MOBILE BANKING ADOPTION AND FINANCIAL CREDIT ACCESSIBILITY IN WOTE SUB – COUNTY, MAKUENI COUNTY, KENYA

KIBICHO NAHASHON KAIRO

D53/OL/ NYI/ 26814/2014

A Research Project Submitted to the School of Business in Partial Fulfillment of the Requirements of the Award of the Degree of Masters of Business Administration (Finance) of Kenyatta University

March, 2019
DECLARATION

This Research Project is my original work and has not been presented for a degree in any other University

.................................................. ..................................................

Signature Date

KIBICHO NAHASHON KAIRO
DEPARTMENT OF ACCOUNTING AND FINANCE
D53/OL/NYI/26814/2014

I confirm that the work in this project was done by the candidate under my supervision

.................................................. ..................................................

Signature Date

DR. JOHN MUNGAI
LECTURER, DEPARTMENT OF ACCOUNTING AND FINANCE
SCHOOL OF BUSINESS, KENYATTA UNIVERSITY
DEDICATION

I wish to dedicate this work to my wife Flo, son Shawn and daughter Shawntel, who are my inspiration in everything I do and every choice I make. To my mum Jane Wairimu, who always supported me in every endeavor, you made me whom I am today. To my late dad Richard Kibicho, you are the reason I am here at all, you inspired me immensely.
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OPERATIONAL DEFINITION OF TERMS

Customer Attitude: This refers to behavioral intentions by Mobile phone users toward adoption of Mobile Banking systems and access to financial credit.

Financial Credit Accessibility: This is the ability of individuals to obtain financial credit (loans) from financial institutions or MNO’s through Mobile banking systems. In this research the individuals refers to residents of wote Sub-county.

Mobile Banking (M-Banking): This refers to the access of banking services and facilities remotely using electronic mobile devices such as mobile phones and PDAs.

Mobile Banking Adoption: This refers to customer’s acceptance or embracing of a service provided by a bank or other financial institution that allows them to conduct financial transactions remotely using a mobile device such as a smartphone or tablet. In this research, adoption refers to the acceptance and use of M-banking technology by residents of Wote sub-county.

Perceived Ease of Use: This refers to the degree to which a person believes that using M-banking system would be reliant and efficient.

Perceived Risk: Is the uncertainty about the outcome of the use of the M-Banking technology. In this research, perceived risk refers to four facets of risk including performance risk, security/privacy risk, time risk, and financial risk.

Perceived usefulness: Refers to the degree to which a person believes that using a particular system would enhance his or her job performance.
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ABSTRACT

Although the financial system is a vital component of the socio-economic development of any nation, most Kenyans lack access to formal financial credit services. This arises due to the cause of putting up bank branches in the rural areas is deemed not economically viable. Most banks have partnered with Mobile Network Operators to help mitigate this problem by introducing the use of Mobile banking (M-banking) technology in accessing vital banking services such as financial credit. However, this effort may not attain success if the factors inhibiting the use of M-banking technology have not been assessed. The purpose of this study was to establish the effect of Mobile banking adoption on financial credit accessibility by residents in Wote sub-county. This study was necessitated by the current emerging trend of accessing financial credit through the Mobile banking system. This study adopted a technology acceptance model to establish the effects of adopting mobile banking and its application in use of banking services among residents of Wote sub-county. The study was guided by the following objectives: To establish the effect of perceived usefulness, perceived ease of use, and perceived risk of using mobile banking technology and financial credit accessibility in Wote sub-county, Makueni county, Kenya. Descriptive research design was employed in which the study population comprised the residents of Wote sub-county. The target population of the study consisted of 137,944 mobile money users across both banked and non-banked population in Wote sub-county and the sample size comprised of 138 participants who were selected through the use of simple random sampling technique. Data was collected using a questionnaire whose reliability was established by use of Cronbach’s Alpha. All items in the questionnaire had a score of above 0.7 which was deemed to be the acceptable threshold. The questionnaires were administered through drop and pick later method. The data collected was processed and analysed using SPSS. Descriptive statistics such as percentages, frequencies, standard deviation and mean scores were used. Afterwards, the research findings were presented using frequency tables, pie charts and bar graphs. Multiple regression analysis was used to analyse and draw inferences from the research data. The results indicated that perceived usefulness of mobile banking technology perceived ease of use of mobile banking technology, and perceived risk of using mobile banking technology were statistically significant in accessing of financial credit. The intervening variable-customers’ attitude- was found to be non-significant. This study recommended that both the banks and MNO’s to continuously invest in product improvement of mobile banking systems to ensure the uptake of mobile credit is enhanced. The study also recommended that the financial service providers should engage in education and extensive customer awareness on use of mobile applications to access mobile credit as well as draw up strategies to reduce the mobile phone operational costs such as the interest charged on mobile loans which are a major hindrance. Further, the banks and MNO’s should increase extra security features in their systems to increase trust in accessing mobile credit. Finally, the service providers should make mobile banking more user friendly for ease of financial credit access by incorporating graphics interface.
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Groups that typically had limited access to formal bank services have greatly benefited from the financial products and services offered through the M-Pesa platform. Particularly, its short-term Pay Bill Account service enables the users to access financial credit for a variety of purposes, including expenses relating to education, medical needs, and disaster relief. Additionally, M-Pesa has also empowered business creation with many small entrepreneurs relying on M-Pesa for nearly all transactions or offers a service that is a derivative of the M-Pesa platform. The introduction of M-banking has transformed the banking sector in their operations leading to the application of new financial products such as mobile banking services aimed at reducing costs and expanding customer base reach (Anyasi & Otubu, 2009; Mari, 2003; Ayo, Adewoye & Oni, 2010).

Mobile banking is a form of technology that allows one to access various financial transactions offered by formal banking institutions through the use of a mobile device such as a Personal Digital Assistant (PDA) or a mobile handset. The banking sector in Kenya has embraced M-banking services in the provision of vital financial services such as financial credit access to its Kenyan clientele (Anyasi & Otubu, 2009).

The introduction of access to financial credit through the mobile phone is one element that has been embraced with high expectation in the developing countries. Majority of rural-based users in third world countries do not have any kind of access to financial credit services, and enabling
these “unbanked” users to be incorporated into the formal established banking institutions is a priority for most states (Ivatury & Pickens, 2006; Morawczynski, 2008).

For the poor to be perceived as viable customers’ there is need to explore better approach of assisting them profitably. The application of appropriate technologies can partly resolve the problem of extension of branch networks which is often costly. Provision of mobile-based banking services has offered a great opportunity for reaching the poor people with accessibility to mobile handsets. Accessibility of mobile handset usage has been necessitated by the mobile networks ability to penetrate remote areas at a minimal cost. Hence they mostly tend to have more trust and familiarity with MNOs than the traditional banking institutions. Studies have indicated that overall financial advancement and access to financial credit services have a significant effect on poverty reduction and economic growth (Kimenyi & Ndung’u, 2009).

In Kenya, M-Pesa has been so successful that formal banking institutions have come to view it as a serious competitor. Initially, these banks wanted to limit M-Pesa by lobbying for regulations from the Kenyan government, but gradually they have begun to offer mobile banking services with the intent of disrupting M-Pesa’s monopoly of the mobile money market. As more players enter the system, the mobile money banking may become even more widely accessible. The emergence of other players such as M-shwari, KCB M-Pesa, M-Coop cash, Equitel Eazzy loans services, Pesa Pap from family bank, etc has culminated to the proliferation of Mobile banking services on a wider scale allowing clients to access affordable, instantaneous loans via mobile phones. The personal traits of mobile banking users are vital determinants of their decisions to adopt M-banking, and that understanding clients perceptions of M-banking services will enable service providers to plan their marketing strategies (Sulaiman, 2007).
1.1.1 Mobile Banking Adoption

Mobile banking has created a flurry of activities in the global financial services industry. In fact, it is leapfrogging formal traditional banking and now most of the top banks are providing their own mobile banking solutions, eventually reaping the benefits of technology that comes via mobile phones and introduce the service as a means of executing fast and efficient services, whereas financial institutions of various magnitudes are vigorously assessing their position in the mobile banking world. Subsequently, has created a level playing field for not only formal banks but also mobile network operators (Feig, 2010).

Porteous (2006) asserts that in most African countries the accessibility to retail banking systems is insignificant though there exist no accurate figures to confirm the proportion of people who are banked in whole of Africa. Some of the national household surveys done in a few countries among them Kenya, indicate that in a decade or less of the introduction of mobile phone most people possess these handsets as they have bank accounts even though the bank accounts has been available for a longer time.

According to Venable Telecommunications (2008), there are different factors which provide a pivotal role in the adoption of these relatively new services. These factors could be social, technological or economical. Some of the social factors identified include the social context of transactions, conceptualizing electronic money, awareness, attitude towards change (embracing new technology), the convenience of the service, trust in one’s bank or service provider and the comfort that people have in using these services/products. Economic factors include the cost of the service, mobile phone access, marketing strategies and availability of alternatives. Technological factors include security and privacy concerns, service availability and reliability,
ease of use, handset operability, network coverage, and availability of the service on various mobile networks.

Mobile banking is basically a system of M-commerce that allows users to perform virtual banking related services at any place and time of their convenience (Suoranta, 2003). Mobile banking has created formal access to financial services to those who currently lack it and gradually increased the efficiency of payment systems. This could lead to making banking more convenient and affordable for bank account holders (Porteous, 2006). This signifies that Kenya will be able to achieve its ambition of attaining higher savings levels to enable financing of investment requirements through the use of M-banking technology (Kenya’s Vision, 2030).

M-banking technology provides other various financial functions, such as payment of bills, micropayments to merchants, business to business (B2B) transfers, long-distance remittances, business to person (B2P) transfers and person to person (P2P) transactions. Today, various institutional and business models provide these mobile banking technologies. Some of the M-banking services are exclusively offered in formal banks and some by MNO’s, while others involve collaboration between a bank and a MNO (Porteous, 2006).

The banking sector has drastically evolved ensuring its survival having encountered increased competition over the last few years due to increased innovations among the various players and new entrants into the financial market, through the provision of mobile banking products. One of the biggest impediments being faced by banks in Kenya is stiff competition from the most unexpected sector: the telecommunication industry, mainly Safaricom. Since Safaricom launched the M-Pesa platform in 2007, within a relatively short period it already had more than 10-million
users and enabling most of the poor and rural Kenyans with access to financial and banking services that were previously out of reach, because either the traditional banking services were too costly for them or were almost inaccessible (Ivatury & Mas, 2008).

1.1.2 Financial Credit Accessibility

New and innovative products are being developed by firms to enable retention of current clients and open up new ventures. M-banking technology is one of the innovations embraced by the banking fraternity in accessing loans and other financial services. A sound banking system is mainly regarded as an enabler of economic growth and a key pillar of vision 2030 (Koivu, 2002). Accessibility of financial credit is crucial for the overall development of any sector of a nation. The agricultural sector in the country has faced a major challenge in accessing finance. Poverty can be reduced amicably by enhancing access to mobile banking services, such as loans, savings, deposits, insurance, and payments. Savings can assist the rural people to invest in productive ventures such as livestock, through credit access which may also assist the growth of their business ventures, and insurance can continuously generate a steady income for the family if the breadwinner tends to be incapacitated (Anyasi & Otubu, 2009).

Lack of access to finance credit tend to deter investments in farm equipments to increase production, invest in education or health, start a micro-enterprise, or even seek better opportunities by the rural population. In addition, formal monetary exchanges require a physical location and people need transportation to access the location, both of which can be problematic in infrastructure-constrained countries such as Kenya, especially in rural areas. Technology is applied nowadays by business ventures to improve growth and make them competitive (Anyasi & Otubu, 2009).
Globally, various ventures use the cell phones to offer banking services, not only to the unbanked population but also to those with formal bank accounts. Yet relatively a few scholarly research has been undertaken on the utilization of the mobile banking systems technologies (Donner & Tellez, 2008). Research done on the adoption of mobile banking technology and its socio-economic impact in the developing countries are scanty because the systems are so new (Maurer, 2008). There has been less focus on the socio-economic and cultural fronts encompassing usage of mobile banking technologies. Additionally, the few researchers who have undertaken research in mobile banking have come up with varied conclusions on the most vital factors influencing its adoption.

