that complexity of mobile banking and perceived risk of mobile banking negatively influence the uptake of mobile banking while Relative advantage of mobile banking, Observability of mobile banking and compatibility of mobile banking positively influence the uptake of mobile banking. It further confirmed the applicability of Rodgers Theory of Diffusion of Innovation in the study of factors influencing the uptake of mobile banking in Kenya.

5.5 Recommendations

The following are the recommendations of the study;

- i) The bank management should allocate more resources for advertisement to reach out to more of the unregistered clients. The extra resources allocated to advertising should enable the bank advertise more on preferred advertisement channels of newspapers and/or television. Further, it calls for the banks staff to engage more clients to be able to register them for mobile banking service. This will increase uptake levels of mobile banking.
- ii) The bank management should continuously invest in the upgrade of the mobile banking platform to secure it since clients consider security of their pins and funds as very important, there is need to continually invest in upgrades of mobile banking platform and sensitization, so that clients can feel more secure. This will ensure higher rates of the uptake of mobile banking.
- iii) That the bank management should look into ways to diversify and introduce more services for the clients on the mobile banking platform. This among others should enable clients perform third party transfers to other people's mobile phones numbers and/ or bank accounts.

5.6 Suggested areas for further studies

The following are the suggested areas for further studies;

1. Study on factors influencing the uptake of mobile banking in other banks in Kenya. Such studies will seek to provide more information on the uptake of mobile banking and hence help to make more valid conclusions.
2. Study on factors influencing the uptake of internet banking in the same bank to investigate whether applicability of Rodgers Theory of Diffusion of Innovation will hold for other technological innovations within the bank.

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APPENDICES

APPENDIX 1: LETTER OF TRANSMITTAL

Githundi Bedan Muiru

P.O BOX 30003-00100,

Nairobi.

Dear Respondent,

I am a student of the University of Nairobi pursuing a Masters of Arts Degree in Project Planning and Management. I am conducting academic research on “The factors influencing the uptake of mobile banking. The case of Standard Chartered, Nyeri Branch, Kenya”. This questionnaire has been prepared to obtain information on your experience and knowledge on Standard Chartered Bank Mobile Banking.

Please note that all the information provided for this study will be treated with utmost confidentiality. Your ability to answer all the questions comprehensively and to the best of your knowledge will be highly appreciated.

Thank you for your co-operation and precious time.

Yours faithfully,

Githundi Bedan Muiru.

Mobile: 0725 827527.

APPENDIX 2: SCB DIGITAL REPORT, MARCH 2014

SCB DIGITAL M- REPORT BANKING

March '14

Branch Name	Branch Code	Active	Dormant	Expired	Total Mobile Customers	Retail Customer Base
MERU	1000	182	399	100	681	2,832
KISUMU	1300	540	1,170	329	2,039	6,103
KITALE	1400	348	1,039	454	1,841	3,832
KERICHO	1600	342	825	366	1,533	3,396
TREASURY SQUARE	2200	679	1,287	380	2,346	7,319
KENYATTA AVENUE	2500	3,058	3,777	1,566	8,401	16,475
MARITIME	2600	535	789	90	1,414	3,884
WESTLANDS	2700	1,229	1,532	522	3,283	7,888
NAKURU	3000	632	1,261	685	2,578	6,877
NANYUKI	3100	442	1,180	51	1,673	3,776
NYERI	3200	362	638	72	1,072	3,573
THIKA	3300	734	1,467	465	2,666	5,544
MOI AVENUE	4100	3,632	5,340	2,310	11,282	25,196
HARAMBEE	4500	1,895	2,543	1,217	5,655	14,881
KIAMBU	4700	267	497	123	887	2,247
INDUSTRIAL AREA	4900	1,184	2,126	438	3,748	6,324
KAKAMEGA	5200	369	970	258	1,597	3,946
MALINDI	5900	209	501	362	1,072	2,650
KOINANGE	6500	971	1,474	757	3,202	8,410
YAYA CENTRE	7100	1,351	1,781	585	3,717	8,103
RUARAKA	7200	652	1,192	274	2,118	4,119
LANGATA	7300	732	1,001	250	1,983	4,220
KAREN	7500	337	552	184	1,073	2,745

