MAKERERE UNIVERSITY

ANALYSING FACTORS AFFECTING MOBILE BANKING OF COMMERCIAL BANKS IN UGANDA: CASE OF CENTENARY BANK UGANDA LIMITED, KIREKA BRANCH.

BY TUGIRAMASIKO MIREAL 2016/HD06/930U

SUPERVISOR DR.PROSS KATUMBA

A RESEARCH DISSERTATION SUBMITTED TO COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES AS A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF ARTS AND FINANCIAL SERVICES OF MAKERERE UNIVERSITY

NOVEMBER 2018
DECLARATION

I Tugiramisiko Mireal, hereby declare that this research report is my work and has never been presented to any institution of higher learning for award of degree of Masters of Arts and Financial Services to any University.

Signature.................................. Date............................

30th November 2018
I certify that Tugiramasiko Mireal carried out this study and wrote this research report under my supervision. The research report has been submitted for the award of the Degree of Master of Arts in Financial Services of Makerere University.

Dr. Pross Katumba

Date: 30th November 2018
DEDICATION

This piece of work is dedicated to my brother who paid my tuition Mr Turyahikayo Stephen, and my mother Mrs Tusingwire Jeninah. Thanks to the almighty God who has enabled me to accomplish my academic expedition.

I would also like dedicate the success of this study to my family and friends for their continued support, their encouragement and patience. Their ideas and moral support extended to me to achieve this.
ACKNOWLEDGEMENT

It’s essential to recognize different individuals especially sisters, and brothers without which this report wouldn’t have been possible.

I would first extend my earnest appreciation to the almighty God for enabling and guiding me through the academic life. I’m grateful to Makerere University for admitting me to the MFS programme.

I would like to express my deepest appreciation to my supervisor Dr Pross Katumba whose tireless encouragement and guidance made the completion of this study possible.

Special thanks go to the management and employees of Centenary bank for sparing their time to fill in questionnaires, without them this would have not been successful. I thank my friends for the continue support.

May the almighty God bless you all!
# TABLE OF CONTENTS

DECLARATION.......................................................................................................... I
APPROVAL ............................................................................................................ II
DEDICATION ......................................................................................................... III
ACKNOWLEDGEMENT ........................................................................................ IV

CHAPTER ONE ...................................................................................................... 1
1.0 INTRODUCTION ............................................................................................... 1
1.1 BACKGROUND OF THE STUDY ........................................................................ 1
1.2 STATEMENT OF THE PROBLEM ...................................................................... 4
1.3 PURPOSE OF THE STUDY ................................................................................ 4
1.4 OBJECTIVES ................................................................................................... 5
1.5 QUESTIONS ..................................................................................................... 5
1.6 SCOPE OF THE STUDY .................................................................................. 5
1.6.1 GEOGRAPHICAL SCOPE .......................................................................... 5
1.6.2 SUBJECT SCOPE ...................................................................................... 5
1.6.3 TIME SCOPE ............................................................................................ 5
1.7 SIGNIFICANCE OF THE STUDY ..................................................................... 6
1.8 ORGANIZATION OF THE STUDY .................................................................... 6

CHAPTER TWO ..................................................................................................... 7
LITERATURE REVIEW ............................................................................................ 7
2.0 INTRODUCTION ............................................................................................... 7
2.1 THEORETICAL REVIEW .................................................................................. 7
2.1.1 MODULARITY THEORY TO SERVICES .................................................. 7
2.1.2 ACTIVITY THEORY ............................................................................... 9
2.1.3 THEORY OF REASONED ACTION (TRA), ............................................... 9

CHAPTER THREE ................................................................................................ 27
METHODOLOGY .................................................................................................... 27
3.0 INTRODUCTION ............................................................................................... 27
3.1 RESEARCH DESIGN ....................................................................................... 27
3.2 STUDY POPULATION .................................................................................... 27
3.3 SAMPLE SIZE ................................................................................................. 27
3.4 DATA SOURCES .................................................................................................................. 28
3.4.1 PRIMARY DATA, ................................................................................................................. 28
3.4.2 SECONDARY DATA, ............................................................................................................. 28
3.5 DATA COLLECTION METHODS .............................................................................................. 28
3.6 DATA COLLECTION TOOLS .................................................................................................... 28
3.6.1 QUESTIONNAIRES .............................................................................................................. 28
3.8 DATA ANALYSIS, DATA PRESENTATION AND INTERPRETATION OF
DATA .............................................................................................................................................. 29
3.8.1 DATA ANALYSIS .................................................................................................................. 29
3.8.2 DATA PRESENTATION ........................................................................................................... 29
3.8.3 DATA INTERPRETATION ....................................................................................................... 29

CHAPTER FOUR .......................................................................................................................... 30
PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS ..................... 30
4.0 INTRODUCTION ..................................................................................................................... 30
4.1 SAMPLE CHARACTERISTICS ................................................................................................. 30
4.1.1 AGE OF RESPONDENT BY GENDER CROSS TABULATION ......................... 31
4.2. LENGTH OF EMPLOYMENT WITH CENTENARY BANK BY GENDER
CROSS TABULATION ................................................................................................................... 32
4.3 LEVEL OF EDUCATION OF RESPONDENTS ................................................................. 33
4.4 HOW MOBILE BANKING HAS ENABLED CUSTOMERS TO TRANSFER
FUNDS ............................................................................................................................................... 33
4.5 HOW MOBILE BANKING HAS ENABLED CUSTOMERS TO PAY BILLS ...... 34
4.6 CHALLENGES FACED BY CUSTOMERS USING MOBILE BANKING .......... 35
4.7 STRATEGIES OF STRENGTHENING MOBILE BANKING SERVICES
PRACTICES ...................................................................................................................................... 36

CHAPTER FIVE .................................................................................................................................. 37
SUMMARY, CONCLUSION AND RECOMMENDATIONS ......................................................... 37
5.1 INTRODUCTION ......................................................................................................................... 37
5.2 SUMMARY ................................................................................................................................. 37
5.2.1 RESEARCH QUESTION ONE: HOW MOBILE BANKING HAS ENABLED
CUSTOMERS TO TRANSFER FUNDS? ..................................................................................... 37
5.2.2 RESEARCH QUESTION TWO: HOW MOBILE BANKING HAS ENABLED
CUSTOMERS TO PAY BILLS? .................................................................................................... 38
CHAPTER ONE

1.0 Introduction
The study assessed the effectiveness of mobile banking of commercial banks in Uganda using a case study of centenary bank Uganda limited.

1.1 Background of the study
Since 2006, mobile money services have been used in a number of ways in developing countries. A study conducted by Derrick (2006) on the adoption of mobile money transfers services in Africa revealed that mobile money services in Africa are in the following forms; transmitting airtime, paying bills and transferring money. There are also a few mobile money systems in developing countries that allow international money transfers like western union. The positive effect of this study is that it explained the actual situation being performed on adoption. Although this adoption theory has positive effects, the negative effect is that it does not explain how it has benefited the society and its impact to development of the society at large particularly in developing countries (Trust et al 2008).

According to Armstrong (2013) in the article on evolution of banking, the emergence of the banking system was an integral part in the development of civilization. Even as the monetary system accelerated towards a metallic form during the Hellenistic era, the banking industry was needed for safekeeping as well as money changing. Banks set monetary policy, issue currency, manage foreign exchange reserves, supervise the banking system, and act as a banker and a financial adviser to the customers and the government as a whole.

Banks provide financing activities to small and medium scale industries. The majority of the bank institutions extend standard individual banking facilities and most offer 24-hour access to their account through Automated Teller Machines (ATM) and some through the telephone (fixed and mobile), Mobile banking or through call centers (Murphy, 1996).

The technology shift has allowed the developments of new and more efficient delivery and processing channels as well as more innovative products and services in the banking industry. Most banking institutions today face competition not only from each other but also from non-bank financial intermediaries as well as from alternative sources of financing, such as the capital markets. This has made most banking institutions grow and adapt to the needs and expectations of consumers with increased education levels and growing wealth. Consumers on their part have increased and become more involved in their financial decisions.
It is in this regard that the consumers are in demand of a broader range of products and services at more competitive prices through more efficient and convenient channels (Norizan, 2013).

Mobile banking refers to the use of a smartphone or any other cellular device to perform online banking tasks while away from your home computer, such as monitoring account balances, transferring funds between accounts, bill payment and locating an ATM (Mobile Banking, 2018).

The earliest mobile banking services used SMS, a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking before 2010 would be most often performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special mobile apps, downloaded to the mobile device. With that said advancements in web technologies such as HTML5, CSS3 and JavaScript have seen more banks launching mobile web based services to complement native applications. A recent study (May 2012) by Mapa Research suggests that over a third of banks have mobile device detection upon visiting the banks main website. A number of things can happen on mobile detection such as redirecting to an app store, redirection to a mobile banking specific website or providing a menu of mobile banking options for the user to choose from. In one academic model, mobile banking is defined as:

Mobile Banking refers to provision and ailment of banking and financial services with the help of mobile telecommunication devices (Allen, 2003). The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.

According to this model mobile banking can be said to consist of three inter-related concepts: Mobile accounting, Mobile brokerage and Mobile financial information services (Gray, 2005).

Most services in the categories designated accounting and brokerage are transaction-based. The non-transaction-based services of an informational nature are however essential for conducting transactions - for instance, balance inquiries might be needed before committing a money remittance. The accounting and brokerage services are therefore offered invariably in combination with information services. Information services, on the other hand, may be
offered as an independent module. Mobile banking may also be used to help in business as well as financial needs.

Mobile banking has changed the dimensions of competition in the retail banking sector. Following the introduction of PC banking, ATMs and phone banking, which are the initial cornerstones of electronic finance, the increased adoption and penetration of Mobile Banking has added a new distribution channel to retail banking: Mobile/Online-banking. Allen et al (2002) define E-finance as “the provision of financial services and markets using electronic communication and computation” and today retail banks are switching to multi-channel distribution of financial services in hybrid platforms where the traditional services of banks are provided through both “bricks and mortar” branches and Mobile. However, the research on the adoption of mobile banking by the consumers has been vast, while there has been very limited research on the effects of mobile banking on the bank profitability especially within the European Union context.