1.1.3 Mobile Banking Adoption and Financial Credit Accessibility

Chafey (2003) states that the manner in which wireless devices (such as mobile phones) are utilized nowadays has also changed in a relatively short duration of time. In accessing their bank accounts, consumers are gradually embracing their portable wireless devices as an alternative optional means. Mobile banking has been one of the rapidly growing sectors in the universe and continues to grow. The M-banking offers a various financial services such as micro-payments to business entities, utility bill-payments, overseas remittances as well as money transfers among individuals. Most of the mobile banking systems are offered exclusively by formal banks, others by Mobile Network Operators, while others involve collaboration between bank and a Mobile Network Operator (MNO) (Porteous, 2006).

According to the Communication Authority of Kenya (2012), it stated that the Mobile banking services such as access to financial credit sector in Kenya has experienced rapid increase over the recent years. The reforms in the telecommunications sector, has been initiated by the implementation of The Kenya Communication Act according to Communication Authority of
Kenya (CAK). This has culminated in exponential growth of Mobile Telephony forming the basis for a successful mobile banking technology which eventually influences access to financial credit (Kimenyi & Ndung’u, 2009).

According to the International Telecommunications Union (2005) report, it shows that mobile banking adoption has gradually increased with the rise in the use of mobile or wireless handsets in the recent past which have ultimately influenced access to financial credit. Studies undertaken in beginning of 2000 indicated that European states including France, Ireland, UK, Scandinavian countries, and Germany, alongside Japan and Canada were among the pioneers in mobile banking. Some Asian countries such as Malaysia and Singapore, mobile banking penetration was on the rise whereas New Zealand and Australia were among the slow adopters. However, other studies conducted in mid-2000s showed that mobile banking had grown rapidly in Africa than the rest of the world within a relatively short time, and was expected to continue increasing.

According to the International Telecommunications Union (2005), there are about two billion users of mobile handset worldwide. There is a remarkable impact on socio-economic well-being of people arising from the increase in number of mobile handsets usage. The use and adoption of M-banking has a significant positive impact on overall economic growth, and has doubled in third world nations compared to first world nations. Specifically Africa it has been noted that “people in Africa use mobile phones very differently. Most noticeably is the accessibility of mobile phones as the overall impact of mobile banking services such as financial credit extends well beyond what might be suggested by the number of subscriptions only” (ITU, 2005).
Safaricom (2007) report asserts that the availability of mobile banking has enhanced customer service and access to financial credit services. It has also improved banks’ revenue generation, competitive advantage, expense reduction, and time-saving. With the incorporation of mobile phones, banking services have increased in popularity. Banks are now trying to adopt mobile banking as one of the ways to make it easier for their customers to undertake their transactions and keep track of their accounts by use of mobile handsets. In Kenya, the first bank to embrace the mobile banking services was the Cooperative Bank of Kenya then later other banks also started adopting mobile banking. By March 2007 over one million Kenyans were recorded to have used mobile banking through M-Pesa system. In the course of eight months, about US$ 87 million (Kshs 8.7 billion) had been transacted through the M-Pesa systems.

1.1.4 Financial Credit Accessibility in Wote Sub-county

Wote sub-county is located in the south eastern region of Kenya within Makueni County. It consists of six locations, namely: Muva, Wote, Nziu, Kikumini, and Mumbuni where this study was concentrated. According to KNBS (2016) Mobile phone coverage rate stood at 85% in 2015 indicating a larger population having access to mobile services which has opened up opportunities for growth in both financial and telecommunications sector. Mobile banking services serve as a solution to inhibiting the rural poor from accessing financial credit services, eventually acting as a component to aid in development of human capital and assist the rural people evade the negative consequences. Over half of Kenya population who live in poverty and mostly concentrated in rural-urban areas are entirely unbanked. Porteous (2006) asserts that as unbanked people utilize their mobile gadgets they become accessible at minimal costs and highly bankable by virtue of basic transactional function tends to be more viable to offer through the phone, hence the cost emphasis.
1.1.5 Customer’s attitude

Basically, accessibility of banking services required customers to visit their bank branches and queue which was time consuming and inconvenient leading to customer dissatisfaction. But through the introduction of Mobile banking technology in the financial institutions has led to an increase in levels of customer satisfaction. Globally financial institutions have ventured into use of virtual banks, mobile banking and internet banking to reduce their user’s costs as well as improve on customer satisfaction (Ophir, 2012)

According to Rutto (2014) some banks are implementing punitive measures such as exorbitant fees and commissions to deter clients from going to their banking branches. The levels of customer satisfaction have increased with merging of technology and service delivery amongst financial institutions. Most of the financial institutions globally have recognized that the use of technology such as mobile banking has various benefits such as cost efficiency, operational efficiency and improved customer loyalty. Customer loyalty and satisfaction has been the major impetus towards adoption of technology use and infusion in the banking sector hence financial institutions have automated most of their services such as deposits, withdrawals, cheque book request, funds transfers, and financial credit services that do not need human effort to execute (Finacle, 2013).

Customers’ attitude towards change is another factor which influences adoption of mobile banking. Their mobile banking decisions are determined by the personal characteristics of mobile banking users (Sulaiman, 2007). Attitude can also be attributed to the age of the users with the older people likely to find it daunting in using mobile technology. Hence its’ widely assumed that older people are more reluctant or rigid in adopting technology which may inhibit accessing of financial credit through mobile banking (Monitise, 2012).
According to Yu (2013) that despite the observed advantages that would arise from the use of this service, still, the number of mobile banking users hasn’t increased as it was anticipated and indicated that lack of trust in m-banking applications was among the causes that led to the little adoption of mobile banking. Kenyan banks have embraced M-banking technology to offer affordable and convenient financial services. Safaricom introduced M-Pesa in 2007 which provided the platform for mobile banking and all the transactions were operated through this technology. The embrace of mobile banking in Kenya was so high that it was the trendsetter in the mobile banking adoption services and its performance was great compared to all neighboring countries. The mobile network providers have established the potential of mobile banking technologies to users while building loyalty, increasing revenues and messaging costs (Donner & Tellez, 2008).

Sulaiman (2007) argue that the vital determinants of mobile banking adoption decisions by mobile banking users are their personal traits. This grants the financial systems players with more know-how of the perceptions of customers’ in mobile banking services and assists in planning their promotion approaches and marketing strategies for future of M-banking. The new services provide a mode of transferring funds from one location to another and provide an option of the financial systems provided by traditional banks, and other financial institutions. In Kenya, acceptance of M-banking has been significantly high with about two million subscribers enrolled with Safaricom M-Pesa system within one year of launch nationally in 2007 (Ivatury & Mas, 2008).

1.2 Statement of the Problem

There has been a remarkable advancement to adoption of Mobile Banking in Kenya since its inception in 2007. This achievement is attributed to affordable and accessible services offered
impacting also the low income earners. Mobile banking is considered easy to use yet efficient and reliable with the potential to extend financial Credit accessibility to the unbanked or those preferring cost effective financial services (Mbogo, 2010).

According to ICT survey by KNBS (2016), 28.4% of mobile users in Wote sub-county have access to mobile financial credit against the national average of 39.6% of mobile users who are accessing mobile credit. Accessibility to formal financial services that include financial credit continues to be a hindrance for the underprivileged individuals in the society world-wide. These individuals have for long been facing obstacles from participating in the formal banking systems. The financial institutions have been faced stiff competition which has culminated in closing down of some local outlets, deterring entry into these locations by formal financial institutions (Agarwal, 2010). Remarkable improvement in the formal banking has been witnessed but only 43.7% have access to formal financial services in the urban areas and 21.3% access to the rural areas. (Financial Sector Deepening Kenya et al. 2013).

Various studies on the impact of Mobile banking on financial services offered by financial institutions and MNOs exist. Musara (2010) undertook a study on whether technological innovations such as Mobile banking have resulted in increased efficiency and cost saving for bank customers. A study by Murega (2013) on relationship between use of mobile money services and financial inclusion in Kenya indicates that the adoption of mobile banking has been vital in reinforcement of the various services and its suitability to those people who have been excluded from the formal banking system. He further adds that the essential players towards this remarkable increase of mobile banking services are the increased number of subscribers with access to the mobile handsets.
Munyi, (2011) in his study on responses by financial institutions to the adoption of mobile banking indicates that there has been remarkable improvement in the technology and solution development in both MNOs & financial institutional set ups both aiming at ensuring that there is improved availability of financial services when needed at low transactional costs and conveniently. The Author further indicates that since 2007 there has been an unprecedented competition to financial institutional products from the rapid evolution and remarkable success on mobile banking services leading to increased access and availability to financial ability at the convenience of the mobile phone. With all the studies that have been done, none has been done to try and establish the effect of mobile money on the financial performance of the commercial banks

This study therefore sought to establish the scope of access to financial credit services through the adoption of mobile banking, the effects, and challenges arising from implementation of M-banking so as to fill the knowledge gap.

1.3 Objectives of the Study

The study was guided by the following objectives:-

1.3.1 The General Objective

The general objective of the study was to establish the effect of mobile banking adoption on financial credit accessibility in Wote sub-county, Kenya.

1.3.2 Specific Objectives

i. To establish the effect of perceived usefulness of mobile banking technology on financial credit accessibility in Wote sub-county, Makueni county, Kenya.

ii. To determine the effect of perceived ease of use of mobile banking technology on financial credit accessibility in Wote sub-county, Makueni county, Kenya.
iii. To establish the effect of perceived risk of use of mobile banking technology on financial credit accessibility in Wote sub-county, Makueni county, Kenya.

iv. To assess the intervening effect of customer’s attitude on the relationship between Mobile banking adoption and Financial credit accessibility in Wote sub-county, Makueni county, Kenya.

1.4 Research Questions

i. How does the perceived usefulness of mobile banking technology affect accessibility to financial credit in Wote sub-county, Makueni County, Kenya?

ii. How does the perceived ease of use of mobile banking technology affect accessibility to financial credit in Wote sub-county, Makueni County, Kenya?

iii. How does the perceived risk of using mobile banking technology affect accessibility to financial credit in Wote sub-county, Makueni County, Kenya?

iv. What does the intervening effect of customer’s attitude have on the relationship between Mobile banking adoption and financial credit accessibility in Wote sub-county, Makueni County, Kenya?

1.5 Significance of the Study

This study will assist the financial institutions and mobile service providers to understand factors which influence mobile banking adoption and its impact on people's socio-economic lives. This will assist in drawing up policies which will lead to technological innovations as well as adoption with a view to reducing the skepticism in the utilization of mobile banking and addressing poverty levels in the country through ease of access to financial credit. Further, it will help MNO’s in the mobile banking system to establish the factors influencing and challenges impacting the mobile banking adoption thus enabling them to come up with better services than
the ones in existence and help researchers and ICT students in gaining knowledge of the current trends in mobile technologies and their impact.

The findings arising from this study will be of benefit to the financial and communication sectors by offering information that will be of importance to mobile service providers, investors, financial institutions, and the general public. The implementation of the findings will enable M-banking service providers to establish suitable financial credit-access and enhanced financial-oriented models.

1.6 Scope of the Study

The study was conducted in Wote sub-county, Makueni County. The research targeted about 137,000 residents of Wote sub-county, who have access to mobile phones handsets (KNBS ICT survey, 2016).

The study aimed to establish the effect of perceived usefulness (PU), perceived ease of use (PEOU) and perceived risk (PR) on adoption of M-banking technology in accessing financial credit.

1.7 Limitation of the Study

Some of the sampled residents were reluctant to divulge information regarding their financial loan limits and income levels for fear of being prejudice on their social status. In addressing the foregoing challenge, the researcher assured the respondents of confidentiality and that they were not expected to disclose their identity through an introductory letter. This strategy boosted their confidence to participate in the study. In addition, the researcher assured the respondents that the study was going
to be exclusively for academic purposes and that the findings were going to be shared with any potential financial institution and MNOs.

1.8 Study Organization

This research project is structured as follows: the foregoing chapter provides the research background, statement of the problem, research objectives, research questions, significance of the study, scope, and the limitations encountered of the study. The second chapter on literature review expounds on the theoretical review, empirical review, summary of research gaps and finally the conceptual framework. The third chapter on methodology constitutes the following areas: the research design, target population, sampling design, data collection instruments, data collection procedure, data analysis and ethical considerations. The fourth chapter covers data analysis and presentation, and finally the fifth chapter covers summary of the study, conclusion and recommendations.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will focus on the literature review. Included in it are sections on theoretical review, empirical review, the summary of literature and research gaps and finally the conceptual framework.

2.2 Theoretical Literature Review

In this section, the theories that underpin the study are discussed.