SCB DIGITAL REPORT CONTINUED....MARCH 2014—M-BANKING

MUTHAIGA	7600	575	1,019	337	1,931	4,369
HEAD OFFICE	7800	7	21	2	30	22
UKAY	7900	457	632	398	1,487	2,648
ELDORET	800	640	1,654	598	2,892	7,109
EASTLEIGH	8000	228	441	140	809	1,216
KISII	8100	369	950	728	2,047	3,540
UPPER HILL	8200	500	968	187	1,655	2,370
NYALI	8300	180	396	122	698	1,414
CHIROMO	8400	909	1,519	5	2,433	3,357
GREENSPAN	8500	450	765		1,215	1,406
T-MALL	8600	416	560		976	1,207
JUNCTION	8700	273	363		636	717
KITENGELA	8900	138	135		273	340
MACHAKOS	900	538	922	397	1,857	4,456
BUNGOMA	9000	181	415		596	674
THIKA ROAD MALL	9100	194	35		229	286
Other	Other			4	4	
	Grand Total	26,737	44,136	14,756	85,629	189,471

APPENDIX 3: CLIENTS' QUESTIONNAIRE ON MOBILE BANKING SERVICE

Instructions

Thank you for accepting to fill the questionnaire. The responses given will be treated as confidential and will be used to help to improve on Standard Chartered Bank Mobile Banking service. Please tick in the appropriate box and also fill in the blank spaces provided for those questions where elaborate answers are required. You are requested to complete this questionnaire as honestly and objectively as possible.

Section I Background information

i) Please indicate your age;

18-35 years

36-55 years

Above 55 years

ii) Please indicate your Gender; Male Female

ii) What is your marital status?

Single

Married

Divorced

iv) Level of education attained

None Technical and Vocational

Primary University

Secondary

V) What is your source of income?

(a)Self- employment activities

(b)Employer

Section ii-

A. Uptake of Mobile Banking

1. How often do you use Standard Chartered Bank Mobile Banking service? Please tick as appropriate.

	1.Very Often	2.Often	3.Sometimes	4.Rarely	5. Not at All
Mobile Banking usage					

2. Following your client experience with Standard Chartered Bank Mobile Banking Service, How strongly would you agree to recommend the service to your family and friends?

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Would you Recommend the mobile banking service to family and friends?					

3. The following factors are considered to be the main reasons influencing a client's decision to subscribe to mobile banking. Kindly rate the level of importance or lack of importance of; Cost/pricing, Security of Pin and Funds, Convenience, Product Design, Advertising and Ease of Registration on your consideration to subscribe mobile banking.

	Very Important	Important	Neutral	Slightly Important	Not Important
Cost/Pricing					
Security of Pin and Funds					
Convenience					
Product Design					
Advertising					
Ease of Registration					

B. Relative Advantage of Mobile Banking

1. Mobile banking is said to be one of the most cost effective ways of banking. Please rate the level of agreement or disagreement on your satisfaction with affordability of Standard Chartered Banks mobile banking transactions as compared to over the counter and ATM transactions.

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Mobile banking transactions are affordable					

2. If the transactions fees came down by about 50 %, do you think the frequency of use of the mobile banking service would increase?

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
I would transact more frequently as a result of low transaction costs					

3. Please indicate your level of agreement or disagreement on satisfaction with the pricing of Standard Chartered mobile banking transactions.

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
I am satisfied with the pricing of mobile banking transactions					

4. How strongly do you consider the mobile banking service as time saving?

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Registration and Use of mobile banking saves time					

5. Please rate your level of agreement or disagreement with the following statement. 'The use of Standard Chartered Banks mobile banking service enhances a bank clients' social status'.