In 1993, Bank of Uganda designed a website intended to disseminate banking information (Kasita, 2004 September 21). In 1997, Standard Chartered Bank introduced the first ATMs in Uganda and other banks followed (Monitor Reporter, 2004 August 16). By 2001, there was continued progress being made in Uganda in the use of ATMs in Kampala City due to ATM establishments. It was hoped that the risk of money transfer from location to location would be reduced. There was growing optimism in the banking industry that VISA credit cards would also be introduced to ease clients' access to cash from their accounts (Kakembo, 2001 December 6). In 2004, Bankom a local electronic financial transaction services company in Uganda switched to the use of ICT in which mobile phones could also be used to pay bills (Kanyegirire, 2004 January 8).

According to Mwebya, as reported by Ssettumba (2004 November 30), a payment system in which the transfer of funds is done electronically was introduced in Bank of Uganda in 2004. The installed Electronic Fund Transfer Direct Debit System enabled known customers from utility companies to instruct their companies to deduct cash from their accounts and transfer it to the bank account of the utility company. This was done as a means to aid non-cash transactions through the banking system with an aim of making cash transfers efficient, fast and secure which may improve the system.
Technology advancement in recent years has had a significant impact on the operations management function in the banking industry. Information Technology (IT) has allowed collection of detailed customer data that meets the needs of an individual customer. The increased use of automation and robots has permitted to improve service provision. ATMs provide 24 hours services that shorten queue and associated costs. It is objective that e-banking has not only provided a balance on customer’s behavior but also enhanced efficient and effective provision of services. E-Banking in the market place leads to low cost, high speed of delivery and customization. In most businesses today, technology has raised the performance bar by allowing firms to compete on serving at competitive price (Chase, 2003).

Harrison (2010) state that there is a wide spread dissatisfaction with the mobile money services among user as well as policy decision makers and administrators. The Uganda communications commission (UCC) reported that there have been more customer complaints about poor service quality in recent years (Uganda communication commission report October 19, 2010) and this has been attributed to the fact that the goals set by government have partly been met and the quality of services is still low and has even deteriorated on some indicators (Herman, 2012).

1.2 Statement of the problem

Present reports about the increasing mobile banking dissatisfaction in Centenary Bank due to poor service quality reveal that mobile banking is a major factor affecting mobile banking of commercial banks in Uganda (Performance Appraisal Report, 2015). Unfortunately to date, studies on mobile money banking in Uganda have showed that there is wide rage disposition of telecommunication companies on these issues and in particular how they impact on the operations of commercial banks (BOU Report, 2014). And it’s debatable therefore whether mobile money banking is effective on the operations of commercial banks.

It is based on that background therefore, that a comprehensive study is needed to analyze factors affecting mobile banking of commercial banks in Uganda with reference of centenary bank Uganda limited, Kireka branch.

1.3 Purpose of the study

The purpose of the study was to evaluate the effectiveness of mobile banking of commercial banks in Uganda.
1.4 Objectives
The main objectives of the study relate to:

i. Examine how mobile banking has enabled customers to transfer funds between their accounts.

ii. Identify how mobile banking has enabled customers pay their bills.

iii. Assess the challenges encountered by customers using mobile banking services.

iv. Suggest strategies of strengthening mobile banking service practices in Centenary Bank, Kireka Branch.

1.5 Questions
The main questions of the study relate to:

i. How has mobile banking enabled customers to transfer funds between their accounts?

ii. How has mobile banking enabled customers pay their bills?

iii. What are the challenges encountered by customers using mobile banking services?

iv. What are the strategies of strengthening mobile banking services practices in Centenary Bank, Kireka Branch?

1.6 Scope of the study

1.6.1 Geographical scope
The research was carried out in Centenary Bank, Kireka Branch.

1.6.2 Subject scope
The study was confined to assessing the effectiveness of mobile banking in terms of the operations, resources and time.

1.6.3 Time Scope
The research was carried out for a period of four months. That was July to November 2018. This period was selected to enable the researcher come up with coherent information from the respondents which enabled respondents give responses that is typical of their opinion from the observations made over this period.
1.7 Significance of the study
   i. The researcher will acquire academic knowledge.
   ii. The study will help government develop a policy to regulate mobile banking.
   iii. Successful completion of the study will help the Centenary Bank to develop better strategies to combat fraud in mobile banking.
   iv. The study will help Centenary Bank to improve the mobile banking services.
   v. The research shall help to understand the nature of electronic banking and will enable them to gain skills and knowledge that will be useful for future research projects.
   vi. The research shall provide the ways of improving mobile banking.
   vii. The current study is an addition to the existing literature on mobile banking of commercial banks in Uganda, future scholars will benefit from the literature developed by the current study as a source of ideas for their research in the same area.

1.8 Organization of the Study
The research report is organized into five chapters.

Chapter one was the general introduction on the research topic, a review of commercial banking in Uganda, statement of the problem, objectives of the study, the study variables, the research questions, the scope and area of the study and the significance of the study.

Chapter two includes the review of related literature i.e. reviewing the matter of other authors on the related field. This attempts to bring out other research works, which are directly or generally related to the present study.

Chapter three is concerned with research methodology, the research methods include, sampling techniques, questionnaires and documentary study.

Chapter four presents data analysis and interpretation. In this chapter data collected was tabulated and presented in the form of tables. Then the data was analyzed and interpreted. This chapter also provides highlights of study findings; it also attempts to answer research questions.

Chapter five presents the summary of the major findings, conclusions, recommendations and suggestions for further research on this or related topics.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction
This chapter reviews related literature and thus seeks to position the work within the scholarly context. Major theoretical learning was illuminated bringing out those constructs which are of importance to the research. Suoranta (2003) studied adoption of mobile banking in Finland, focusing on consumer behaviour. The study observed that advantages in terms of compatibility, communication and being able to try it out drive usage or explain consumer behaviour. A study by Wu and Wang (2005) on mobile commerce acceptance concentrating on the middle class showed that perceived cost had much less significance than other variables such as perceived risk, compatibility and perceived usefulness.

2.1 Theoretical review
This study was guided by the following theories:

2.1.1 Modularity theory to services
The earliest writings on modularity appeared over decades ago and modularity has since become a basic theme in product design handbooks (Pine, 1993; Ulrich and Eppinger, 2008). However, according to Bask et al. (2010), a universal definition of modularity is still lacking, especially when used in the service context. Starr (1965) wrote about modular production as capacities to design and manufacture parts which can be combined in numerous ways. Baldwin and Clark (1999) define modularity as building a complex product or processes from smaller subsystems that can be designed independently. In the field of Operations Management modularity is mainly understood from the perspective of component combinability, meaning that by mixing and matching of components taken from a given set, different product configuration can be obtained (Salvador, 2007).

Ulrich and Tung’s (1991) and Ulrich’s (1995) in turn define modularity as the relationship between a product’s functional and physical structures. Ulrich and Tung (1991) define modularity from the physical goods point of view therefore it cannot be applied to services as such. Schilling (2000) on the other hand emphasized the system approach to modularity and defines it as the degree to which the components of the system can be separated and recombined to create variety of configuration without losing its functionality. Services can be viewed as systems (Voss and Hsuan, 2009) therefore this definition can be applicable to physical goods as well as services. Whether modularity is similar for both physical goods and services is an important question and only a few authors have clearly expressed their point of
view. For instance, Voss and Hsuan (2009) refer to goods focused definitions in their studies and posit that they also hold for services. In this paper definition provided by Schilling (2000) is used to define both product and service modularity.

The potential benefits most commonly associated with modularity are that modular design serves as a basis for customization, product postponements and outsourcing (Voss and Hsuan, 2009). Modularity however, is not always the best means of meeting customer demand and achieving the optimal return policy. For example, in case of heterogeneous input and demand the modular system is superior, while in the case of heterogeneous input but homogeneous demand, the non-modular system is more cost efficient (Schilling, 2000). If there is variety in the needs of the customer but input is homogeneous modularity can produce scale flexibility but may not increase the scope of possible service configuration (Schilling, 2000). Therefore, modularity is not a panacea but it can bring significant benefits if applied in the proper context. Many companies have found that modularity has the potential to revolutionize their entire operation. The computer industry has been the leader in successful application of modularity principles. Software developers such as Oracle and SAP deliver a wide selection of software modules that make it easier for companies to create custom application (Marshall, 1996). In the automobile industry, Ford and General Motors for example have introduced modular assembly lines and modular cars to improve the flexibility of production process (Pine, 1993).

However, the drawback is that sometimes customers can perceive sets of modularized products/services as being overly similar. This was the case in 1970, when General Motors was heavily criticized for sharing too many components among models, making them look too much alike (Pine, 1993) Therefore when using modularity it is essential that companies remember to take into account what customers find most personal about a product or service and incorporate it into their final design. Modularity can be also witnessed outside computer and automobile industry. It can also be observed in the everyday consumer purchases. For example, in order to make beds consumers need to buy mattresses, pillows, linens and other components from one or different stores. All the parts fit together because manufacturers produce them according to standard sizes and rules.
2.1.2 Activity Theory

The premise of activity theory is that a collective work activity, with the basic purpose shared by others (community), is undertaken by people (subjects) who are motivated by a purpose or towards the solution of a problem (object), which is mediated by tools or signs (artefacts or instruments) used in order to achieve the goal (outcome). The activity is constrained by cultural factors including conventions (rules) and social organization (division of labour) within the immediate context and framed by broader social patterns (of production, consumption, distribution and exchange) (Daniels, 2007). Activity theory provides a conceptual framework from which we can understand the inter-relationship between activities, actions, operations and artifacts, subjects’ motives and goals, and aspects of the social, organizational and societal contexts within which these activities are framed.