2.2.1 Technology Acceptance Model (TAM)

Technology acceptance Model was developed by Fred David in 1989. TAM is a hypothetical model that describes how individuals tend to embrace and adopt an innovation, Davis (2009) indicates that the Technology Acceptance Model (TAM) can be utilized to predict acceptance and rejection of a new innovation by showing inter-relationship between belief, attitude and action purpose. Additionally, he indicated that, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are both crucial elements in describing individual users’ adoption intentions and actual usage in Technology Acceptance Model. According to Davis (2009), Perceived Usefulness is defined as the degree to which one believes that using a specific technology enhances one’s job outcome. Whereas, PEOU describes the degree to which a person believes that applying a certain technology is free of effort. “The Technology Acceptance Model has been extensively tested and validated and is a widely accepted model, which can be extended or modified using other theories/constructs” (Masinge, 2010).
According to researchers of Information systems, there is common agreement that a person’s acceptance of new technologies is predictable through reliability of TAM (Doll, 1998). The Technology Acceptance Model indicates that various factors affect the user’s judgement on how and when they will utilize a new innovation once presented with one (Venkatesh and Bala, 2008). Davis (2009) described that PEOU and PU are essential in deducing the intention towards the use of new innovation by new users. Since the 1980’s the TAM model has been applied in studies based on unveiling the decisions of adopting and accessing new innovations by users (Lule, Omwansa & Waema, 2012).

According to Kaasinen (2005), PU is redefined as a perceived value (PV) to the user. In addition, to progress from the intended usage of a mobile service to actual use, the consumer needs to utilize the specific mobile service. Also according to Venkatesh & Davis (2000) one’s behavioural decision to use a new innovation is determined by TAM’s specific constructs, PU and PEOU. Additionally according to TAM, PU will be affected by PEOU in that, the easier is to use a technology, the more beneficial it can be when all other factors are held equal (Venkatesh, 2000).

Technology Acceptance Model and its usage has been the main model for most studies for over a decade now. Some theoretical models such as Rogers’ diffusion theory (Bhatti, 2007), Theory of Planned Behaviour (TPB) (Lim & Dubinsky, 2005), and the Theory of Reasoned Action (TRA) (Komiak & Benbasat, 2006) were applied to research on user’s acceptance and the usage behavior of upcoming system innovations. TAM has become a parsimonious and powerful model comprising of the antecedents of innovation use via beliefs associated to PU and PEOU systems (Yousafzai, Foxall & Pallister, 2007). Prior study indicated that TAM provides an
enhanced variance in innovation use compared to Theory of Reasoned Action, Decomposed TPB and the Theory of Planned Behavior (Lee, Kozar & Larsen, 2003b). Hence, the Theory of TAM was applied in this study to gain an insight of consumer’s technology usage in adoption of mobile banking for ease of access to financial credit. TAM was adopted as a suitable model and since it encompassed the specific constructs of Perceived Usefulness and Perceived Ease of Use which determines one’s adoption of a new innovation such as Mobile Banking in accessing of financial credit.

2.2.2 Technology Adoption Life Cycle Model (TALC)

According to Rogers (2003), mobile banking adoption can be examined using the Technology Adoption Lifecycle (TALC) model which describes how new ideas and technologies is widespread in different cultures. According to TALC the stages through which a one adopts an innovation are; awareness of the requirement for a new technology, initial usage of the technology to test it, intension to accept or reject the technology, and continued usage of innovation. Through these stages, diffusion is accomplished. There are five different types of adopters namely: The Innovators are those individuals who intend to be the initial users of the technology are risk-takers and interested in new ideas. Whereas, early adopters represent opinion leaders, acknowledge change opportunities, enjoy leadership roles, and do not require any convincing for them to change. Early majority embrace innovations prior to an average person but need to perceive the technology work before they embrace it. The Late majority are users who are in doubt of new changes and only accept a new technology once it has been thoroughly tested. Lastly, the Laggards are tied by the norms and are really conservative; hence have a fear of new technology (Rogers, 2003).
This theory falls within the realm of Mobile Banking Adoption. It describes the crucial stages through which one adopts an innovation such as mobile banking, its acceptance, and eventual usage of the M-banking system to access the financial credit.

### 2.2.3 Financial Intermediation Theory

Financial intermediation is defined as the process by which financial market players such as financial institutions and MNOs accumulates funds from net savers which aid in acquisition of financial assets through undertaking transactions and instruments of financial services such as mobile banking. This involves the transfer of financial resources from lenders to and offer financial credit to net borrowers (OECD, 2016).

Githinji (2010) noted that establishing of specialized financial commodities such as financial credit requires the functional intervention of the financial intermediary. These essential financial services are established whenever an intermediary finds it possible to sell them for cost effective prices which are entailed to cover all their production costs, such as direct costs, and opportunity costs. Informational disparities between buyers and sellers are particularly evident in most of the financial markets. Majorly, borrowers of credit have a knowhow about their security, moral truthfulness and sincerity much better than the lenders. Contrary, entrepreneurs do acquire inside information concerning own investment or projects that they are seeking to be financed (Brock & Suarez, 2000). The financial intermediation theory posits that financial institutions and MNOs are financial intermediaries that assist in the transmission of financial resources from net savers in the banks to net borrowers of credit through the use of mobile phone devices. Consequently, the theory supports the accessibility of financial credit process that takes place through the mobile hand-held gadgets rather than the traditional, brick and mortar financial institutions.
2.3 Empirical Review

This section involves an insightful discussion of all the variables of the study.

2.3.1 Mobile Banking Adoption

According to Masinge (2010), found out that the mobile banking adoption at the Bottom of the Pyramid (BOP) in South Africa were influenced by perceived cost, perceived risk and trust constructs to TAM. The main aspects of perceived risk include; time/convenience risk, social risk, security/privacy risk, and financial risk. The research showed that PU, PEOU, Perceived Cost, and client’s trust had a major impact in adoption of mobile banking at the Bottom of the Pyramid unlike perceived risk.

According to Lee (2009), performance risk is perceived as the loss arising from dysfunctional mobile banking systems. Whereas, Security risk is the loss arising from hacking or fraud corrupting user’s security/privacy of the mobile banking system. Time risk refers to time loss and any hindrances accruing from delayed payments or poor navigation of the system. Whereas, social risk indicates the possibility of disapproval by one’s family, friends, or workgroup for adopting mobile banking system. And lastly, financial risk points to the capability for monetary loss arising from misuse of bank account and transaction errors.

Cheah and Teo (2011) undertook a study on factors affecting adoption of Mobile banking in Malaysia where constructs such as PU, PEOU, PI and RA were discovered to be related with the acceptance of M-banking system. PR was discovered to be negatively related and whereas Social Norms (SN) was insignificant in the adoption of mobile banking.
According to Njenga (2011), reduced costs, reliable network coverage, and quality network connections result in a vibrant mobile banking market. He concluded that this was the basis of the challenges which the providers of may need to address.

2.3.2 Perceived Usefulness and Financial credit accessibility

Luarn and Lin (2005) observed that PEOU, PU, Perceived credibility, Perceived financial costs, and Perceived self-efficacy were significant in influencing behavioral intention. They further found out that Perceived Usefulness had a major impact on Behavioral decision in comparison to the traditional Theory Acceptance Model constructs. Their conclusion was that privacy and security risks were established as a major concern for users of mobile banking.

Luarn and Lin (2005) undertook a research in Taiwan where mobile banking was still at its initial stages. They established that perceived credibility is the major significant factor contributing to decision whereas all constructs of TAM have a major effect on behavioral decision. They revealed that all constructs were effective though PU contributes more than PEOU, Self-efficacy, Perceived Credibility, and Perceived financial resources to behavioral intention in the adoption of mobile systems.

2.3.3 Perceived Ease of Use and Financial credit accessibility

Luarn and Lin (2005) hypothesized that PU and PEOU had major impact on intention and on both constructs. In addition, they hypothesized that Perceived Self-efficacy had a significant effect on PEOU as Wang (2003) did in the internet banking context. According to Mathwick (2001) PEOU may be influenced by the nature of an innovation or a task or related service. In a mobile banking
set up, the degree by which users associate freedom of difficulty with the application of mobile systems in daily usage is represented by PEOU.

Moon and Kim (2001) found out that the easier to use of mobile banking services the less of threatening to use because they tend to be less complicated to use. They exemplified that usage of certain services can be quite tedious on a mobile device like accessing mobile Internet-like connections. Phones with smaller keypads and screen sizes can limit the information being viewed, and cause typing errors while transacting; thus adversely affecting the overall user experience in mobile banking.

Dholakia and Dholakia (2004) defined PEOU as the degree to which an individual entrusts a certain system would be free of effort. Complexity and effort expectancy are other models that encompass the notion of PEOU (Rogers, 2003; Venkatesh, 2000). Performance can be enhanced by applying the construct of Perceived Ease of Use (PEOU), and therefore, lack of PU can cause frustration and deter adoption of a new technology (Davis, 2009; Taylor & Todd, 2001; Venkatesh, 2000; Venkatesh & Davis, 2000).

2.3.4 Perceived Risk and Financial credit accessibility

Laforet and Li (2005) did a research in China on various barriers to users’ adoption of online banking. They found out that the most vital factor that motivates adoption was security. They further found out that the main barriers to Mobile banking adoption include, computer and technological knowhow, PR, knowledge of the benefits, lack of awareness and the traditional cash-carry of Chinese banking culture.
According to findings by Suoranta and Mattila (2004) the adoption of mobile banking in Finland is affected by the perceived risk, demographics, and attributes pertaining to technology diffusions such as complexity, relative advantage, triability and compatibility affect. Riquelme and Rios (2010) observed that the other possible factors that might influence adoption of mobile banking are Perceived Risk (PR) and uncertainty.

According to Akinyi (2012) customers were scared of the money getting lost that is if the money did not reach the receivers mobile device, how was the money going to be tracked and brought back to the owner. In South Africa 6 out of 23 people and in Philippine 7 out of 30 people were worried about this issue of lost money in the system and how it would be tackled in case the money is lost. In contrast, M-Pesa users in Kenya have gained much trust in this system, due to the longtime good relation that Safaricom had placed with its customers during the post-election violence. Also, Safaricom did a lot of advertisement about their services, so customers gained more trust and were ready to use this new innovation (Medhi et al., 2009).

According to Yu (2013) the M-banking actual usage hasn’t increased as expected despite the positive perceived benefits for users. In addition it was found out that the other major reason for lack of adoption of M-banking is lack of trust in that system. With about five billion mobile users world-wide, only about two hundred million utilize the mobile banking services. The ratio of mobile banking consumers is relatively low even in some developed nations such as UK, USA and Sweden. Most of the population in rural set-up with limited access to the internet is highly likely to embrace the mobile banking services despite limitation of Internet banking. Mobile Network Operators (MNOs) are setting up the M-banking infrastructure to enable access to mobile banking services in developing economies (Jeong & Yoon, 2013).
According to Lin (2011) findings, customers are highly likely to embrace adopting m-banking if they have daily access to wireless networks though it may not be associated to M-banking transactions, because it conforms to their modern lifestyle. Furthermore he suggested that providers of mobile banking need to assert that their mobile systems are in tandem with preferences and their target markets lifestyle. A study by Bankole (2011) found out that in Nigeria the adoption of mobile banking was greatly affected by cultural values. A study among Taiwan university students established that the Mobile adoption is highly affected by the low costs and the speed of transactions. And stated further that mobile banking was seen to be riskier in comparison to traditional retail banking (Yang, 2009).

### 2.3.5 Financial Credit Access

According to Overseas Development Institute (2009), a study done in Kenya and Tanzania shows that utilization of informal mechanisms is higher than the formal financial services. The rural population keeps savings while they also mainly borrow for an agricultural investment while the urban populace invests in businesses. In Tanzania, men are more oriented mostly towards savings or borrowing to undertake investments unlike women. Most of the people have not been able to open a formal bank account due to high minimum deposits. Mobile banking can make inroads into the formal financial system for the rural population with mobile phone service providers to connect their paying clients to Opportunity Bank by use of mobile trucks across twenty one countries in Africa at minimal transactional costs (Laugtug, 2010).

### 2.3.6 Customer’s Attitude

Research done by Laforet and Li (2005) showed that several factors such as demography, person’s behavior, motivation towards various banking innovations and one’s acceptance of the
innovation influenced the user’s attitude towards mobile banking. They further added that prior experience of computer and innovative products toward mobile banking has been impacted by consumer’s attitudes.

According to Delvin (1995), due to limited time spent on activities such as paying a visit to a bank consumers desire a higher degree of accessibility and convenience. The service-quality attributes such as PEOU, PU, responsiveness, security, reliability, and continuous improvement are needed by the formal banks to induce customers to switch to mobile-based transactions and continue utilizing (Liao & Cheung, 2008).