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Registration and Use of Mobile Banking Enhances Social Status					

C. Perceived Risk of Mobile Banking

1. Security of clients' bank pins is very important for prevention of bank frauds. Please rate your level of agreement or disagreement on dissatisfaction with Standard Chartered Banks Mobile Banking services' pin security.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
I am Dissatisfied with level of Pin Security					

2. Please rate your level of agreement or disagreement on dissatisfaction with Security of your bank account funds when using mobile banking.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
I am dissatisfied with the level of security of funds					

3. Please rate the level of agreement or disagreement on dissatisfaction with maintenance of your privacy while using mobile phone banking services.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
I am dissatisfied with Maintenance of privacy					

4. Please indicate your level of agreement or disagreement with the statement 'I do fear losing my mobile phone because of using mobile banking service'.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
I fear loss of mobile phone because of use of mobile banking					

D. Complexity of Mobile Banking

1. How satisfied are you with the design and performance of the mobile banking platform?

	Strongly Dissatisfied	Dissatisfied	Indifferent	Satisfied	Strongly Satisfied
Satisfaction with product design					

2. Which kind of transactions do you normally carry out on Standard Chartered Banks mobile banking platform? (You can tick more than one)

- (a) Funds transfers to Mpesa/ Airtel money
- (b) Airtime purchase
- (c) Checking of balances
- (d) Application of lending services such as a credit card
- (e) Request for mini-statement
- (f) Cash deposit

3. Please indicate your level of agreement or disagreement on the importance of convenience or lack of it in the registration and usage of mobile banking

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
Mobile banking is not a very convenient way to access of my bank account					

4. Please indicate your level of agreement or disagreement on the importance or lack of importance of convenience in acceptance of any new product or service.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree.
It is not important that any service or product I accept be convenient					

5. Please rate the level of your agreement or disagreement with importance or lack of importance of ease of registration in subscription and usage of Standard Chartered Banks mobile platform.

Please tick as appropriate.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
It is not easy to register for mobile banking.					

E. Observability of mobile banking

1. How did you first hear about Standard Chartered Banks Mobile Banking Service? Please indicate by ticking.

- (a) Word of mouth from Standard Chartered bank staff
- (b) Television and/or Newspaper advertisement
- (c) From other bank clients
- (d) Brochures
- (e) Others...Please state

2. Which of the below channels of advertisement do you prefer to hear about the Standard Chartered Mobile Banking solutions?

- (a) Word of mouth from Standard Chartered bank staff
- (b) Television and/or Newspaper advertisement
- (c) From other bank clients
- (d) Brochures
- (e) Others...Please state

3. How would you rate your level of agreement or disagreement on satisfaction with how you were introduced to Standard Chartered Banks Mobile Banking Platform?

Please tick as appropriate

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
I am satisfied with how I was introduced to mobile banking					

4. Please rate your level of agreement or disagreement on satisfaction with timeliness of mobile banking transactions

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Mobile banking transactions are executed timely					

5. Please rate your level of agreement or disagreement on satisfaction with accuracy of mobile banking transactions

	1.Strongly Disagree	2.Disagree	3.Neutral	4.Agree	5. Strongly Agree.
Mobile banking transactions are executed accurately					

F. Compatibility of mobile banking

1. Kindly read the below statements carefully. Thereafter, please indicate your level of agreement or disagreement with them.

	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly disagree
1.	I pay bills using mobile banking service					
2.	I pay bills using mobile other mobile money services such as M-pesa and Airtel Money					
3.	I use other mobile money services such as M-pesa and Airtel					
4.	Ownership of a mobile phone made it easier for me to register for mobile banking					
5.	Use of mobile banking is compatible with my values and lifestyle					

2. Kindly give any suggestions or recommendations on what can be done to increase the uptake level of mobile banking in Standard Chartered Bank, Nyeri Branch.