2.1.3 Theory of Reasoned Action (TRA),

Theory of Reasoned Action (TRA) is a series of related concepts and hypotheses postulated by social psychologists to understand and predict human behavior (Dillard & Pfau, 2002). TRA has developed from the long standing collaborative research conducted by renowned psychologists. From the onset of TRA in behavioral research, it has been applied to study a wide variety of situations and is now regarded as one of the most influential theories about volitional human behavior. It is based on the assumption that human beings usually behave in a sensible manner, as the name of the theory implies; that is, they take account of available information and consider the implications of their actions. The theory postulates that a person’s intention to perform or not to perform a behavior is the immediate determinant of that action; barring unforeseen events, people are expected to act in accordance with their intentions. Intention to adopt mobile phone payment technology in the rural communities can also be seen to depend on the users’ volitional behavior. The rural communities; therefore, take account on the available information about mobile phone payment technology and consider implications of adopting or not adopting. The information considered may be the cost implications, availability of support services, technical knowledge required to be able to adopt the technology, alternative ways of achieving the services offered by mobile phone payment technology.

“The stronger the intention to adopt mobile phone payment technology, the more the person is expected to try applying this technology, and therefore the greater the possibility that the behavior will actually be performed, and thus the primary concern is with identifying the factors underlying the formation and change of behavioral intent” (Ajzen and Fishbein, 1980,
A person’s intention to behave in a certain way is based on: their “attitude” toward the behavior in question and their perception of the social pressures on them to behave in that way, that is, “subjective norms”. The relative contribution of attitudes and subjective norms varies according to the behavioral context and individual involved. Attitudes are determined by the beliefs about the outcomes of performing the behavior and the evaluation of these expected outcomes. The subjective norm is dependent on beliefs about how others feel the individual should behave and their motivation to comply with these expectations from others. In most of the rural communities many people embrace social coexistence. Because of this, for every action they do, they consider or evaluate how such actions will affect their colleagues. They look at how positively or negatively, their actions will affect other community members. This social pressure may have a bearing on the adoption of mobile phone payment technology. The subjective norm can be seen to play a key role in the decision to adopt a particular new technology or not in any given community.

Since the theory of Reasoned Action can also be used in technology adoption and general research as a fundamental theoretical framework, some researchers have used it alongside other theories and models in technology, especially when attitudes and perceptions are involved. Attitude and subjective norm have been found to be important determinants of peoples’ intentions to perform an action such adopting and using new technology (Shappard et al., 1988; Randolf & Wolff, 1994; Sherran & Oberall, 1999). Attitude is having a significant influence on the intention to adopt and continue to use technology. Theory of Reasoned Action (TRA) is a series of related concepts and hypotheses postulated by social psychologists to understand and to predict human behavior. TRA has developed from the long standing collaborative research conducted by renowned psychologists. From the onset of TRA in behavioral research, it has been applied to study a wide variety of situations and is now regarded as one of the most influential theories about volitional human behavior. It is based on the assumption that human beings usually behave in a sensible manner, as the name of the theory implies; that is, they take account of available information and consider the implications of their actions. The theory postulates that a person’s intention to perform or not to perform a behavior is the immediate determinant of that action; barring unforeseen events, people are expected to act in accordance with their intentions. Intention to adopt mobile phone payment technology in the rural communities can also be seen to depend on the users’ volitional behavior. The rural communities; therefore, take account on the available information about mobile phone payment technology and considers implications of adopting or not adopting. The information considered may be the cost implications, availability of
support services, technical knowledge required to be able to adopt the technology, alternative ways of achieving the services offered by mobile phone payment technology.

“The stronger the intention to adopt mobile phone payment technology, the more the person is expected to try applying this technology, and therefore the greater the possibility that the behavior will actually be performed, and thus the primary concern is with identifying the factors underlying the formation and change of behavioral intent” (Malhotra & McCort, 2001, p.235). A person’s intention to behave in a certain way is based on: their “attitude” toward the behavior in question and their perception of the social pressures on them to behave in that way, that is, “subjective norms”. The relative contribution of attitudes and subjective norms varies according to the behavioral context and individual involved. Attitudes are determined by the beliefs about the outcomes of performing the behavior and the evaluation of these expected outcomes. The subjective norm is dependent on beliefs about how others feel the individual should behave and their motivation to comply with these expectations from others. In most of the rural communities many people embrace social coexistence. Because of this, for every action they do, they consider or evaluate how such actions will affect their colleagues. They look at how positively or negatively, their actions will affect other community members. This social pressure may have a bearing on the adoption of mobile phone payment technology. The subjective norm can be seen to play a key role in the decision to adopt a particular new technology or not in any given community.

Since the theory of Reasoned Action can also be used in technology adoption and general research as a fundamental theoretical framework, some researchers have used it alongside other theories and models in technology, especially when attitudes and perceptions are involved. Attitude and subjective norm have been found to be important determinants of peoples’ intentions to perform an action such adopting and using new technology. Attitude is having a significant influence on the intention to adopt and continue to use technology.
2.1.4 Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably:

Perceived usefulness (PU) – This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".

Perceived ease-of-use (PEOU) – Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

The TAM has been continuously studied and expanded—the two major upgrades being the TAM 2 (Venkatesh & Davis 2000 & Venkatesh 2000) and the Unified Theory of Acceptance and Use of Technology (or UTAUT, Venkatesh et al. 2003). A TAM 3 has also been proposed in the context of e-commerce with an inclusion of the effects of trust and perceived risk on system use (Venkatesh & Bala 2008).

TAM is one of the most influential extensions of Ajzen and Fishbein's theory of reasoned action (TRA) in the literature. Davis's technology acceptance model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) is the most widely applied model of users' acceptance and usage of technology (Venkatesh, 2000). It was developed by Fred Davis and Richard Bagozzi (Davis 1989, Bagozzi, Davis & Warshaw 1992(1)). TAM replaces many of TRA's attitude measures with the two technology acceptance measures—ease of use, and usefulness. TRA and TAM, both of which have strong behavioral elements, assume that when someone forms an intention to act, that they was free to act without limitation. In the real world there were many constraints, such as limited freedom to act (Bagozzi, Davis & Warshaw 1992).

Bagozzi, Davis and Warshaw say:

Because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve. Thus, actual usage may not be a direct or immediate consequence of such attitudes and intentions. (Bagozzi, Davis & Warshaw 1992)
Earlier research on the diffusion of innovations also suggested a prominent role for perceived ease of use. Tornatzky and Klein (Tornatzky & Klein 1982) analysed the adoption, finding that compatibility, relative advantage, and complexity had the most significant relationships with adoption across a broad range of innovation types. Eason studied perceived usefulness in terms of a fit between systems, tasks and job profiles, using the terms "task fit" to describe the metric (quoted in Stewart 1986) Legris, Ingham & Collerette 2003 suggest that TAM must be extended to include variables that account for change processes and that this could be achieved through adoption of the innovation model into TAM.

Several researchers have replicated Davis's original study (Davis 1989) to provide empirical evidence on the relationships that exist between usefulness, ease of use and system use (Adams, Nelson & Todd 1992; Davis 1989; Hendrickson, Massey & Cronan 1993; Segars & Grover 1993; Subramanian 1994; Szajna 1994). Much attention has focused on testing the robustness and validity of the questionnaire instrument used by Davis. Adams et al. (Adams 1992) replicated the work of Davis (Davis 1989) to demonstrate the validity and reliability of his instrument and his measurement scales. They also extended it to different settings and, using two different samples, they demonstrated the internal consistency and replication reliability of the two scales. Hendrickson et al. (Hendrickson, Massey & Cronan 1993) found high reliability and good test-retest reliability. Szajna (Szajna 1994) found that the instrument had predictive validity for intent to use, self-reported usage and attitude toward use. The sum of this research has confirmed the validity of the Davis instrument, and to support its use with different populations of users and different software choices.

Segars and Grover (Segars & Grover 1993) re-examined Adams et al.'s (Adams, Nelson & Todd 1992) replication of the Davis work. They were critical of the measurement model used, and postulated a different model based on three constructs: usefulness, effectiveness, and ease-of-use. These findings do not yet seem to have been replicated. However, some aspects of these findings were tested and supported by Workman (Workman 2007) by separating the dependent variable into information use versus technology use.

Mark Keil and his colleagues have developed (or, perhaps rendered more popularisable) Davis's model into what they call the Usefulness/EOU Grid, which is a 2x2 grid where each quadrant represents a different combination of the two attributes. In the context of software use, this provides a mechanism for discussing the current mix of usefulness and EOU for particular software packages, and for plotting a different course if a different mix is desired, such as the introduction of even more powerful software (Keil, Beranek & Konsynski 1995).
The TAM model has been used in most technological and geographic contexts. One of these contexts is health care, which is growing rapidly.

Venkatesh and Davis extended the original TAM model to explain perceived usefulness and usage intentions in terms of social influence (subjective norms, voluntariness, image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, perceived ease of use). The extended model, referred to as TAM2, was tested in both voluntary and mandatory settings. The results strongly supported TAM2 (Venkatesh & Davis 2000).

In an attempt to integrate the main competing user acceptance models, Venkatesh et al. formulated the unified theory of acceptance and use of technology (UTAUT). This model was found to outperform each of the individual models (Adjusted R square of 69 percent) (Venkatesh et al. 2003). UTAUT has been adopted by some recent studies in healthcare.

2.1.5 Theory of planned behavior

The theory of planned behavior (abbreviated TPB) is a theory that links one's beliefs and behavior.

The theory states that attitude toward behavior, subjective norms, and perceived behavioral control, together shape an individual's behavioral intentions and behaviors.

The concept was proposed by Icek Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control. It has been applied to studies of the relations among beliefs, attitudes, intentions and behaviors in various fields such as advertising, public relations, advertising campaigns, healthcare, sport management and sustainability (Ajzen, I. (1985)).

The theory of planned behavior was proposed by Icek Ajzen in 1985 through his article "From intentions to actions: A theory of planned behavior." The theory was developed from the theory of reasoned action, which was proposed by Martin Fishbein together with Icek Ajzen in 1980. The theory of reasoned action was in turn grounded in various theories of attitude such as learning theories, expectancy-value theories, consistency theories (such as Heider's balance theory, Osgood and Tannenbaum's congruity theory, and Festinger's dissonance theory) and attribution theory.[3] According to the theory of reasoned action, if people evaluate the suggested behavior as positive (attitude), and if they think their significant others want them to perform the behavior (subjective norm), this results in a higher intention (motivations) and they are more likely to do so. A high correlation of
attitudes and subjective norms to behavioral intention, and subsequently to behavior, has been confirmed in many studies.