A research done by Liao and Cheung (2002) indicated that consumer’s expectation concerning network speed, security, accuracy, user involvement, convenience and user-friendliness, are the most critical attributes in the PU of mobile banking services. Difficulties of using mobile-based services, lack of information concerning products, fear of reforms in the banking system arising from innovation development, and services available to clients using electronic systems are some of the factors that influence one’s decision whether or not to utilize the mobile banking systems. The Internet usage costs and speed of transactions have insignificant effect on consumer’s final decision (Mavri & Ioannou, 2006).

2.4 Summary of Literature Review

The research gaps are summarised in Table 2.1.

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Methodology</th>
<th>Findings</th>
<th>Recommendations</th>
<th>Gap</th>
<th>Gap filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis</td>
<td>Perceived Ease of Use, Perceived Usefulness, and User Acceptance of Information Technology.</td>
<td>Pre-test interviews.</td>
<td>The new scales were indicated to have strong psychometric properties and to exhibit empirical relationships of usage behavior.</td>
<td>Further studies needed to understand how measures such as the ones undertaken in this study, perform in evaluation settings and applied design.</td>
<td>The research was limited only on the effect of parameters on IT acceptance without assessing its impact on banking services such as financial</td>
<td>The study sought to establish the effect of mobile banking adoption in accessing financial credit.</td>
</tr>
<tr>
<td>Source</td>
<td>Research Question</td>
<td>Methodology</td>
<td>Findings</td>
<td>Future Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
<td>-----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masinge (2010)</td>
<td>Factors influencing the adoption of mobile banking services at the bottom of the pyramid in South Africa.</td>
<td>Quantitative – Survey questionnaires.</td>
<td>There is a negative relationship between the user’s confidence, PR, and trust.</td>
<td>Further study need to be done on the influence of trust to the PR of adoption of mobile banking at the low-economies market.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Njenga, (2011)</td>
<td>Mobile phone banking: Usage experiences in Kenya</td>
<td>The study is based on Quantitative survey.</td>
<td>M-Banking provides positive outcome to issues of access to finance and reduces cost of delivering finance.</td>
<td>The study was based on usage experiences on general banking services but did not include the element of access to financial credit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeong, &amp; Yoon, (2013)</td>
<td>An empirical investigation on consumer acceptance of mobile banking services</td>
<td>Survey questionnaire</td>
<td>Perceived financial cost have a positive impact on behavioral intention towards adoption of mobile banking. PU is the most influential factor impacting the adoption of mobile banking.</td>
<td>Further research is required to generalize the findings by adding other groups. The study measures perceptions and intentions as a single unit hence more interest in examining long-term impact of consumer’s acceptance of m-banking. Scanty studies have examined m-banking adoption factors and financial credit access in developing countries markets.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1: Summary of literature review and Research gap

Source: Researcher, 2019
2.5 Conceptual Framework

Independent Variables
(Mobile banking adoption)

- **Perceived Usefulness**
  - Faster transactions
  - Relative advantage
  - Easy to carry out tasks

- **Perceived Ease of Use**
  - Easy to learn
  - Easy to use
  - Minimal mental effort

- **Perceived risk**
  - Performance risk
  - Financial risk
  - Security risk
  - Time risk

Dependent Variable

- **Access to Financial Credit**
  - Usage indicators
  - Socio-economic factors
  - Transaction costs

- **Customers’ attitude**
  - Education program
  - Customer awareness

**Intervening Variables**

Figure 2.1: Conceptual Framework

Source: Researcher, 2019
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology of this study. It comprises a discussion on the research design, target population, sampling design, data collection instruments, data collection procedure piloting, data analysis and presentation and finally ethical considerations.

3.2 Research Design

Descriptive study design was adopted as a research design in conducting this study. It is appropriate because it constitutes collection of data to enable answering questions on the current status of the study subjects. Kothari (2005) recommended a descriptive survey design as it allows the records to be described by researcher, then analyze and report conditions that exist or existed.

Descriptive research design was more appropriate because the study sought to build a profile about the impact of adopting mobile banking in accessing of financial credit in Wote sub-county, Kenya.

3.3 Target Population

The target population was the 137,944 individuals within Wote Sub-county who are main users of mobile phones.

3.4 Sampling Design

In the research, a sample survey was undertaken. The sampling frame consisted of Mobile users who are also holders of bank accounts. The study sample of 138 mobile users was derived from this sample frame. The sample was drawn by selecting a participant in every fourth household in
the five locations in Wote sub-county who were selected through simple random sampling. The Nassiuma’s (2008) formula was used to calculate the size of the sample as shown.

\[ n = \frac{NC^2}{C^2 + (N - 1) e^2} \]

Where:

- \( n \) represents Sample Size
- \( N \) represents Target Population
- \( C \) represents Coefficient of Variation (21\% \leq C \leq 30\%),
- \( e \) represents Precision Level (2\% \leq e \leq 5\%)

Therefore; 

\[ n = \frac{137944 \times 0.252}{0.252 + (137944 - 1) 0.0252} \]

\[ n = 138.47 \]

\[ n = 138 \text{ residents} \]

3.5 Data Collection Instruments

In this study, the data was collected using structured questionnaires composed of open-ended and closed-ended questions. They were constructed based on the four objectives. This is because they are convenient and easy to collect data from respondents and provides the opportunity for anonymity thus promoting high response (Kiess & Bloomquist, 1985).

The respondents were allowed at least five working days between 3rd December, 2019 and 7th December, 2019 to fill in the questionnaires after which they were collected.

3.5.1 Validity of the Data Collection Instrument

According to Mugenda and Mugenda (2003), described validity as the accuracy and meaningfulness of the instrument that is the degree by which an instrument measures what it purports to measure. The researcher conducted a pilot study for a sample of ten respondents
comprising two respondents from each of the five locations in Wote sub-county to polish the research instrument.

### 3.5.2 Reliability of the Data Collection Instrument

Mugenda and Mugenda (2003) described reliability to be a measure of the degree by which a research instrument produces consistent results after repeated trials. The Cronbach’s Alpha was used to measure the reliability of the questionnaire. Field (2007) regards Cronbach’s Alpha scores of 0.7 and higher as sufficient.

#### Table 3.1 Reliability Test Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Number of items</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>0.859</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>0.718</td>
<td>7</td>
<td>Reliable</td>
</tr>
<tr>
<td>Perceived Risk</td>
<td>0.743</td>
<td>7</td>
<td>Reliable</td>
</tr>
<tr>
<td>Customer’s Attitude</td>
<td>0.768</td>
<td>9</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Source: Research data (2018)

The reliability scores on all the variables in the questionnaire ranged from 0.718 to 0.859. Their reliability was deemed to be acceptable as it falls above the score of 0.7 which Mugenda and Mugenda (2003) had suggested as an acceptable reliability coefficient.

### 3.6 Data Collection Procedure

The researcher used the drop and pick later method. Through the assistance of a research assistant, the researcher distributed the questionnaires to the respondents. At the time of collection of the questionnaires, the researcher addressed any problems that the respondents may have had in answering the questions.
3.7 Data Analysis and Presentation

Questionnaires from the field were first checked for completeness. The data from the study was analyzed using both inferential and descriptive statistics. The descriptive statistics such as percentages, frequencies, standard deviation and measures of central tendency was applied. Afterwards, the research findings were presented using frequency tables, charts and bar graphs. The Statistical Package for Social Sciences (SPSS) was utilized in the study to analyze quantitative data. On the other hand, qualitative data was analyzed through segregation into common themes.

The Regression analysis was utilized in the study to establish the relationship between the dependent and the independent variables. The following multiple regression equation was used:

\[
Y = f(X_1, X_2, X_3) + e
\]

Where:

\[Y\] = Financial credit access

\[X_1\] = Perceived usefulness

\[X_2\] = Perceived Ease of Use

\[X_3\] = Perceived Risk

\[e\] = Error

The following equation was applied.

\[Y_c = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e\]
Thereafter, the researcher sought to establish the effect of the intervening variable. In this study, customer awareness was the intervening variable. Its effect on the other variables was analyzed using multiple regression analysis. In order to test its effect, the above model was modified as follows.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_5 I + \epsilon \]

\( Y_c = \) Financial credit access

\( X_1 = \) Perceived usefulness

\( X_2 = \) Perceived Ease of Use

\( X_3 = \) Perceived Risk

\( I = \) Intervening variable

\( \epsilon = \) Error term

### 3.8 Ethical Considerations

Data was collected from the sampled residents after attaining research project approval from Kenyatta University – Graduate School. The questionnaires had a letter of informed consent on the first page. Prior to carrying out the study, the researcher explained the importance of the study to the participants in order to allow them make an informed decision on whether to respond to the questionnaires or not. For the sake of anonymity, the participants’ weren’t required to expose their names on questionnaires. The researcher also treated the data collected with confidentiality and only used it for the intended purpose.
CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

In this chapter the results of the study on the effects of Mobile banking adoption in accessing financial credit in Wote sub-county, Kenya are presented, analyzed and discussed. The variables analyzed were: Perceived Usefulness (PU), Perceived Ease of Use (PEOU) and Perceived Risk (PR) of adopting M-banking in accessing of financial credit. The intervening variable - Customer’s attitude was also analyzed.

4.1.1 Response Rate

The researcher analyses the return rate of the issued questionnaires in table 4.1.

Table 4.1 Response Rate

<table>
<thead>
<tr>
<th>Questionnaires issued</th>
<th>Questionnaires completed</th>
<th>Return rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>138</td>
<td>126</td>
<td>91.3</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

A total of 138 questionnaires were distributed to the selected respondents but only 126 were completed. This represented a 91.3% response rate. This conforms to Mugenda and Mugenda (2003) who recommends that a 50% response rate is enough for scrutiny and exposure, 60% is good while rates over 70% are excellent.

4.2 Demographic Information

The study used demographic information to establish the appropriateness of the respondents in the study. The findings are as indicated in subsequent sections.

4.2.1 Gender of Respondents
Source: Research data (2019)

**Figure 4.1 Gender of Respondents**

The researcher requested the respondents to state their gender. The Figure 4.1 above presents the gender distribution of the respondents. It indicates that the number of respondents was 70 males and 56 females representing 56% and 44% respectively. This shows that there are slightly more males than females which may be due to roles related to mobile credit that tends to attract more males than females. This implies that both male and female customers utilize mobile credit services with males being slightly higher in number than their female counterparts. This is consistent with Venkatesh and Morris (2003) who found out that males are more likely oriented towards adopting new technology than females.
4.2.2 Age of Respondents

The study also determined the age distribution of the respondents. The bar graph in Figure 4.2 above shows the distribution. 42.8% of the majority respondents were between the ages of 30 – 39 years, 33.3% were of the ages between 18 – 29 years, 15.9% were of the ages between 40 – 49 years, 4.8% were of the ages between 50 – 59 years and 3.2% were of the ages above 60 years. These findings indicate that most of the respondents who have embraced mobile banking in accessing financial credit were majorly between the ages of 18 and 39 years. This is a productive age-group which consists of people who are more techno-savvy, ambitious, with a higher dependence ratio which motivates borrowing from mobile credit facilities to meet their financial needs and overall social responsibilities. The young are mainly regarded as early adopters of innovative products in most techno-savvy markets. This is supported by Polatoglu and Ekin (2001) who observed that according to demographic factors that describe young, the affluent and the highly educated were adopters of electronic banking services.

Figure 4.2 Age of Respondents

Source: Research data (2019)
4.2.3 Education Level of the Respondents

Table 4.2 Education Level of Respondents

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Secondary</td>
<td>26</td>
<td>20.6%</td>
</tr>
<tr>
<td>Certificate</td>
<td>22</td>
<td>17.5%</td>
</tr>
<tr>
<td>Diploma</td>
<td>50</td>
<td>39.7%</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>20</td>
<td>15.9%</td>
</tr>
<tr>
<td>Post Graduate degree</td>
<td>8</td>
<td>6.3%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>126</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The respondents were requested to state their education level and their responses were presented in table 4.2 above. The results indicate that most of the respondents had completed their diploma education accounting for 39.7%. Those who attained secondary school education were 20.6%, Undergraduate level 15.9%, post-graduate level 6.3% and primary school dropouts were none. This is a representation of a literate population that has the know-how and knowledge of available mobile technologies at their disposal. This is supported by Polatoglu and Ekin (2001) who found out that those who adopt mobile banking are mainly customers who have a higher educational background.