A counter-argument against the high relationship between behavioral intention and actual behavior has also been proposed, as the results of some studies show that, because of circumstantial limitations, behavioral intention does not always lead to actual behavior. Namely, since behavioral intention cannot be the exclusive determinant of behavior where an individual's control over the behavior is incomplete, Ajzen introduced the theory of planned behavior by adding a new component, "perceived behavioral control". By this, he extended the theory of reasoned action to cover non-volitional behaviors for predicting behavioral intention and actual behavior.

The most recent addition of a third factor, perceived behavioral control, refers to the degree to which a person believes that they control any given behavior (class notes). The theory of planned behavior suggests that people are much more likely to intend to enact certain behaviors when they feel that they can enact them successfully. Increased perceived behavioral control is a mix of two dimensions: self-efficacy and controllability (170). Self-efficacy refers to the level of difficulty that is required to perform the behavior, or one's belief in their own ability to succeed in performing the behavior. Controllability refers to the outside factors, and one's belief that they personally have control over the performance of the behavior, or if it is controlled by externally, uncontrollable factors. If a person has high perceived behavioral control, then they have an increased confidence that they are capable of performing the specific behavior successfully.
2.2 How mobile banking has enabled customers to transfer funds between their accounts

Davids (2012) defines mobile money services as a range of financial services accessible to consumers through mobile phone devices. The common functions according to Kasseeha and Tandrayen-Ragoobur (2012) include balance checks, depositing and withdrawing cash, funds transfer, savings, access credit, long distance remittances, bill payments and airtime purchase.

Brian (2015) contends that mobile money is a catalyst for financial inclusion and the development of the digital platforms. Mobile money providers are not financial intermediaries and do not undertake banking business. On the contrary, mobile money complements banking. Partnerships with mobile money providers provide a cost effective way for commercial banks and microfinance institutions (MFIs) to collect public deposits and offer credit services to new customers that are otherwise beyond their reach. Mobile money has also contributed to the development of the digital platforms by providing a readily available payment mechanism for many startups.

Mobile banking is defined as a provision and availment of mobile and bank services by using telecommunication device, the services may include keep in contact with bank to administer account and access customized information (Tiwari and Bus, 2007)

Mobile banking is a channel through which a customer can interact with bank through device such as mobile and PDA (Tommi Laukkanen, Suvi Sinkkonen, Marke Kivijärvi, Pekka Laukkanen, 2007). Mobile banking is seen as an extension to the payment system of bank which enables mobile network to extend its services in reach of customer (Gavin Troy Krugel, 2007)

Mobile banking help customer to access their banks anytime. Through mobile banking application customer can check their account details, transfer money transitions, and can pay their bills while sitting at home and offices. (Infogile Technologies, August 2007)

The continuous development and usage of mobile make people to become in habit for it and this force companies to come up with new mobile services. Some studies shows that the transaction through mobile is more secure than a connection through internet on pc. But some studies go against it and showed the security a major challenge for mobile banking (Tommi Laukkanen, Suvi Sinkkonen, Marke Kivijärvi & Pekka Laukkanen, 2007).

Some factors which nourished the mobile banking and due to which the need of mobile banking is felt are the economic development (globalization is leading to mobility), high density of mobile devices, powerful devices, high data transfer, attitude of new generation
towards the use of mobile banking the need and wish for mobility is increased. Features of mobile banking includes its available anywhere, anytime, instant connectivity, proactive functionality (push and pull technology), easy access (simple authentication) (Tiwari and Bus, 2008).

Mobile banking can provide location based services as compared to banks. Mobile banking is more secure than internet, it not only provide traditional bank services but also 3A services (anywhere, anytime and anyhow). As mobile banking is more convenient, effective and efficient which help to attract more customer (Jin, Nie, Xianling, Hu, 2008)

Banking services, delivered by means of mobile phone Informational services: report on any type of transactions to mobile phone Payment services, based on mobile phone Mobile banking can be based on different technologies SMS, WAP, GPRS/Edge/3G(Eddy Cormon,2009)

The difference between internet banking (e-banking) and mobile banking (m-banking) is that through internet bank account information is access by pc or off the mobile and through mobile banking account information is accessed by its two channels either via SMS or browser and by using mobile banking in advance era a customer get SMS alert of changes in account (Bankable Frontier Associates, 2008). Mobile banking is area in which the development can flourish and can lead to replace credit/debit card. In past 2 to 3 years mobile banking advance itself to the extent that it increase three times if we go on comparison with debit/credit cards banking (Mahesh .K. harma, Ritvik Dubey, 2009) Mobile Banking: Use of mobile device to connect to a financial institution to conduct customer self-service (CCS) includes viewing account balance, transferring funds between the accounts, paying bills or receiving accounting alerts. Mobile Payments: Use of a mobile device to make a purchase or other payment-related transaction. Payments initiated in physical or virtual worlds, and can be conducted via SMS, MMS, mobile Internet, downloadable application, and NFC chips. (Breffni McGuire and Marianne Crowe, 2008)

From the last ten years technology has been evolving itself by inclusion or replacement of other technologies coming through as the day pass. This technology development has a great impact on banking industry. On the other hand the services of banking is also go through many changes starting from early eighties when telephone banking and computer banking took a lead and moved towards ATM and internet banking applications. As the electronic banking was on its peak along with it change bring in mobile technologies as well including SMS, WAP, 3G and 4G technologies (Tommi Laukkanen, Suvi Sinkkonen, Marke Kivijärvi & Pekka Laukkanen, 2007).
The population of Pakistan is exceed to 170 million but unfortunately there are approximately 16 million bank accounts and left behind 110 million people are without access to banks. The main focus of mobile banking is rural area, where people have 2500 branches of banks for 105 million people and 42000 subscribers per branch, whereas mobile phone users are reached to 97 million. So that Pakistan was a good market for Mobile Banking beginning. (CGAP, February 2010).

In Pakistan mobile banking is emerged and famous by the name of branchless banking. After the struggle of five years from 2005 to 2010 now Pakistan is able to make their people dreams come true and mobile banking is now on its success way. Back to march 2007 first time the policy and regulatory paper was issued by SBP on a base of branchless banking (which can provide the financial services to the people who are underserved or unbanked). (CGAP, February 2010)

Financial institutions were reluctant to make such huge and risky initial investment. SBP insist on implementation of mobile banking and advice Financial Institution and Banks to process the work flow of mobile banking otherwise the that would be permitted to the MNO’s (Mobile Network Operators) to start their own. SBP take step with Ministry of information technology (MOIT) and Tameer bank. In 2009, Telenor has launched easy paisa (First Mobile banking Platform) with the help of Tameer Bank (A microfinance bank mostly owned by Telenor). In 2010 MCB, UBL and Allied Bank has implemented the mobile banking and making it more profitable for banks and customers as well. (CGAP, February 2010)

In this model a bank is in agreement with many telecom companies and provides service of mobile banking to their customers and everybody who has mobile phone can reach to the mobile banking service. There are several drawbacks of this model one is the telco cannot prioritize the mobile banking SMS services in order to provide quick transactions, secondly financial institution has to bear all expense related to advert/marketing, lastly bank is responsible for the arrangement of product distribution and cash inflows and outflows (SBP, 2007).

In this model many banks interact with many telecom companies in order to provide services to all those customers who have bank accounts. System leads under this model require a central transaction processing system which is handled by a financial institution or a third party who had an agreement with bank. Transaction processing system must be responsible for provision of real time service, having all proves of transactions and provide daily basis reconciliation to the account holder. This model has minimum limitation and gives maximum
connectivity to its customer like an ATM which can be used by the consumer for initiating another bank transaction (SBP, 2007). In 1997 Nokia, Motorola, Ericson and phone.com came together to have a one platform for WAP application because they believed that it is critical to have a uniform standard for implementation of wireless internet universally. From that time 350 more companies join them for WAP (o.o.obe and V.F balogun, 2007). Mobile banking can be implemented through companies other than telco such as fuel distribution companies, Pakistan post, chain stores etc by using technologies of mobiles and pc (SBP, 2007).

According to the research, number of those people who doesn’t have bank account are 4 billion in this world which is more than two third of world population consist of low and middle income countries. In Pakistan the ratio of financial outflow is even higher than inflow, the increase of inflows is become the critical component which lead to country economic development. Mostly developing countries had implemented mobile banking such as Kenya, South Africa, Philippines, and Cambodia. (Syed Salim Raza, 2010). In Kenya mobile banking is implemented by largest mobile service provider, Safaricom and launched M-PESA in 2007. With the increase of 10000 subscriptions per day, Kenya has now 7 million clients out of 38 million people. Kenya provides services of depositing and transfer of money, in order to operate M-PESA 10000 agent was hired. M-PESA is useful for those areas where there is hard to reach to banks. According to study the income of Kenyan is increase to 30% since they had started mobile banking. (Syed Salim Raza, 2010)

Philippines were the first user of mobile banking is ASIA. The central bank of Philippines (BSP) has taken step towards opening of mobile banking. Further than mobile banking is supported by two biggest mobile network operators in Philippines, Global and Smart. The services provided by the smart is ‘smart money’ having 2.5 million out of 39 million subscriber and 1.2 million subscriber of Gcash services out of 23 million by Global. According to BPS, through traditional way customer was charge 2.5 or 5% of remittances but in mobile banking this cost only less than 2% and Filippions are now charge US$ 50. (Syed Salim Raza, 2010).

Mobile banking working based on its four constituent MNO, Banks, user applications, customers. These participant help to translate the transaction initiated from customer to the format which can be understood by banking system. For the implementation of mobile banking bank use its core infrastructure with some advancement in which a user is authenticated (usually a pin) through a platform usually a phone and a server, information is extracted from a user and pass it on to the bank then bank have set of processes for a
transaction once the application is done with financial transaction it is switch back to the user by an acknowledgement usually in a form of bank account reconciliation (Gavin Troy Krugel, 2007).

The technology use in mobile banking can be categories in two environments, technologies at server side and technologies at customer side. SMS, IVR, USSD2 and WAP are server side technologies, on the other hand consumer side technologies includes applications, solution and offer which is set in SIM or in user mobile such as S@t and J2ME (Java) (Gavin Troy Krugel, 2007).

According to the study there are different challenges faced by the mobile banking discussed by different author which relate to mobile banking through different prospects. Uniform standard is one of the most important challenges as there are many devices of different service providers and vendors are indulge. There are no uniform regulation had made for those electronic devices to work on one platform. Network security (unauthorized access), customer privacy, and clearance of liability on customer side as they go for loan because through mobile banking the subscriber has virtual account and there is financial risk involve in it. A challenge of wireless carriers and financial institution dispute, both have different responsibility with respect to mobile transaction. (VENABLE, LLP, November, 2008).

The lack of interoperability among mobile operators has limited the access of mobile payment (Kopicki and Miller, 2008). Some of the challenges which include profitability can be generated by the initial payment paid by the customer for initiating a transaction. Which would be paid by the customer if the offer of mobile banking seems attractive to him, if it’s not does so then the initial cost of banks would be a sunk cost. Interoperability, regulatory issues and security are major constraints. (Ref: Upkar Varshney, December 2002).

Financial loss seems more fearful for a customer because something passing in air is not that much secure than physical transaction. Privacy risk which relate to the theft of private information. There are many uncertainties related to customer for example they think that they may not make mistake while doing financial transaction through mobile. The loss of connection which left the transaction incomplete make customer hesitated for usage of mobile for its financial transaction. Ref: (Tommi Laukkanen, Suvi Sinkkonen, Marke Kivijärvi, Pekka Laukkanen, 2007). The introduction of GSM technology helped to boost the idea and implementation of mobile banking in Nigeria. Some of the challenges faced by the Nigeria are sustainability of growth and progress, requisition of funds for marketing of mobile banking, development of promotion of IT, Security and privacy issues, Middleware
issues devices, network and protocol limitation, different standards (o.o.obe and V.F balogun, 2007).

As mobile banking is a new concept that will bring some challenges and issues as well, if these issues are solved adequately it will proved to be more benefited than other technologies. Some issues including awareness about mobile banking which cover rural and urban areas, the extent of resolving the issue of security and privacy these issues can be handled very carefully and effectively but the need to take an eye of interest (uppal, 2010). According to the survey more than 60% of users are worried about security of personal data and password protection while using mobile banking as mobile phone encryption ability is limited as compare to personal computer because of which the mobile cannot meet the demand of financial security. Various threats such as cloning and use of “magic cards” in advance era make mobile unprotected. The applications of new technologies make the bank to keep on changing the competition rule in banking industry. The most competitive challenge is how to provide the banking services to the customer who is more convenient to them, awareness among people would be a catalyst but also upgrade the business innovation and based on these services the mobile banking is the future (Zhong Wan, Weifeng Yin and Ronggao Sun, 2009).

Issues in mobile banking are demonstrated as there are large numbers of people who do not have bank accounts especially in rural areas, due to unawareness and distant factor the people don’t know about banking. There are policies, regulatory and legal, financial, security from malicious viruses, spam and malware attacks, information transfer (privacy of individual) and consumer protection, information disclosure on tariffs and services, data security, technical issues which need to be tackle. While introducing various applications for mobiles such as WAP based solutions create difficulty in uniform standards. Standards need to be address security and privacy concerns of customer as well as to promote the interoperability between different implementations. Revenue sharing agreement is another major issue between service providers, banks, content providers, other service provider such as utilities, retailer (Sanjeev Banzal, 2008).

Challenges faced by the bank during implementation of mobile banking in Bangladesh are, Difficulty in selection of right software, Huge Investment in purchasing the Software, License, inability to do interbank transaction as the national payment switch is not in place. Handling huge agent network to deliver and receive cash over the counter. Challenges for mobile operator includes, sharing network with multiple Banks and Operator, technical limitation to access other banks, breaches in data privacy, accounting errors, or fraudulent
transactions could expose an operator to large liabilities and serious reputation damage. The complex delivery of financial services could distract management from its core communications business, perhaps stretching the abilities of smaller mobile operators, Additional Investment in Solutions. Challenges faced by solution providers are, most of the solution are telco led so bank do not feel safe, Huge Investment from their part as most of the Bank wants to share revenue, Some of the Banks are also not ready in terms of core banking or infrastructure for mobile baking solution. Challenges faced by government are prepare a proper guideline for the Mobile Banking system, maintaining track of all the financial transaction, set up a list of services and there charges for all the mobile Banking service, Ensuring the compatibility of the software in “Bank Led” Model, Allow Inter-Bank transaction( Muntasir B. Shahariar, 2010).

In order to provide mobile banking services the service provider has faced a challenge of security and privacy of customer, service provider has to promise users a level of security, a solution for this challenge has been made by mobile service provider is PIN and pass code to authorize valid customers and encrypted data for transfer along with the threat of password or PIN stolen if a mobile phone or wireless device is lost. Cope with low price charged to the customer is a also a hidden challenge for financial institutions because mobile banking is based on the revenue sharing model but in order to attract and retain customer low price than e-banking and previous banking service must be target(Caroline Boyd, 2007).

Though mobile banking has a potential to improve saving rate and provide access to financial product but it’s still facing challenges which need to overcome includes high barrier to entry, low rate of loan repayment because of less contact with customer and regulatory issues (John Erickson, 2010).

Attackers are gaining experience in tricks and those techniques which are unknown in 1990 are become mainstreams in 2000’s such as phishing, malware, pharming such as DNS poisoning, increasing advancement in phones now threats is increased more on mobile than pc’s(Bankable Frontier Associates, 2008)

Challenge regarding m-banking to policy-makers and regulators is two-fold: Firstly, to encourage banks and mobile operators to develop solutions that are not proprietary, and secondly, to allow access to potential new entrants that can disrupt the lucrative business models of the banks and mobile operators. The key challenge is to do this while at the same time ensuring high levels of security and trust. “Just like convergence forced the integration of broadcasting and telecommunications, so mobile banking is forcing the convergence of the financial and telecommunications sectors. Unfortunately, the convergence of two such
heavily regulated industries means that this potential is unlikely to be met unless policymakers lay the ground rules for innovation. (Comninios, Esselaar, Ndiwalana & Stork, 2008)

The bigger barriers in way of mobile banking is interoperability, fraud and security, lack of awareness and understanding of benefits can achieve from mobile banking (Mahesh .K. harma , Ritvik Dubey, 2009). The common challenge policy makers and regulators have to address is: how to formulate regulatory policy that balances the need to provide space for innovation whilst ensuring services are scaled up safely (GSMA, 2008).

There are also other manifest security challenges in delivering banking and payment services through wireless channels. Banks and other providers must implement security measures that adequately address these risks and threats regardless of the underlying network and carrier infrastructure used in delivering their services (Tony Chew, 2002).

2.3 How mobile banking has enabled customers pay their bills

Nowadays, mobile banking is a quite popular banking system in the world. Many banks are started to provide the mobile banking services. Mobile banking is a financial transaction conducted by logging on to the bank’s website by using a hand phone or cell phone. There are a lot of services that offer by mobile banking such as mini-statement and checking of account history, access to loan statement and card statement, status on cheque, stop payment on cheque, ordering check books, bill payment processing and so on. According to Laukkanen (2007), mobile banking services enable consumers, for example to check their account balance and latest transactions, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information. Although only the traditional banking can let the customers to take out their money but customers need to waste time to complete their transaction. Mobile banking service can bring benefits to customers to manage their financial transactions.

According to Suoranta (2003), among the newest services to be offered is a wireless delivery channel, with banking services being available via mobile phones or Personal Digital Assistants (PDAs). It is an electronic banking that uses mobile phone technology or other wireless devices to deliver electronic financial services to customers. Mobile banking services form an important innovation in the banking sector and it has the potential in the market. It is because mobile banking brings lots of benefits to customers compared to traditional banking. Mobile banking is fast, convenient and time-effective. It also provide 24 hour service availability, location free access and service access speed represent concrete attributes of electronic channels whereas concepts like time savings and easiness-to-use
represent more the benefits or consequences deriving from the use situation (Laukkanen, 2007).

But, in the complementary of the advantages the use of the mobile banking is still remained small. Security issues was the major problem and obstacle in mobile banking transactions. It is because customers will consider whether these services are secure or not. Nowadays, security issues are argued to be among the greatest concerns in the perception and adoption of mobile banking. Brown et al, (2003); Luarn and Lin, (2005) has determine that the security issues are argued to be among the greatest concerns in the customers’ adoption of mobile banking. Some customers are not trust to the electronic services and feel that mobile banking services are unrealistic because that service does not provide receipt. It can also be said that they are not confident to use the services. They worry that they will choose the wrong option and they will lose their money. However, according to Suoranta (2003), he found that mobile banking services were not used since they were perceived as impractical and not sufficiently diversified.

Furthermore, customers will choose to use the mobile banking is because they feel dissatisfaction with the traditional banking services. They might feel that they are wasting their time because the speeds of service in branches are slow. Laforet and Li (2005) has determine that the inconvenient branch opening hours or places, slow speed of services in branches and the small number of bank’s employees available to serve customers will affect the customers to switched the delivery channel from traditional bank to mobile banking meet their needs.

In addition, many people may have the interest to use the mobile banking but they might think that using mobile phone to browsing on internet is expensive and not worth. They will try to save their cost and choose to use internet banking or visit the traditional branches. In Malaysia, the mobile telecommunication company such as Maxis and Digi has offer some value package of offer to customers. When customers purchase iPhone from their company, the customers can get the benefit on the fees on internet service. It can attract customers to use the mobile banking because the internet services fees are free. For example, Digi has provided customers the free internet and no extra charges on the internet service with seamless high-speed internet nationwide when they agree with the iPhone plan that Digi provide. The free internet unlimited and no extra charges benefits will attract the customers to use the mobile banking and it also can increase the usage intention on the mobile banking. This also can increase the customers’ perception toward mobile banking. From this research, bankers also can determine the customers’ usage intention and motivation in the different
banking technologies such as using the online banking or internet banking. Customers might not adopt the mobile banking and choose to use traditional banking and internet banking to do their transaction. Sathye (1999) has found out that customers might not be prepared to change from present familiar ways of operating. Bankers can determine whether the number of user of mobile banking will affect the development of mobile banking in Malaysia or not.