4.2.4 Average Monthly Income

Table 4.3 Average Monthly income

<table>
<thead>
<tr>
<th>Level of Income (Kshs)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 20,000</td>
<td>36</td>
<td>28.6%</td>
</tr>
<tr>
<td>Income Range</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>20,001 – 40,000</td>
<td>64</td>
<td>50.8%</td>
</tr>
<tr>
<td>40,001 – 60,000</td>
<td>16</td>
<td>12.7%</td>
</tr>
<tr>
<td>60,001 – 80,000</td>
<td>8</td>
<td>6.3%</td>
</tr>
<tr>
<td>Above 80,000</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>126</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The respondents were requested to indicate their average monthly income and their responses were summarized in table 4.3. The table above shows that 50.8% earn an average income of between Kshs 20,001 – 40,000, 28.6% earn below Kshs 20,000, 12.7% earn an average income of between Kshs 40,001 – 60,000, 6.3% have an income of between 60,001 – 80,000 and 1.6% earn an income of over Kshs 80,000. These findings replicate with Matilla (2001) who established that adoption of mobile banking is dominant among high-income earners.

4.3 Descriptive Statistical Analysis

In this section, the researcher presents the study findings of the descriptive statistics as per the research variables.

4.3.1. Perceived Usefulness (PU) of Mobile banking and Access to financial credit

In this section the study sought to find out the influence of Perceived Usefulness in adopting mobile banking in accessing financial credit by residents of Wote sub-county, Kenya.
Figure 4.3: Registered with the Mobile Banking  

Source: Researcher (2019)

The respondents were required to state whether they are registered with any of the Mobile banking system and their responses are presented in figure 4.3. The figure shows that 93.7% of the respondents had registered with the Mobile banking while only 6.3% aren’t registered. This was supported by Matilla (2001) who observed that a community that is educated is better at embracing new technologies such as mobile banking.
Figure 4.4 Mobile Banking Systems used

Those who had registered with M-Banking system were requested to indicate the Mobile banking system or applications they are utilizing for Mobile banking transactions and their responses are presented in figure 4.4 above. The results indicate that majority of the mobile banking users access M-pesa mobile banking system representing 52.7%, followed by Equitel users representing 21.3%, 8.3% use M-coop banking system, 7.4% utilized Airtel money, 5.6% used Branch mobile system whereas only about 1% utilized the Timiza mobile system since it is still a new player in the mobile banking services sector. M-pesa mobile banking users accessed their services through KCB M-pesa and M-shwari platforms which makes it popular than other
operators in the market. This findings collaborates with (Porteous, 2006) who found out that most of the mobile banking systems were offered exclusively by formal banks, others by Mobile Network Operators, while others involve collaboration between bank and a Mobile Network Operator (MNO).

**Table 4.4 Not registered with the Mobile banking system**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t have a phone</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>Use a friend’s phone</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not aware of the service</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I don’t like the service</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I’ll register sometimes later</td>
<td>4</td>
<td>66.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The respondents who indicated that they aren’t registered with any Mobile banking system where requested to indicate the reasons. Their responses were tabulated as presented in table 4.4 above. 66.7% of the respondents indicated that they are contemplating to register sooner or when need arises that compels them to borrow or if they get hold of a smart phone that has applications providing Mobile banking services. 33.3% which represents two respondents were not able to register for Mobile banking due to lack of a Mobile handset. The respondents showed interest in Mobile banking despite their reluctance or inability to register for the services. This collaborates with Laforet and Li (2005) who observed that the main impediment to consumers’ usage of mobile banking was lack of knowledge of its concepts and benefits. This is also supported by Donner and Tellez (2008) who observed that not all new technologies are adopted despite being
vital since the majority of new technologies usually takes much time to be embraced in the society.

![Pie Chart: Awareness of Mobile Banking Technology](chart.jpg)

Source: Research data (2019)

**Figure 4.5 Awareness of Mobile Banking Technology**

The respondents were further requested indicate if they were aware of any existence of Mobile banking technology and their responses were presented in the figure 4.5 above. According to the results, 95.2% of the respondents were aware of the existence of M-banking technology whereas only 4.8% of the respondents weren’t aware. This collaborates the International Telecommunications Union (2005) report, which shows in the recent past the mobile banking adoption has gradually increased as the usage of mobile handsets increases.
The respondents who are aware of the existence of Mobile banking technology where requested to indicate where they heard about Mobile banking services and their responses were presented as follows in table 4.5.

**Table 4.5 Source of Mobile banking system awareness**

<table>
<thead>
<tr>
<th>Source of Mobile Banking System Awareness</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass media</td>
<td>38</td>
<td>31.7</td>
</tr>
<tr>
<td>An Agent</td>
<td>28</td>
<td>23.3</td>
</tr>
<tr>
<td>Bank directly</td>
<td>28</td>
<td>23.3</td>
</tr>
<tr>
<td>SMS from MNO</td>
<td>16</td>
<td>13.3</td>
</tr>
<tr>
<td>Friends or Family</td>
<td>10</td>
<td>8.4</td>
</tr>
<tr>
<td>Other sources</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

31.7% of the respondents got to know about mobile banking services through mass media, 23.3% through an agent similarly 23.3% also through Bank offering mobile banking services, 13.3% through SMS from a Mobile Network Operator, and 8.4% learnt from friends or family members. This indicates that the mass media has more influence in creating awareness of mobile banking services available to the masses. This is consistent with Mullins and Walker (2013) who observed that organizations need to create a process that successfully directs their consumers through the stages of the consumer adoption process after introducing a new product in the market to enable sustainability and eventual success.

The study determined the duration of Mobile banking technology usage. Figure 4.6 illustrates the bar graph of the average period for use of mobile banking technology.
81.7% of respondents had utilized mobile banking services for a period of over two years, 15% have utilized it less than two years while 3.3% have used the M-banking system for less than one year. Majority of the respondents have adopted M-banking for a longer period since its inception. These results are consistent with Chafey (2003) who stated that the manner in which wireless devices (such as mobile phones) are utilized nowadays has also changed in a relatively short duration of time. In accessing their bank accounts, consumers are gradually embracing their portable wireless devices as an alternative optional means. Mobile banking has been one of the rapidly growing sectors in the universe and continues to grow.

Respondents were required to indicate their main provider of their Mobile banking services and the results were as follows in figure 4.7
Source: Research data (2019)

**Figure 4.7 Provider of Mobile banking services**

55.4% of the respondents access mobile banking services from a partnership of a bank and a MNO, 18.5% through a bank, 17% through a Mobile Network Operator, 6% through mobile applications such as Branch and Tala, while 3% don’t access or aren’t sure of the mobile banking services. These findings are supported by Porteous (2006) who observed that most of the mobile banking services are exclusively offered by formal banks, while others was offered by Mobile Network Operators, while others involve collaboration between bank and a Mobile Network Operator (MNO).

The respondents were requested to rate statements regarding Perceived usefulness in Mobile Banking adoption on a scale of 1-5 (1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree). Means for the statements were established in order to provide a generalized feeling of all the respondents. Means less than 1.5 implied that the respondents strongly disagreed
with the statements, >1.5<2.5 =disagreed, >2.5<3.5=neutral, >3.5<4.5=agreed while means greater than 4.5 indicated that the respondents strongly agreed with the statements.

A standard deviation of >1 indicated that the responses are further spread out from the mean, 0.5-1 indicated a moderate distribution of responses around the mean whereas <0.5 depicted a concentration around the mean. Their responses were tabulated as follows:-

**Table 4.6 PU in Mobile Banking adoption**

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks are accomplished more quickly through use of mobile banking</td>
<td>123</td>
<td>4.16</td>
<td>1.210</td>
</tr>
<tr>
<td>Tasks are easily carried out without difficulty through use of mobile banking</td>
<td>123</td>
<td>4.30</td>
<td>0.999</td>
</tr>
<tr>
<td>The choice of a mobile banking service is determined by the ability of the service provider</td>
<td>123</td>
<td>4.07</td>
<td>1.073</td>
</tr>
<tr>
<td>Overall, using mobile banking is advantageous.</td>
<td>123</td>
<td>4.41</td>
<td>0.867</td>
</tr>
<tr>
<td>The ability of a service provider to provide mobile banking Service is satisfactory.</td>
<td>123</td>
<td>4.14</td>
<td>0.935</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The table shows that on average the respondents agreed that tasks would be accomplished more quickly using mobile banking with a mean of 4.16, agreed that tasks are easily carried out without difficulty using mobile banking with a mean of 4.3, agreed that the choice of a mobile banking service is determined by the ability of the service provider with a mean of 4.07, agreed that overall, using mobile banking is advantageous with a mean of 4.41. Finally, agreed that the ability of a service provider to provide mobile banking service is satisfactory with a mean of 4.14. These
findings indicate that the respondents have confidence in adopting Mobile banking due its perceived usefulness in accomplishing their various financial obligations.

These findings are consistent with Mari (2003) who observed that some of the attributes driving the usage of M-banking innovation include communication, compatibility, triability, and relative advantage.

The respondents were requested to rate statements on the benefits of Mobile banking on a scale of 1-5 (1=Very Low, 2=Low, 3=Average, 4=High and 5=Very High) and their ratings are summarized in table 4.7.

**Table 4.7 Benefits of adopting Mobile Banking**

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost saving (Lower rates/ transaction fees)</td>
<td>123</td>
<td>3.54</td>
<td>1.169</td>
</tr>
<tr>
<td>Time saving (no need to go to bank or ATM)</td>
<td>123</td>
<td>4.50</td>
<td>0.961</td>
</tr>
<tr>
<td>24 h Access (can make transaction any time)</td>
<td>123</td>
<td>4.58</td>
<td>0.859</td>
</tr>
<tr>
<td>Physical security (no need to go out with cash)</td>
<td>123</td>
<td>4.54</td>
<td>0.823</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The study established that all the respondents were in agreement that the adoption of mobile banking is beneficial in accessing various financial services including credit as indicated in the table. It can be seen that the respondents strongly agreed that 24 hours access, physical security and time saving has been beneficial in adoption of mobile banking 4.58, 4.54 and 4.50. They also agreed that cost saving was a motivation in adoption of Mobile banking with a mean of 3.54.
These findings are compatible with Palmer (2014) who observed that the growth of M-banking will significantly increase once the customers see the significant benefits it offers. If users do not realize the benefits of m-banking, consequently it is not likely that banks will significantly increase resources used to support it.

4.3.2 Perceived Ease of Use (PEOU) of Mobile banking and Financial Credit Accessibility

In this section the researcher sought to establish the influence of PEOU in adopting mobile banking in accessing financial credit by residents of Wote sub-county, Kenya.

The researcher sought to find out if using mobile banking was more convenient than using the branch (bank-based) services. The responses were tabulated as follows in table 4.8.

<table>
<thead>
<tr>
<th>Table 4.8 Convenience in use of Mobile Banking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

92.9% of the respondents indicated that the use of mobile banking is more convenient whereas only 7.1% found it inconvenient. The ease of use, reliability and ease of access at ones comfort without the hustles of queuing in the traditional banks has made mobile banking more convenient to the users. This is consistent with Dholakia and Dholakia (2004) who defined PEOU as the degree to which a user entrusts a specific system would be free of effort.

The respondents who responded ‘Yes’ above were requested to rate statements regarding PEOU in adoption of Mobile Banking on a scale of 1-5 (1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree). Their responses are summarized in table 4.10.
### Table 4.9 PEOU in Mobile Banking adoption

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of learning to use Mobile banking.</td>
<td>117</td>
<td>3.98</td>
<td>0.900</td>
</tr>
<tr>
<td>Mobile banking is convenient to use than the traditional banking.</td>
<td>117</td>
<td>4.32</td>
<td>0.839</td>
</tr>
<tr>
<td>Mobile banking does not require a lot of mental effort in interaction</td>
<td>117</td>
<td>3.64</td>
<td>1.207</td>
</tr>
<tr>
<td>The cost of accessing mobile banking is high.</td>
<td>117</td>
<td>2.87</td>
<td>1.393</td>
</tr>
<tr>
<td>It is easy to accomplish my banking tasks using Mobile banking.</td>
<td>117</td>
<td>4.30</td>
<td>0.843</td>
</tr>
<tr>
<td>Using Mobile banking does not require training.</td>
<td>117</td>
<td>3.32</td>
<td>1.279</td>
</tr>
<tr>
<td>Mobile banking is faster than traditional banking.</td>
<td>117</td>
<td>4.37</td>
<td>0.952</td>
</tr>
<tr>
<td>Banking services are expedited through use of mobile banking systems.</td>
<td>117</td>
<td>4.26</td>
<td>0.984</td>
</tr>
<tr>
<td>It takes a longer time to learn about the use of mobile banking.</td>
<td>117</td>
<td>2.56</td>
<td>1.302</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The table shows that on average the respondents agreed with a mean of 3.98 on the ease of learning to use Mobile banking, agreed that mobile banking is convenient to use than the traditional banking with a mean of 4.32, agreed that mobile banking does not require a lot of mental effort in interaction with a mean of 3.64, agreed that the cost of accessing mobile banking is high with a mean of 2.87, agreed that it is easy to accomplish my banking tasks using Mobile banking with a mean of 4.30, agreed with a mean of 3.32 that using Mobile banking does not
require training, agreed that mobile banking is faster than traditional banking with a mean of 4.37, agreed that the banking services are expedited through use of mobile banking systems with a mean of 4.26, and they were neutral in that it takes a longer time to learn about the use of mobile banking with a mean of 2.56. These findings indicate that the respondents have utmost confidence in Mobile banking adoption due its PEOU in accomplishing their various financial obligations. This is collaborated by Moon and Kim (2001) who observed that individuals will find mobile banking services that are easy to use to be less complex or tedious to use especially if they are less of a threat.