2.4 The challenges encountered by customers using mobile banking services

Mujemula’s (2009) observed that security over mobile financial transactions as the main challenge in Tanzania. Ishengoma (2011) quoted the findings conducted on January 2009 by Mobile Marketing Association (MMA) in their Banking Sub-Committee that was chaired by Cell Trust and VeriSign Inc published the Mobile Banking Overview for financial institutions in which it discussed the advantages and disadvantages of Mobile Channel Platforms (Short Message Services (SMS), Mobile Web, Mobile Client Applications, SMS with Mobile Web and Secure SMS). The following challenges were the following: on the handset operability it was found that there are a large number of different mobile phone devices and it is a big challenge for banks to offer mobile banking solution on any type of device. Some of these devices support Java ME and others support SIM Application Toolkit, a WAP browser, or only SMS. Another challenge was security. It was found that security of financial transactions, being executed from some remote location and transmission of financial information over the air. It was also found that there was a challenge of mobile banking infrastructure to handle exponential growth of the customer base.

Banks unable to meet the performance and reliability expectations may lose customer confidence. Masinge (2010) found that the most critical factor for the customer was high cost and entrust due to insecurity. Thus, the service should be affordable and trusted as trust was found to be significantly negatively correlated to perceived risk. Nyakiha (2009) noted that despite the positive perception toward mobile banking services customers do face challenges and security threats when utilizing the service.
2.5 Strategies of strengthening mobile banking services practices

In support of targeted individual interventions, Frederick (2014) recommends that governments can provide consumer education around the use of mobile payments to help bolster confidence, adoption and use of the payment system. Additionally, governments could use the mobile money to pay out salaries, social benefit payments, pensions, and even collect tax payments to drive usage. A low cost national registry for micro-entrepreneurs could also help facilitate customer to business (C2B), which requires a different payment structure than traditional long distance money transfer services. To achieve the above Ondiege (2015) calls for process innovations to stimulate improvement in the rapidly evolving mobile money system by making existing infrastructure work better for operators and consumers. Innovations will lower the cost and reduce friction points in delivering the service. It also calls for product innovations by expanding the range of services available to consumers.

Thulani, et al (2014) recommends that service providers need to increase their awareness programs targeting this specific market to encourage them to migrate from traditional ways to safe and secure way of saving their meager incomes. More so, that their saving patterns will determine their access to loans. Furthermore, Ratwatte (2012) notes that technology has also played an important role in the rural outreach of banks. A good example is the National Savings Bank’s ‘point of-sale deposits’ where bank representatives visit rural homes with point-of-sale electronic devices that connect to a well-known mobile phone network, and take deposits and provide instant electronic confirmation to the depositors. Ssonko (2010) equally recommends that bank of Uganda, Uganda Communications Commission and Uganda Bankers’ Association should work together to establish an appropriate regulatory framework. This working partnership should take a holistic reevaluation of all potential laws governing transactions in the financial sector as well as the communications sector. The laws could also provide reporting mechanisms for MMS so that regulatory bodies could collect useful data administratively to enhance research in the field to foster development.

2.5 Chapter Summary

This chapter presents development in the mobile banking, drawing the lines between observed phases in the development and noting the service delivery performance and major theoretical learning was illuminated bringing out those constructs which are of importance to the research.
CHAPTER THREE  
METHODOLOGY

3.0 Introduction
This chapter discusses how the study was carried out. It discusses the research design, the sampling design, data collection methods and instrument, data processing, data analysis and presentation.

3.1 Research Design
An exploratory research design was used with both qualitative and quantitative study approaches; this is a research design that looks at an issue as it is at that particular time in other words it studies an event in its existing capacity at a time (Amin, 2005). An association design was also used; this was used to establish the relationship between mobile banking and customer satisfaction at Centenary bank.

3.2 Study Population
The study used a population of 50 People. This included; the customers of Centenary bank because they are the beneficiaries of the service. The employees of Centenary bank, because they are the providers of the service.

3.3 Sample Size
This study was carried out at Centenary Bank Kireka branch and a total of 35 respondents were interviewed. The sample size for this study was selected basing on the criteria set according to Roscoe’s rule of thumb cited in Sekaran, (2003) that is a sample that is larger than 30 and less than 500 was appropriate this research. A sample size of 28 respondents was selected because it is manageable and minimizes costs and time. It was calculated using Yamane’s (1967) formulae.

\[ n = \frac{N}{1 + Ne^2} \]

\[ n = \frac{35}{1 + 35 \times 0.5^2} \]

\[ n = 35 \]

This implies that 35 questionnaires were sent out and 35 responses were expected.
Table 3.1: Sample Size

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Employees</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td><strong>50</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

Source: Primary data

3.4 Data Sources
Particularly the researcher was used primary data sources and relied on a few secondary data.

3.4.1 Primary data,
This is original data that has never been collected or applied to solve any problem. Primary data was collected using personal interviews and self-administered questionnaires.

3.4.2 Secondary data,
This is data about the problem that already exists. This already existing data was extracted from bank records, documents, newspapers, magazines and text books.

3.5 Data Collection Methods
This refers to various methods that were used to collect relevant data to the study, the different methods that were used are; during the process of data collection, both primary and secondary data was the main sources of data. Concerning the primary data, the study used a questionnaire tools to supplement secondary data that was collected from different sources like books, magazines, journals and mobile.

3.6 Data Collection Tools
The researcher collected primary data mainly using questionnaire method.

3.6.1 Questionnaires
This involved designing a set of specific questions intended to collect data from respondents. The distribution of questionnaires was made to bank staff and customers of Kireka Branch the questionnaires were designed differently but intended to collect the same information.

3.7 Research procedures
The researcher respected human dignity by not revealing the identity of the respondents in the study. The letter of introduction was got from school of business administration seeking permission to conduct the study after being directed by the supervisor to do so. This letter was presented to the management of Centenary Bank Kireka branch for permission to conduct the study.
3.8 Data Analysis, Data Presentation and Interpretation of data

3.8.1 Data analysis
Qualitative data was analyzed in the field as it is being collected while quantitative data was used to analyze data by using computer programs like Microsoft excel and Microsoft word. Also under qualitative analysis, thematic analysis was also used and in quantitative data analysis; graphs, tables and pie charts was used for data analysis and presentations of findings.

3.8.2 Data presentation
After analyzing the data, it was edited presented inform of frequency and tables after which the data was analyzed in form of pie-charts which may be developed using Micro Soft Word and Micro Soft Excel, this was done to only quantitative edited data. Quantitative data was grouped and statistical description such as tables showing frequencies and percentages and pie-charts as well as graphs for better interpretation. However, qualitative data was analyzed in a way of identifying the responses from respondents that are relevant to the research problem. Mainly such data was analyzed by explaining the facts collected from the field under which the researcher was able to quote respondents’ responses

3.8.3 Data interpretation
When data was analyzed, it was then interpreted. Interpretation will involve attaching meanings to the generated information as per tables developed during the stage of data analysis.
CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 Introduction
This section discusses data analysis and respondents under the context which the research was done on Mobile banking and Customer Satisfaction of Commercial Banks in Uganda. The study was guided by the following objectives: To establish how mobile banking has enabled customers to transfer funds between their accounts, to determine how mobile banking has enabled customers pay their bills, to assess the challenges encountered by customers using mobile banking services and to suggest strategies of strengthening mobile banking service practices in Centenary Bank, Kireka Branch.

The findings of the study are presented according to the specific research questions in form of tables. The respondent rate was 35 percent which is favorable to make conclusions. The collected data was edited and coded. Data analysis was done using frequencies and percentages.

4.1 Sample Characteristics
To present sample characteristics, cross sectional tabulations and frequency analysis were used. These characteristics included age of respondents, gender, tenure of service, and level of education. The sample characteristics were presented basing on the responses from the respondents.
4.1.1 Age of Respondent by Gender Cross tabulation

Cross tabulation was used to analyse the data of Gender and Age of respondents. The findings are as shown in the table 4.1 below.

Table 4.1: Showing Age of Respondent by Gender Cross tabulation

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Gender</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>25-30</td>
<td>14</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>31-45</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>46-50</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>51yrs and above</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>26</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>65.00</td>
<td>35.00</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary data

From the table 4.1 above of the 40 respondents 55.00% were in the range of 20 to 30 years, 20.00% were between 31 to 45 years, 17.50% were in the range of 46 to 50 years while 7.50% were 51 and above years of age. These results imply that the majority of the respondents were still young and active with the knowledge of the study variables.
4.2. Length of Employment with Centenary Bank by Gender Cross tabulation

Cross tabulation was used to analyses the length of employment by gender distribution of the respondents. The findings are as shown below in table 4.2 below:

Table 4.2: Showing the length of employment by gender cross tabulated

<table>
<thead>
<tr>
<th>Length of employment</th>
<th>Gender</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>&lt; 1yr</td>
<td>1</td>
<td>1</td>
<td>2.50</td>
</tr>
<tr>
<td>2-3yrs</td>
<td>3</td>
<td>4</td>
<td>17.50</td>
</tr>
<tr>
<td>4-5yrs</td>
<td>14</td>
<td>3</td>
<td>42.50</td>
</tr>
<tr>
<td>6-10yrs</td>
<td>5</td>
<td>1</td>
<td>15.00</td>
</tr>
<tr>
<td>&gt; 10yrs</td>
<td>4</td>
<td>5</td>
<td>22.50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>26</td>
<td>14</td>
<td>100.00</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>65.00</td>
<td>35.00</td>
<td>100</td>
</tr>
</tbody>
</table>

**Source:** Primary data

Table 4.2 above indicates that of, 40, 2.50% had served for less than 1yr, 17.50% had served for 2-3yrs, 42.50% had served for 4-5yrs, 15.00% had served for 6-10yrs, While 22.50% had served for over 10yrs. This implies that the majority of the respondents had worked for 4-5yrs in the organization with relevant knowledge of the study variables.
4.3 Level of Education of Respondents.
Frequency analysis was used to analyse the respondent’s level of education

Table 4.3: showing level of management in Centenary Bank by Highest level of education Cross tabulation

<table>
<thead>
<tr>
<th>Education level</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Diploma</td>
<td>1</td>
<td>2.50</td>
<td>2.50</td>
<td>2.50</td>
</tr>
<tr>
<td>Degree</td>
<td>25</td>
<td>62.50</td>
<td>62.50</td>
<td>65.00</td>
</tr>
<tr>
<td>Masters</td>
<td>10</td>
<td>25.00</td>
<td>25.00</td>
<td>90.00</td>
</tr>
<tr>
<td>Professionals</td>
<td>3</td>
<td>7.50</td>
<td>7.50</td>
<td>97.00</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>2.50</td>
<td>2.50</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data

Results in table 4.3 above indicates that 2.50% of the respondents were diploma holders, 62.00% were degree holders, 25.00% had master’s degree, 7.50% were professionals, while 2.50% possessed other academic qualifications. This indicates that the majority of the respondents had the capacity to understand the study variables and answer correctly.

4.4 How mobile Banking has enabled customers to transfer funds

The first objective was to establish how mobile banking has enabled customers to transfer funds, the researcher analyzed the respondents understanding of this objective with the help of descriptive analysis to answer the objective of the study. Descriptive analysis was applied in order to further highlight and understand how mobile banking has enabled customers to transfer funds. The respondents were asked to provide responses on how mobile banking has enabled customers to transfer their funds.
Table 4.4: How mobile Banking has enabled customers to transfer funds

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>04</td>
<td>11.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>02</td>
<td>5.7</td>
</tr>
<tr>
<td>Not sure</td>
<td>01</td>
<td>2.9</td>
</tr>
<tr>
<td>Agree</td>
<td>08</td>
<td>22.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>20</td>
<td>57.1</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary Data

Findings in Table 4.4 indicated the extent to which mobile banking enabled customers to transfer funds. 04 (11.4%) strongly agreed that mobile banking has enabled customers to transfer funds, 02 (5.7%) disagreed, 01 (2.9%) were not sure, 08 (22.9%) agreed and the majority 20 (57.1%) strongly agreed.

4.5 How Mobile Banking has enabled customers to pay bills

The second objective was to determine how Mobile Banking has enabled customers to pay bills, the researcher analysed the respondents understanding of this objective with the help of descriptive analysis to answer the objective of the study. Descriptive analysis was applied in order to further highlight and understand how Mobile Banking has enabled customers to pay bills. The respondents were asked to provide responses on how mobile banking has enabled customers to transfer their funds. The respondents were asked to provide responses on how Mobile Banking has enabled customers to pay bills.
Table 4.5: How Mobile Banking has enabled customers to pay bills

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>04</td>
<td>11.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>02</td>
<td>5.7</td>
</tr>
<tr>
<td>Not sure</td>
<td>01</td>
<td>2.9</td>
</tr>
<tr>
<td>Agree</td>
<td>08</td>
<td>22.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>20</td>
<td>57.1</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary Data

Findings in Table 4.5 indicated the extent to which mobile banking enabled customers to pay bills. 04(11.4%) strongly agreed that mobile banking has enabled customers to pay bills, 02(5.7%) disagreed, 01(2.9%) were not sure, 08(22.9%) agreed and the majority 20(57.1%) strongly agreed. This shows that mobile banking has enabled customers to pay bills since majority seconded this assertion in the table above.

4.6 Challenges faced by customers using Mobile Banking

The third objective was to assess the challenges faced by customers using Mobile Banking, the researcher analyzed the respondents understanding of this objective with the help of descriptive analysis to answer the objective of the study. Descriptive analysis was applied in order to further highlight and understand the challenges faced by customers using Mobile Banking. The respondents were asked to provide responses on the challenges faced by customers using Mobile Banking.
Table 4.6 Challenges faced by customers using Mobile Banking

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>04</td>
<td>11.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>02</td>
<td>5.7</td>
</tr>
<tr>
<td>Not sure</td>
<td>01</td>
<td>2.9</td>
</tr>
<tr>
<td>Agree</td>
<td>08</td>
<td>22.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>20</td>
<td>57.1</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary data

Findings in Table 4.6 indicated the Challenges faced by customers using Mobile Banking. 04(11.4%) strongly disagreed with the Challenges faced by customers using Mobile Banking, 02(5.7%) disagreed, 01(2.9%) were not sure, 08(22.9%) agreed and the majority 20(57.1%) strongly agreed.

4.7 Strategies of strengthening mobile banking services practices

The findings suggest that the top most effective strategies for strengthening the mobile banking services practices included ensuring network availability to transact, community sensitization, education through awareness interventions and having an application for MNO connectivity collaboration. Stronger regulation by financial regulators would go a long way in promoting the use of MMS for mobile banking services practices with enhancing availability of other e-banking platforms mainly POS devices as an effective strategy for promoting mobile banking services practices. An integration of MMS for financial settlements as an effective strategy for promoting mobile banking services practices using MMS. The findings suggest that putting in place enabling laws, use of alternative e-banking platforms such as POS devices and integration of MMS in regular financial transactions were effective and complementary strategies for strengthening mobile banking services practices.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter aims at concluding all the work undertaken in this study. Chapter one defined the problem under study while the second chapter reviewed the literature relevant to the problem under the study. Chapter three highlighted on the research methodology while chapter four discussed data analysis and results for the study. It is therefore the aim of this chapter to discuss the conclusions, recommendations and suggest areas for further study.

5.2 Summary
This is presented in line with the research questions

5.2.1 Research Question One: How mobile Banking has enabled customers to transfer funds?
The respondents were asked to provide responses on how mobile banking has enabled customers to transfer their funds. Findings in Table 4.4 indicated that the majority 20(57.1%) strongly agreed that mobile Banking has enabled customers to transfer funds? The results from the study show that the respondents strongly agree that the use of mobile banking has contributed much on improvement of life quality through meeting family expenses like payment of electricity bills, water bills among others. It also shows that Centenary Bank services have been used for effecting medical payment together with improvement of life standard. The contributing factor on customer satisfaction has been established from the respondents whereby they confirmed that the efficiency of the service is the factor that resulted to accelerate this service.
5.2.2 Research Question Two: How Mobile Banking has enabled customers to pay bills?
The respondents were asked to provide responses on how Mobile Banking has enabled customers to pay bills and the majority 20(57.1%) strongly agreed. This showed that mobile banking has enabled customers to pay bills since majority seconded. The service has resulted into improvement of quality of life standard whereby employment has been increased due to a number of vendors are operating in this service. There are enough strong measures that have been taken on this service whereby the service is much monitored by both the service provider and other stakeholders who work on daily transactions to make sure that it maintains the stated standards. All mobile money transfer services have been expanding their services to remote areas which are not easily accessed by commercial banks. Receivers and senders of mobile money transfer services have been challenged with different situations each of its own aspect. Satisfaction of these customers has been of different aspects. Senders of mobile money transfers have been satisfied with the service as most of them are from urban areas where locations of Mobile Banking kiosks are easily accessed. Cash points are very close and time taken to effect transactions is very minimal hence customers on the sending side are satisfied with the service.

5.2.3 Research Question Three: What Challenges are faced by customers using Mobile Banking?
The respondents were asked to provide responses on the challenges faced by customers using Mobile Banking and the majority 20(57.1%) strongly agreed and indicated that customers are faced with a number of Challenges while using Mobile Banking.

Receivers are found to have different challenges compared to senders, as most of the receivers are from rural areas where it is found to have different problems compared to those of the sender. Problems found to the receiver are of different nature including Power disruptions, distance from the cash point and technology itself as the user of this service in rural areas are not literate on the technological changes of mobile money transfers as a new technology. Hence these groups of customers are not satisfied with the use of mobile money transfer services due to problems discussed in the findings from respondents as explained above. To address this situation vendors and mobile phone companies have to come out with a new strategy of improving a gap between the receiver and cash point centre in order to satisfy their need as quality service providers in terms of timely delivery of service. Receivers have to travel a distance for Mobile Banking service which is costly and it needs time as been explained above on respondent’s opinions.
5.2.4 Research question four: What are the Strategies of strengthening mobile banking services practices?

The respondents were asked to provide responses on the Strategies of strengthening mobile banking service practices. Majority suggested that the top most effective strategies for strengthening the mobile banking services practices included ensuring network availability to transact, community sensitization and education through awareness interventions, and having an application for MNO connectivity collaboration. Stronger regulation by financial regulators would go a long way in promoting the use of MMS for mobile banking service practices with enhancing availability of other e-banking platforms mainly POS devices as an effective strategy for promoting mobile banking service practices. An integration of MMS for financial settlements as an effective strategy for promoting mobile banking services practices using MMS.

The findings suggest that putting in place enabling laws, use of alternative e-banking platforms such as POS devices and integration of MMS in regular financial transactions were effective and complementary strategies for strengthening mobile banking service practices.

The above raised strategies had earlier been raised by Kelegama and Tilakaratna (2014) who advocated for financial awareness at household levels while Ssonko (2010) recommends more enhanced collaboration with formal financial institutions by upgrading mobile accounts into bank accounts.

Other complementary strategies included strengthening the legal framework, use of alternative e-banking platforms and integration of MMS in contemporary financial transactions. The above suggestions are supported by extant literature such as Ssonko (2010) who calls on finance related stakeholders to establish an appropriate regulatory framework. Ratwatte (2012) reports on the increasing role of financial technology such as POS in promoting financial inclusion in rural communities while Vong, et al., (2015) call for inclusive policies which promote integration of MMS in the mainstream financial transactions.
5.3 Conclusion

Measures taken to ensure that customers are satisfied with the use of Mobile Banking are through different aspects. Mobile phone companies every day are expanding their network in order to reach more customers in rural areas. Expansion of their service is parallel with recruiting of new customers through registering for Mobile Banking services, promotional materials and different advertisements being released in order to make sure customers are aware of the Mobile Banking service.

The government on the other hand is regulating its laws and regulations so as to meet the market demands. Money transfer services is much monitored by the Central bank where regulations are being issued to operators aiming at strengthening the service operations hence to satisfy both senders and receivers of Mobile Banking services. The use of mobile money transfer services to pay electricity bills, water bills, and school fees among others is the result of technology development in the real world.