4.3.3 Perceived Risk of Mobile banking and Financial Credit Accessibility

The researcher sought to establish the effect of Perceived Risk (PR) in adopting mobile banking in accessing financial credit by residents of Wote sub-county, Kenya.

The respondents were requested to indicate whether they feel comfortable or at ease when transacting through mobile banking as opposed to using cash. Their response was presented in table 4.10.

Table 4.10 Ease of mobile banking transactions

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>119</td>
<td>94.4</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>126</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

94.4% of the respondents indicated that they were comfortable or at ease transacting through the Mobile banking platform whereas 5.6% were not comfortable nor at ease with it.
The respondents who responded ‘Yes’ above were requested to rate statements regarding Perceived Risk in adoption of Mobile Banking on a scale of 1-5 (1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree). Their responses are summarized in table 4.11.

Table 4.11 Perceived Risk (PR) in Mobile banking adoption

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to network problems mobile banking services are not reliable.</td>
<td>119</td>
<td>3.50</td>
<td>1.104</td>
</tr>
<tr>
<td>Mobile banking services may not process payments correctly due to technical hitches.</td>
<td>119</td>
<td>2.39</td>
<td>1.230</td>
</tr>
<tr>
<td>Fears of loss of money when transferring money through Mobile banking due to transactional errors/mistakes.</td>
<td>119</td>
<td>3.08</td>
<td>1.259</td>
</tr>
<tr>
<td>Due to transaction errors, I worry that I won’t be adequately compensated by the service providers.</td>
<td>119</td>
<td>3.17</td>
<td>1.342</td>
</tr>
<tr>
<td>The transaction fees are expensive and deter use of mobile banking services.</td>
<td>119</td>
<td>3.08</td>
<td>1.279</td>
</tr>
<tr>
<td>Time wasting in fixing transactional errors creates a loss of convenience in use of m-banking systems.</td>
<td>119</td>
<td>3.04</td>
<td>1.520</td>
</tr>
<tr>
<td>Longer duration in learning how to use Mobile banking services.</td>
<td>119</td>
<td>2.33</td>
<td>1.059</td>
</tr>
<tr>
<td>Feeling of insecurity when providing personal privacy information over mobile banking.</td>
<td>119</td>
<td>3.18</td>
<td>1.344</td>
</tr>
<tr>
<td>I am worried about hacking and illegal access of account through mobile banking systems.</td>
<td>119</td>
<td>3.17</td>
<td>1.380</td>
</tr>
<tr>
<td>Lack of a secure channel for sending sensitive information across Mobile banking.</td>
<td>119</td>
<td>3.36</td>
<td>1.345</td>
</tr>
<tr>
<td>Due to risk of poor network of mobile in some areas, it may be impossible to undertake transactions through mobile banking.</td>
<td>119</td>
<td>3.78</td>
<td>1.329</td>
</tr>
</tbody>
</table>

Source: Research data (2019)
The table shows that on average the respondents agreed that due to risk of poor network of mobile in some areas, it may be impossible to undertake transactions through mobile banking with a mean of 3.78, agreed that due to network problems mobile banking services are not reliable with a mean of 3.5, agreed that lack of a secure channel for sending sensitive information across Mobile banking with a mean of 3.36, agreed that feeling of insecurity when providing personal privacy information over mobile banking with a mean of 3.18, agreed that they are worried about hacking and illegal access of account through mobile banking systems with a mean of 3.17, similarly agreed that due to transaction errors, I worry that I won’t be adequately compensated by the service providers with a mean of 3.17, also agreed that fears of loss of money when transferring money through Mobile banking due to transactional errors/mistakes with a mean of 3.08, agreed that the transaction fees are expensive and deter use of mobile banking services with a mean of 3.08, agreed that time wasting in fixing transactional errors creates a loss of convenience in use of m-banking systems with a mean of 3.04, disagreed that mobile banking services may not process payments correctly due to technical hitches with a mean of 2.39, and disagreed that they took longer duration in learning how to use Mobile banking services with a mean of 2.33. These findings are consistent with Riquelme and Rios (2010) who stressed that Perceived Risk (PR) and uncertainty are also possible elements that might influence adoption of Mobile Banking.

The respondents were requested to indicate how far they are from the nearest bank branch from their residencies or business/ work place. The results were presented in figure 4.8.
Figure 4.8 Distance from nearest bank

Those respondents who indicated that the distance to their nearest bank (brick and mortar) branch was over 10 km were 65%, 22.2% were located 2 – 10 km away, 7.9% were 1 – 2 km away, and 4.8% were less than one kilometer from the nearest bank. From the results it can be deduced that majority of the respondents were located further from the traditional banks increasing the need for adoption of mobile banking to access financial services. This collaborates with Cracknell (2004) who observed that in developing countries, mobile banking is more about ease of accessibility and affordability. This view is supported by Demirguc-Kunt & Klapper (2012) who noted that distance covered to access financial services has for a while been a constraint for financial inclusion in Sub-Saharan Africa region which basically has a higher proportion of rural dwellers.

The researcher sought from the respondents to point out if they use Mobile technology to access financial credit (loans) and their responses are presented in figure 4.9. 79.4% of the respondents
used mobile banking to access financial credit whereas 20.6% of the respondents didn’t. From the results, most of the respondents have embraced mobile technology to access mobile loans due to its ease of accessibility. These findings are consistent with World Bank (2010) who found out that worldwide, accessibility of mobile credit has increased mostly in the developing countries in comparison to the developed nations who have set-up financial credit systems which comprises of debit cards and credit cards for accessing credit.

![Usage of Mobile Banking to Access Financial Credit](image)

Source: Research data (2019)

**Figure 4.9 Usage of M-banking to access financial credit**

The respondents who answered ‘Yes’ to using of Mobile banking in accessing financial credit were requested to indicate the highest loan limit amount they can access. This was important in determining the reliability of mobile loans in meeting customer’s credit demands. The results were as follows in figure 4.10.
Two percent of the respondents to this study indicated that the highest loan they had accessed was below Kshs 1,000. 8% indicated that the highest loan they had accessed was between Kshs 1,001 – 2,000, 20% had accessed between Kshs 2,001 – 5,000, 22% had accessed Kshs 5,001 – 10,000, 36% had accessed Kshs 10,001 – 20,000, 10% had accessed between Kshs 20,001 – 50,000 while 2% had accessed above Kshs 50,000. The study findings show that 88% of total customers demanded loans of less than Kshs 20,000 as the highest amount they could access. This findings show that introduction of Mobile financial services has increased subscription of financial services in Kenya with service providers such as M-pesa providing access to loan and money transfer services (Price, 2016).

Further, the respondents were requested to indicate the average loan amount they actually borrow through mobile banking. This was vital in determining on average if customers borrow substantial
loan that can result to performance of commercial banks that engage in mobile credit. The results were presented in Figure 4.11 below.

Figure 4.11 Average loans borrowed

2% of the respondents to this study pointed out that the highest loan they had borrowed was below Kshs 1,000. 12% indicated that the highest loan they had borrowed was Kshs 1,001 – 2,000, 24% had actually borrowed between Kshs 2,001 – 5,000, 30% had borrowed between Kshs 5,001 – 10,000, 20% had borrowed Kshs 10,001 – 20,000, 4% had borrowed Kshs 20,001 – 50,000 while 4% had borrowed above Kshs 50,000. Only 4% indicated that they had not accessed any mobile loan. The study findings show that 88% of total customers borrowed loans of less than
Kshs 20,000. This shows that with the accessibility brought by mobile technology, an individual could access credit with ease in-case of an emergency without any need of provision of a collateral as security. The results of the findings also suggest that individuals who access loan via mobile credit are low earners who are mainly salaried people who are capable of re-paying back their loans at the end of the month. This is supported by Tiwari, Buse, & Herstatt (2015) who indicated that mobile credit has not only enabled access to credit, but has also enabled financial inclusion in developing countries.

The study sought from the respondents to rate the frequency of use of mobile banking services and products on their phones on a scale of 1 – 5. Mobile loans are among other mobile banking services which were important to be established in this study. The services used by customers are shown in Table 4.12.

**Table 4.12 Mobile banking services utilized**

<table>
<thead>
<tr>
<th>Services</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance enquiry</td>
<td>123</td>
<td>3.66</td>
<td>1.015</td>
</tr>
<tr>
<td>Statement inquiry</td>
<td>123</td>
<td>2.86</td>
<td>1.210</td>
</tr>
<tr>
<td>Transfer of funds to other bank accounts</td>
<td>123</td>
<td>2.56</td>
<td>1.374</td>
</tr>
<tr>
<td>Purchase airtime</td>
<td>123</td>
<td>3.94</td>
<td>1.078</td>
</tr>
<tr>
<td>Transfer of funds to M-Pesa</td>
<td>123</td>
<td>4.12</td>
<td>0.836</td>
</tr>
<tr>
<td>Bill payments</td>
<td>123</td>
<td>3.09</td>
<td>1.306</td>
</tr>
<tr>
<td>Statement request</td>
<td>123</td>
<td>2.81</td>
<td>1.244</td>
</tr>
<tr>
<td>Cheque book request</td>
<td>123</td>
<td>1.34</td>
<td>0.734</td>
</tr>
<tr>
<td>Loan application</td>
<td>123</td>
<td>3.04</td>
<td>1.339</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

From the analysis of the data, the most frequently used mobile banking service was transfer of funds to M-pesa with a mean rating of 4.12, followed by purchase of airtime a mean rating of 3.94, balance inquiry with a mean rating of 3.66, bill payments with a mean rating of 3.09 and
loan application with a mean rating of 3.04. Cheque book processing had the least frequency of use with a mean rating of 1.34. The findings show that the most commonly used mobile banking products were transfer of funds via M-pesa, purchase of airtime, balance enquiries and loan application. These findings are consistent with Lyman (2006) who observed that commercial banks can derive more benefits by embracing Mobile lending technologies in provision of services to their clientele.

4.3.4 Customer’s Attitude on adoption of Mobile banking and Financial Credit Accessibility

In this section, the researcher sought to establish the intervening effect of customers’ attitude on accessing of financial credit through adoption of Mobile banking by the residents of Wote sub-county.

The respondents were requested to rate statements regarding Customers’ attitude towards adopting mobile banking in accessing of financial credit on a scale of 1-5 (1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree). Their responses were tabulated as follows in table 4.13.