The use of mobile money transfer services in Uganda has been a part of the economic development through generation of employment as it has been shown in the respondents, most of the employed people are being the result of this new technology. Also the government has to empower its people so as to benefit with this service as it has been proved to be the most efficient method and easily accessible and attainable. Its contribution to the GDP of the country and to the life of the individuals and families has placed it in the highly ranked and recognized sectors. The sector is also a good employer and it helps much in the reduction of unemployment and poverty.

Banking services is still limited to some areas within the country where by people move distances for their service. The use of mobile money transfer services has bridged this gap that is why it has resulted to high turn up and in rural areas where there is limitation of banks the only adopted banking service is for Mobile Banking. If all commercial banks would have been established in rural areas their contribution factor would have been established as we have seen for Centenary Bank. Mobile banking is being used for money transfer and information sharing, this system frees up consumers from traditional banking system. Through mobile banking the account holder can access certain information through his/her mobile phone which has made money transfer easy and faster the. It is through this that banks
have to establish a new approach which enabled to reach their services more and more in rural areas where mobile money transfer services is already in place.

Centenary Bank and other commercial banks have the task to improve more and more on this mobile banking transfer services. The coverage of their service has to reach all areas which are uncovered. Mobile phone companies have to establish new market strategies for market penetration in order to win the market share efficient. Up to date the service being provided is still based at a district level whereby those living in rural areas have a strong signal problem when it comes to the matter of receiving cash, they have to travel in order to access the service. Marketers and promoters of mobile money services may be underutilizing word of mouth, text messaging and other information channels beyond mass media that have the potential to reach out to many more potential users.

Skills for customers who are using mobile money transfers service has been the matter of fact for failure to capture the skills of manipulating the considerably sophisticated mobile phone menu items. This has been the limiting factor where most of the customers fail to register their mobile phones as they cannot follow the procedure required. Though not seriously impaired the capacity of wider population of Uganda users is fairly curtailed by not being fully conversant with all that they can accomplish through the mobile. Deliberate interventions must be undertaken to successfully ensure that the targeted persons/customers particularly the rural residents and females are empowered not only with technology but also with skills and financial knowledge as well.

To prevent these communities from lagging behind they must be familiarized with the benefits and opportunities of mobile banking. In fact there is a close relationship between the problem of lack of knowledge and the second most cited problem of not having access to a mobile-money agent. Network agents are on the ground representatives for the service providers. Since many agents are already airtime sellers and kiosk operators, agents are in a position to inform existing and prospective customers about mobile-money. Although lacking access to agents is a substantial problem in rural areas which needs to be addressed as most of those who suffer this problem lack prospective storefronts that can support them and agents.

The use of mobile money transfer services is another catalyst for investors to use this bridge to penetrate to areas which are covered by this service. Therefor there is room for optimism for development groups pushing mobile-money as a tool of financial empowerment for Balance of Payment individuals because more low–income Ugandans are now owning mobile phones in larger numbers. It is through this situation that investment opportunities are open and well enabled by the use of mobile money transfer services.
The application of mobile money transfer services has attracted many, the society at large is of high interest to know how operations are done it is the matter of issue of discussion for fair and transparent treatment of customers as in most cases lack of financial capability is still exploited negatively. The provider of financial services need to understand they stand to gain themselves from an informed customer decision. Here the matter for discussion is how the right priorities in financial literacy are set in order to protect consumers’ awareness creation and social marketing behavioural change, increasing consumers’ financial capability and this aims at empowering the consumer. The government through sectoral authorities (Bank of Uganda and Uganda Communication Regulatory Authority) has a big role to play in protecting consumers by ensuring that financial institutions, Business firms, Fund raisers through mobile phones service providers provide regular reliable information and apply recognized standards and suitable codes of conducts.

5.4 Recommendations
These are specific and talk about the gaps addressed;

The study recommends that government should prepare clear money transfer laws to clarify the responsibility of service providers in order to strengthen consumer protection in Uganda as well as establishing appropriate safety network procedures which immediately provide remedies if consumers involved into controversial deal.

The study further recommends that government also has to use its agencies to link with this opportunity of its people using mobile money services for implementing renewable energy in rural areas which will support charging of their phones hence to make the service to be operating with no limitation of power.

The study also recommends that there is need to put in place campaigning channels, with mass media campaigns it can enhance the effectiveness of raising awareness and use of mobile-money services. In rural areas there is a challenge on management of float in light of prospected demand as operators have a tendency to focus mainly on the densely populated economic zones, more so increase in local and international money transfers services with maximum consumer protection, against risks of fraud, loss of privacy and even loss of service is extremely critical for growth of mobile-banking. This is another area where mobile companies have to work on so as to reduce if not to eliminate it.

There is need to Strengthen the collaborations among relevant organizations through establishment of liaison committee on a regular and on–going basis which will consist of banks, service providers, regulatory authorities, consumer groups, lawyers, Uganda private Sector Foundation, Uganda Business Council, Confederation of Uganda Industries, Uganda
Chamber of Commerce and others to join for preparation of consumer protection policy as stakeholders.

5.5 Recommended areas for further study
A study can be done to assess the commission received through the use of mobile money transfer services if it satisfies agent needs of mobile money operators.

Further study also should be done to discuss the effect of mobile money transfer service on economic growth. As this technology is still new to developing countries, a study can be conducted to assess the impact of mobile money transfer services on technological change and penetration of technology to users in rural areas.

The study also can assess challenges resulted on the use of mobile money transfer services on control for money laundering. Another study can be effect of power problem and how it has hindered the broad growth of mobile money transfer services in Uganda.
APPENDICES

APPENDIX I: QUESTIONNAIRE

Dear respondent,

I am Tugiramasiko Mireal, a student of Makerere University carrying out research analysing factors affecting mobile banking of commercial banks in Uganda: case of centenary bank Uganda limited, Kireka branch to be submitted to the college of business and management sciences as a partial fulfilment of the requirements for the award of masters of arts in financial services of Makerere University. I request you to spare part of your valuable time and answer the questions below. This research is purely academic and maximum confidentiality is promised. Thank you very much for your assistance.

Tick the appropriate box according to you and where applicable provide information in the space provided.

SECTION A

1. Gender (a)
   Male (b) □
   Female □

2. Age of respondents
   (a) 25-30 □
   (b) 31-45 □
   (c) 46-50 □
   (d) 51yrs and above □

3. Length of employment with Centenary Bank
   (a) Less than 1yr □
   (b) 2-3yrs □
   (c) 4-5yrs □
   (d) 6-10yrs □
   (e) Greater than 10yrs □
4. Level of education of respondents

(a) Certificate
(b) Diploma
(c) Degree
(d) Masters
(e) Professionals
(f) Others

SECTION B: HOW MOBILE BANKING HAS ENABLED CUSTOMERS TO TRANSFER FUNDS.

Please indicate the extent to which you agree or disagree with the following statements.

Scale: strongly Disagree (SD) = 5, Disagree (D) = 4, not sure (N) = 3, agree (A) = 2, strongly agree (SA) = 1.

1. Mobile banking services available at Centenary Bank

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Account opening done using computers via the mobile at Centenary Bank

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. (a) There is reliability of services with ATMs, phone banking, PC banking

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. There is a computerized system which enables customers to transfer funds

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. There is responsive/ time taken by mobile banking services to execute a transaction

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Mobile banking services leads to a good business environment

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION C: HOW MOBILE MONEY HAS ENABLED CUSTOMERS TO PAY BILLS?**

Please indicate the extent to which you agree or disagree with the following statements.

1. Mobile banking services have increased the number of customers of Centenary bank

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Mobile banking has improve on the quality of bank products

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Mobile banking affected the attitude of customers positively towards the bank

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Mobile banking services more convenient compared to hall counters

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Mobile banking has a big positive impact on customers

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION D: CHALLENGES FACED BY CUSTOMERS USING MOBILE BANKING

Please indicate the extent to which you agree or disagree to the following statements.

1. Is the expensive technology limiting the use of mobile banking?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Does literacy levels in one way or the other limit the adoption of mobile banking?
<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Does the staff-customer interaction in the banking hall limit the use of mobile banking?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Is the fear for theft and loss of money through use of mobile banking services limit its adoption?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Are requirements for mobile banking limiting its adoption at Centenary bank?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## SECTION E: STRATEGIES OF STRENGTHENING MOBILE BANKING SERVICES PRACTICES

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration between mobile telephone network providers through interoperability.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration with other financial services providers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stronger regulation by financial regulators</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance availability of other e-banking platforms mainly POS devices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggest other ways for enhancing the use of MMS for mobile banking

---------------------------------------------------------------

*Thank you very much for your response*
REFERENCES

Amin, M. E. (2005). Social Science Research: Conception, Methodology and Analysis. Makerere University Printery, Kampala, Uganda


Armstrong M,(1990), Banking organization and practice, Employee reward, short run press,Excler, UK.


Bannock, G. Doran. A. (1991), ”Bussiness Banking in the 1990s”. A new era of competition, Lafferty Group,


Byarugaba (2001) understanding how automatic teller machines work . World Bank discussion papers No.299.


Charles odoki-okella,The Ugandan banker,vol 12,September 2004


CPSS (2004), Survey of e-money and internet and mobile payments, BIS, available via www.bis.org


Gronroos c (1991) “Scandinavian management and the Nordic school of service contribution to service management and quality” international journal of service industry management


Koontz, Harold and W,(1990), essentials of computerized Banking management; Mc graw-Hill Book company

Kothari, C.R (2006), Research Methodology: Methods and Techniques, 7th Edition, New Delhi, India

Krugel, G (2005), “Extending the payments franchise to the mobile phone”, presentation to FinMark Forum.


Nkisang moeti (1995) Strategies for banking institutions in a competitive bank, makerere university journal publication page 36-41

Panagiotakis, S. et al (2005), Business Models and Revenue Streams in 3G market. National and Kapodistrian University of Athens, Department of Informatics and Telecommunications, Communication Networks Laboratory, 15784 Athens, Greece.

Phil Fawcett, Graham flower(1993); management of information bankers: work book series, CIB


Roger Cartwright, Gorge Green(1997) in charge of customer satisfaction: Black well publisher ltd


TCRA (2009), Annual Report. Uganda Communications Regulatory Commission


The Ugandan Banker, Journal of the Uganda institute of Bankers, June 2003