**Table 4.13 Customers’ attitude on adoption of Mobile banking**

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am very satisfied with the mobile phone loans provided by my bank</td>
<td>121</td>
<td>3.71</td>
<td>1.028</td>
</tr>
<tr>
<td>Mobile phone loans are very cheap thus I am a satisfied customer</td>
<td>121</td>
<td>3.41</td>
<td>1.243</td>
</tr>
<tr>
<td>I can access mobile phone loans very fast and thus I am satisfied</td>
<td>121</td>
<td>4.13</td>
<td>1.016</td>
</tr>
<tr>
<td>I can access mobile phone loans at my time of need</td>
<td>121</td>
<td>4.25</td>
<td>0.986</td>
</tr>
<tr>
<td>The loan limit I get through my mobile phone is sufficient for my needs</td>
<td>121</td>
<td>2.95</td>
<td>1.353</td>
</tr>
<tr>
<td>The repayment period for mobile loans is sufficient and thus I am satisfied</td>
<td>121</td>
<td>2.96</td>
<td>1.363</td>
</tr>
<tr>
<td>Mobile phone loans reduced the time for me to queue in banks to access credit</td>
<td>121</td>
<td>4.29</td>
<td>1.012</td>
</tr>
</tbody>
</table>
It is very easy to borrow using my mobile phone which makes me a satisfied customer

I have rarely encountered errors when using the mobile loan application

I am satisfied with the security levels when borrowing using the mobile phone

I need a smart phone to access mobile phone loans from the bank

The need to have knowledge on how to use mobile applications to access mobile phone loans from the bank

The bank has trained me on how I can access mobile phone loans

The cost of buying airtime (data access costs) to access mobile phone loans is high

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>StDev</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is very easy to borrow using my mobile phone which makes me a satisfied customer</td>
<td>121</td>
<td>3.98</td>
</tr>
<tr>
<td>I have rarely encountered errors when using the mobile loan application</td>
<td>121</td>
<td>3.52</td>
</tr>
<tr>
<td>I am satisfied with the security levels when borrowing using the mobile phone</td>
<td>121</td>
<td>3.73</td>
</tr>
<tr>
<td>I need a smart phone to access mobile phone loans from the bank</td>
<td>121</td>
<td>3.02</td>
</tr>
<tr>
<td>The need to have knowledge on how to use mobile applications to access mobile phone loans from the bank</td>
<td>121</td>
<td>3.28</td>
</tr>
<tr>
<td>The bank has trained me on how I can access mobile phone loans</td>
<td>121</td>
<td>2.91</td>
</tr>
<tr>
<td>The cost of buying airtime (data access costs) to access mobile phone loans is high</td>
<td>121</td>
<td>3.11</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The results indicate that mobile phone based loans reduced the time for me to queue in banks to access credit was the statement with the highest Mean of 4.29. Other statements include; I can access mobile phone loans at my time of need with a Mean of 4.25, I can access mobile phone loans very fast and thus I am satisfied with a mean of 4.13, It is very easy to borrow using my mobile phone which makes me a satisfied customer with a Mean of 3.98, I am satisfied with the security levels when borrowing using the mobile phone with a Mean of 3.73, I am very satisfied with the mobile phone loans provided by my bank/MNO with a Mean of 3.71, I have rarely encountered errors when using the mobile loan application with a Mean of 3.52, Mobile phone loans are very cheap thus I am a satisfied customer with a Mean of 3.41, the need to have knowledge on how to use mobile applications to access mobile phone loans from the bank with a Mean of 3.28, the cost of buying airtime (data access costs) to access mobile phone loans is high with a Mean of 3.11, I need a smart phone to access mobile phone loans from the bank with a Mean of 3.02, the repayment period for mobile loans is sufficient and thus I am satisfied with a Mean of 2.96, the loan limit I get through my mobile phone is sufficient for my needs with a Mean of 2.95, and the bank has trained me on how I can access mobile phone loans with a Mean of 2.91. Generally, the respondents were undecided on whether customer’s attitude influenced the
accessing of financial credit by adoption of mobile banking. This is supported by Ophir (2014) who noted that banks globally have concentrated on the application of mobile banking, virtual banks and internet banking with aim of reducing their customer operational costs as well as improve on customer satisfaction.

This is supported by Lin (2011) who found out through a research titled “An empirical investigation of Mobile banking adoption”, whose outcome indicated that ease of use, integrity, competence, perceived relative advantage and compatibility have significant effect on one’s attitude hence leading to behavioral intention to adopt M-banking.

4.4 Inferential Statistical Analysis

The researcher carried out inferential statistics to establish the effect of Mobile banking adoption and financial credit accessibility in Wote sub-county, Makueni County. The findings of Model Summary, ANOVA and Regression Coefficients are indicated in the subsequent sections.

4.4.1 Model Summary

The previous section had presented descriptive statistics on the study variables. However, to draw inferences about the population there was need to empirically analyze the data. The following was the study model that was tested.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \]

Table 4.14 Coefficients of the Study Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.656</td>
<td>.164</td>
<td>4.007</td>
<td>.000</td>
</tr>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>.218</td>
<td>.020</td>
<td>.409</td>
<td>11.021</td>
</tr>
<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>.160</td>
<td>.024</td>
<td>.242</td>
<td>6.533</td>
</tr>
<tr>
<td>Perceived Risk (PR)</td>
<td>.206</td>
<td>.011</td>
<td>.681</td>
<td>18.336</td>
</tr>
</tbody>
</table>

Source: Research data (2019)
The results indicated that PU had a significance level of 0.014<0.05, PEOU had a significance level of 0.000<0.05, and Perceived Risk had a significance level of 0.000<0.05. This indicates that the study variables were statistically significant in their influence of the dependent variable since their p values were all less than 0.05. Consequently, the study model was converted to the following equation.

\[ Y = 0.656 + 0.218 \, X_1 + 0.160 \, X_2 + 0.206 \, X_3 \]

To test the effect of the intervening variable the study model was improved as follows.

\[ Y = \beta_0 + \beta_1 \, X_1 + \beta_2 \, X_2 + \beta_3 \, X_3 + \beta_5 \, I + \varepsilon \]

Table 4.16 Coefficients of the study model with the intervening variable

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.419</td>
<td>.265</td>
<td>5.357</td>
</tr>
<tr>
<td></td>
<td>Perceived Usefulness</td>
<td>.170</td>
<td>.032</td>
<td>.337</td>
</tr>
<tr>
<td></td>
<td>Perceived Ease of Use</td>
<td>.129</td>
<td>.028</td>
<td>.291</td>
</tr>
<tr>
<td></td>
<td>Perceived Risk</td>
<td>.223</td>
<td>.026</td>
<td>.520</td>
</tr>
<tr>
<td></td>
<td>Customers’ attitude</td>
<td>.050</td>
<td>.223</td>
<td>.162</td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The table shows that after the introduction of the intervening variable (customers’ attitude) in the model the independent variables had an insignificant effect towards the dependent variable of the study. This is because their p values were all greater than 0.05. PU of mobile banking adoption had a significance level of 0.431>0.05, PEOU of mobile banking adoption 0.051>0.05, and PR of mobile banking adoption 0.102>0.05. Customers’ attitude had a significance level of 0.642>0.05. This led the researcher to drop the intervening variable from the study.
4.4.2 ANOVA

The researcher sought to test the overall significance of the regression model using ANOVA and the results are presented in table 4.16.

**Table 4.16 ANOVA Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.115</td>
<td>3</td>
<td>4.038</td>
<td>3.410</td>
<td>0.002</td>
</tr>
<tr>
<td>Residual</td>
<td>70.049</td>
<td>123</td>
<td>.569</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>82.164</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2019)

The results in table 4.16 on ANOVA test showed an F-statistics of 3.410, (significance level = 0.002) which were statistically significant at 0.05 (P < 0.05). This shows that the model adopted in the study was significant and that, the variables tested fitted well in the model.

The researcher sought to establish the goodness of fit of the study’s regression analysis model and this is presented in table 4.17.

**Table 4.17 Goodness of Fit of the Study Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.898(a)</td>
<td>.807</td>
<td>.801</td>
<td>.10391</td>
</tr>
</tbody>
</table>

Source: Research data (2019)
From the table above, Adjusted R is 0.801 and this means that there was 80% positive variation in accessibility of financial credit index due to changes in Perceived usefulness, Perceived ease of use and Perceived risk in adoption of mobile banking.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study findings on the effect of mobile banking adoption and financial credit access in Wote sub-county, Kenya. The conclusions and recommendations are drawn there to. The chapter is therefore structured into summary of findings, conclusions, recommendations and areas for further research.

5.2 Summary of the Findings

The study sought to establish the effects of adoption of Mobile banking in accessing of financial credit in Wote sub-county, Kenya. The specific objectives of the study were: to find out the effect of PEOU, PU, PR of using mobile banking technology and access to financial credit in Wote sub-county. In addition there was an intervening variable – customer’s attitude.

5.2.1 Perceived Usefulness of Mobile banking and Financial credit accessibility

The study found out that most of the respondents had embraced mobile banking services due to increased awareness via the mass media channels. They also greatly acknowledged that using mobile banking is advantageous and beneficial in accomplishing financial services. Most of the respondents revealed that the usage of mobile banking has made their tasks easier and accomplishing them more quickly. The ability of a service provider slightly influenced the adoption of mobile banking though overall the perception of importance of adopting mobile banking had a positive impact on accessibility of financial credit.
5.2.2 Perceived Ease of Use of Mobile banking and Financial credit accessibility

On PEOU, the study found out that most respondents regarded that mobile banking is faster and convenient to use than the traditional brick-and-mortar banking systems. Majority of the respondents had also acknowledged how mobile banking has made carrying out banking transactions easier and that learning to use it would be easier. The study also found out that PEOU of mobile banking had a positive significant effect in accessing of financial credit because it doesn’t require a much mental effort to utilize it nor require much training to utilize the services. The study also revealed that the accessibility cost are slightly expensive especially in accessing of the mobile credit and may take time to learn some aspects of mobile banking usage such as interest charged and use of mobile applications.

5.2.3 Perceived Risk of Mobile banking and Financial credit Accessibility

The study established that a majority of the respondents were skeptical about use of mobile banking in accessing of financial credit due to availability poor network by mobile services providers in some areas which may interfere with accomplishing some tasks. They also disclosed that they would not feel secure using mobile banking in sending sensitive information, providing of personal information, other people accessing their accounts through hacking or stealing their PINs, occurrence of transactional errors and failure to be compensated for any losses that may occur due to system errors or lose of funds.

5.2.4 Customer attitude on Mobile banking and Financial credit Accessibility

With regard to the intervening variable, customer attitude, the study found out customer’s attitude towards adoption of mobile banking had an effect on accessing of financial credit. This study established that a customer’s attitude in embracing the Mobile technology slightly enhanced the overall uptake of financial credit due to its flexibility and ease of access. Though the constraints
of high transaction costs, lack of appropriate training, lack of awareness of new products and exposure to security risks in adoption of mobile banking has had a negative effect on accessibility of financial credit.

5.3 Conclusion

The study concludes that there is a positive relationship between Perceived Usefulness of Mobile banking and financial credit access. This implies that the more the mobile banking systems are made user friendly and adequate awareness is carried to the masses especially the rural dweller e higher the chances of them accessing of financial credit.

There is a positive relationship between Perceived Ease of Use of Mobile banking and financial credit access. The implication of this is that mobile banking should be simple, have an easy to understand interface, and overall interactive in nature to make it convenient in accessing of mobile loans without any complications.

The study also concludes that there is a positive relationship between Perceived Risk of Mobile banking and access to financial credit. This implies that a mobile banking system that is secure and free of transactional errors quality will create confidence and trust in uptake of mobile loans. Financial credit access through mobile banking is an innovative service has been greatly embraced in the global banking industry. Although mobile credit has not overshadowed traditional forms of credits, most banks have found it necessary to adopt the system to serve their customers effectively by providing credit access easily. Access to credit has its advantages and disadvantages. Mobile credit enhances economic productivity and growth while on the other hand, too much credit may have negative consequences on the stability of economy or cause financial crisis or reduce the living standards due to too much debt.
Mobile banking has enabled bank account holders’ access bank services, one of them being access to loans with ease. This platform has supported convenience, time independence, and promptness to customers, along with cost savings. With the flexibility brought about by mobile banking that allows customers to deposit, withdraw, check balance and access their account statements via the platform, it enables them to pay for their loans via the service too. Through this service they are notified the payment dates as well as they can check their credit statements and are able to pay them on time to avoid default.

5.4 Recommendations

The study recommends that since the number of people with access to a mobile hand set is gradually increasing, the financial institutions and Mobile Network Operators should continuously focus on adoption of mobile banking in their operations. In addition, the convergence of mobile phones and financial institutions has revolutionized the banking services/systems.

5.4.1 Perceived Usefulness of Mobile banking and Financial credit accessibility

It is recommended by the study for adoption of financial credit services as supported by the bank focused theory which states that commercial banks can derive more benefits from adopting technologies such as mobile credit in the provision of loans and related services to their clients. Mobile credit is anytime banking since customers are able to transact anytime unlike the traditional normal banking procedures where customers must avail themselves into the banking halls or through the agency banking which is a waste of time.

Due to gradual and slow adoption rate of Mobile banking in accessing financial credit there is need to expand market availability in the country. This is based on the fact that due to
technological advancements many business entities are switching from the physical branch networks to technology enabled networks due to the benefits associated with them. The effect of mobile credit can be made more significant if sufficient changes are made in view of the adoption and full application of this Mobile banking technology.

5.4.2 Perceived Ease of Use of Mobile banking and Financial credit accessibility

Since the population of people who can access mobile phones is on the rise daily, this points more reasons as to the adoption of mobile credit. Further, the flexibility and convenience brought about by access of funds via a mobile phone validates this implementation. Via the mobile platform, one can access credit statements, account statements, account balance and general access to one’s account. With this facility made available, an individual is able to check his or her credit status and repay his or her loan in time. This will therefore reduce the number of non-performing loans and hence increase profits made by commercial banks. Further, the size of loans accessible via mobile are small therefore this will improve liquidity ratio of the commercial banks as well as avoid losses that could occur in huge loan default. All this taken into account from the study, recommends a full implementation of mobile credit as well as banks to invest in product innovation especially product extension on mobile credit platforms to ensure that the revenue streams in mobile credit are enhanced. This could be in the form of integrating distribution of insurance using mobile credit platforms to mitigate against low profits and unforeseen losses.

5.4.3 Perceived Risk of Mobile banking and Financial credit Accessibility

Through flexibility brought about by mobile credit, security risk as an emerging issue might be vital for Mobile Network Operators and financial institutions to look into by improving on trust by provision of secure Mobile banking systems through continuous upgrade of the systems. Enhance security features to protect personal information or provide safeguards for payment
transactions. Financial institutions and MNOs should continuously implement new security policies, improve the internal controls to minimize cases of fraud, and enhance data recovery programs. They also need to increase their ability to deter, detect and manage the various risks arising in the Mobile banking systems. Additionally, the use of standalone applications could reduce the financial risks in accessing the financial credit.

5.4.4 Customer Attitude on Mobile banking and Financial credit Accessibility

This study recommends that financial institutions to embark in aggressive customer awareness and education program on use of mobile applications to access mobile financial credit. Though there have been concerted efforts to educate customers on how to access mobile credit, most of the customers have difficulties in accessing the financial credit due to lack of knowhow on how to access the mobile credit. This ensures that customers have an understanding that the financial credit service as well as promote customer confidence. To further enhance customer confidence, this study recommends MNOs and financial institutions to come up with strategies to overcome the mobile banking data access and airtime costs which might also hinder financial credit access.

5.5 Suggestions for Further Research

This study may not have highlighted all the factors that could influence the Accessibility of financial credit through adoption of Mobile banking thus suggesting that further research be done to unveil the other factors.

Finally, further research is recommended on effects of Customer’s behavioral to mobile credit accessibility and customer satisfaction of mobile banking adoption in accessing financial credit services.
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Appendix 1: Introduction letter

KIBICHO NAHASHON KAIRO,

P.O BOX 13744-00100,

NAIROBI.

3rd September, 2018

TO ALL RESPONDENTS

DEAR SIR/MADAM,

REF: INTRODUCTORY LETTER.

I am an MBA (Finance) student at Kenyatta University. I am conducting a research on the mobile banking adoption and access to financial credit in Wote sub-county.

You are kindly requested to complete a survey about this research. Your input to this research will be of great value. Please assist me in carrying out this study by answering this questionnaire. The information you provide will be treated with utmost confidentiality and will only be used for academic purposes.

Thank you in advance.

Nahashon Kairo Kibicho
Appendix 2: Questionnaire

Section A: General information (Tick the appropriate)

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

2. Age
   a) Between 18 years and 29 years ( )
   b) Between 30 years and 39 years ( )
   c) Between 40 years and 49 years ( )
   d) Between 50 years and 59 years ( )
   e) Above 60 years ( )

3. Highest level of education attained
   a) Primary ( )
   b) Secondary ( )
   c) Certificate ( )
   d) Diploma ( )
   e) Undergraduate degree ( )
   f) Post graduate degree ( )
   g) Other ( ) Please specify…………………………..

4. Average monthly Income:
   i. Below 20,000 ( )
   ii. Between 20,001- 40,000 ( )
   iii. Between 40,001- 60,000 ( )
   iv. Between 60,001-80,000 ( )
   v. Above 80,000 ( )

Section B: MOBILE BANKING ADOPTION - Perceived Usefulness

5. Are you registered with any of the Mobile banking system?
   Yes ( ) No ( )

6. If Yes, which of the following mobile banking system have you registered yourself?
   i. M-Pesa ( )
   ii. Airtel Money ( )
   iii. Equitel ( )
   iv. M-coop cash ( )
   v. Timiza ( )
   vi. Others ( ) Please specify_____________________________

7. If No, why?
   a) I don’t have a phone ( )
   b) Use friend’s phone ( )
   c) Not aware of the service ( )
   d) I don’t like the service ( )
   e) I’ll register sometimes later ( )
8. Mobile banking is the term used to describe financial services delivered using a mobile phone or Personal Digital Assistant (PDA).
   Are you aware of the existence of Mobile banking technology (M-banking)?
   Yes ( )   No ( )

9. If Yes, where did you hear about Mobile Banking services?
   a) Mass media (Television, radio, newspaper) ( )
   b) An Agent ( )
   c) Bank directly ( )
   d) SMS from Mobile operator ( )
   e) Friends or Family ( )
   f) Other sources, specify …………………………………………………………………………………

10. Do you use Mobile Banking services?
    Yes ( )   No ( )

If Yes, how long have you been using Mobile Banking technology?
   i. Less than 1 year ( )
   ii. Less than 2 years ( )
   iii. Over 2 years ( )

11. Who provides your mobile banking services?
    a) A bank ( )
    b) A bank and a Mobile Network Operator together ( )
    c) A Mobile Network Operator (MNO) ( )
    d) Mobile based Applications ( )
    e) Don’t know/ not sure ( )

12. How can you rate the following statements regarding Perceived Usefulness in Mobile Banking Adoption? (1= Strongly Disagree, 2= Disagree, 3= Not Sure, 4= Agree, 5 Strongly Agree)

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Tasks are accomplished more quickly through use of mobile banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Tasks are easily carried out without difficulty through use of mobile banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>The choice of a mobile banking service is determined by the ability of the service provider</td>
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<tr>
<td>iv.</td>
<td>Overall, using mobile banking is advantageous.</td>
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<tr>
<td>vi.</td>
<td>The ability of a service provider to provide mobile banking Service is satisfactory.</td>
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</tbody>
</table>

13. How would you rate the following benefits of Mobile Banking? (1 = Very Low; 2 = Low; 3 = Average; 4 = High; 5 = Very High)
<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Cost saving (Lower rates/ transaction fees)</td>
<td></td>
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<tr>
<td>ii. Time saving (no need to go to bank or ATM)</td>
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<tr>
<td>iii. 24 h Access (can make transaction any time)</td>
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<tr>
<td>iv. Physical security (no need to go out with cash)</td>
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</tbody>
</table>

**Section C: Perceived Ease of Use**

14. Do you find using mobile banking more convenient than using the branch (bank)-based services?  
   Yes ( ) No ( )

15. Did your mobile phone support mobile banking at the time you signed up or the service?  
   Yes ( ) No ( )

16. If your response is Yes to the above, how can you rate the following statements regarding the Perceived Ease of Use in adoption of Mobile banking? (1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly agree)

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Ease of Learning to use Mobile banking.</td>
<td></td>
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<tr>
<td>ii.</td>
<td>Mobile banking is convenient to use than the traditional banking.</td>
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<tr>
<td>iii.</td>
<td>Mobile banking does not require a lot of mental effort in interaction</td>
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<tr>
<td>iv.</td>
<td>The cost of accessing mobile banking is high.</td>
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<tr>
<td>v.</td>
<td>It is easy to accomplish my banking tasks using Mobile banking.</td>
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<tr>
<td>vi.</td>
<td>Using Mobile banking does not require training.</td>
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</tbody>
</table>
vii. Mobile banking is faster than traditional banking.

viii. Banking services are expedited through use of mobile banking systems.

ix. It takes a longer time to learn about the use of mobile banking.

### Section D: Perceived Risk

17. Do you feel comfortable or at ease transacting through mobile banking as opposed to dealing with physical cash?

   Yes ( )  No ( )

18. If Yes above, how can you rate the following statements regarding Perceived Risk on adoption of Mobile banking? (1= Strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree)

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Due to network problems mobile banking services are not reliable.</td>
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<tr>
<td>ii.</td>
<td>Mobile banking services may not process payments correctly due to technical hitches.</td>
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<td>iii.</td>
<td>Fears of loss of money when transferring money through Mobile banking due to transactional errors/mistakes.</td>
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<tr>
<td>iv.</td>
<td>Due to transaction errors, I worry that I won’t be adequately compensated by the service providers.</td>
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<tr>
<td>v.</td>
<td>The transaction fees are expensive and deter use of mobile banking services.</td>
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<tr>
<td>vi.</td>
<td>Time wasting in fixing transactional errors creates a loss of convenience in use of m-banking systems.</td>
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<tr>
<td>vii.</td>
<td>It would take a lot of time to learn how to use Mobile banking services.</td>
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<td>viii.</td>
<td>Feeling of insecurity when providing personal privacy information over mobile banking.</td>
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<tr>
<td>ix.</td>
<td>I am worried about hacking and illegal access of account through mobile banking systems.</td>
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<tr>
<td>x.</td>
<td>Lack of a secure channel for sending sensitive information across Mobile banking.</td>
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</tbody>
</table>
xi. Due to poor network of mobile in some areas, it may take a lot of time to do transactions through mobile banking.

19. On a scale of 1 to 5 please state how often you use the following services on average in a month, by ticking the appropriate box, where 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always.

<table>
<thead>
<tr>
<th>Services</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance enquiry</td>
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<tr>
<td>Statement inquiry</td>
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<tr>
<td>Transfer of funds to other bank accounts</td>
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<tr>
<td>Purchase airtime</td>
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<tr>
<td>Transfer of funds to M-Pesa</td>
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<tr>
<td>Bill payments</td>
<td></td>
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<tr>
<td>Statement request</td>
<td></td>
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<tr>
<td>Cheque book request</td>
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<tr>
<td>Loan application</td>
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</tbody>
</table>

Section E: Access to Financial Credit

20. Using the given rating scale, give your opinion on how the following variables affect access to financial credit. (1= Affects the least, 5= Affects the most)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived usefulness</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
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</tr>
<tr>
<td>Perceived Risk</td>
<td></td>
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</tbody>
</table>

21. How far is the nearest bank branch from your residence or business/work-place?
   i. Less than 1 km ( )
   ii. 1 to 2 km ( )
   iii. 2 to 10 km ( )
   iv. More than 10km ( )

22. Do you use Mobile Banking technology to access loans?
    Yes ( ) No ( )

23. If Yes above, what is the highest loan you can access on mobile loan (loan limit)?
   i. Below Kshs 1,000 ( )
   ii. Between Kshs 1,000 and Kshs 2,000 ( )
   iii. Between Kshs 2,001 and Kshs 5,000 ( )
   iv. Between Kshs 5,001 and Kshs 10,000 ( )
   v. Between Kshs 10,001 and Kshs 20,000 ( )
vi. Between Kshs 20,001 and Kshs 50,000
vii. Above Kshs 50,000
viii. I cannot/Never access mobile loans

24. How much do you borrow on average using mobile phones?

ix. Below Kshs 1,000
x. Between Kshs 1,000 and Kshs 2,000
xi. Between Kshs 2,001 and Kshs 5,000
xii. Between Kshs 5,001 and Kshs 10,000
xiii. Between Kshs 10,001 and Kshs 20,000
xiv. Between Kshs 20,001 and Kshs 50,000
xv. Above Kshs 50,000
xvi. I don’t borrow

Section F: Customer’s attitude on adoption of Mobile banking and access to financial credit

25. Please rate the following statements on your level of agreement or disagreement. (1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 Strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am very satisfied with the mobile phone loans provided by my bank</td>
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<tr>
<td>Mobile phone loans are very cheap thus I am a satisfied customer</td>
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<tr>
<td>I can access mobile phone loans very fast and thus I am satisfied</td>
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<tr>
<td>I can access mobile phone loans at the my time of need</td>
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<tr>
<td>The loan size I get through my mobile phone is sufficient for my needs</td>
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<td></td>
</tr>
<tr>
<td>The repayment period for mobile loans is sufficient and thus I am satisfied</td>
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</tr>
<tr>
<td>Mobile phone loans reduced the time for me to queue in banks to borrow loans</td>
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</tr>
<tr>
<td>It is very easy to borrow using my mobile phone which makes me a satisfied customer</td>
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<tr>
<td>I have rarely encountered errors when using the mobile loan application</td>
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<tr>
<td>I am satisfied with the security levels when borrowing using the mobile phone</td>
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<tr>
<td>I need a sophisticated phone to access mobile phone loans from the bank</td>
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<tr>
<td>The need to have knowledge on how to use mobile applications to access mobile phone loans from the bank</td>
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<tr>
<td>The bank has trained me on how I can access mobile phone loans</td>
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<tr>
<td>The cost of buying airtime (data access costs) to access mobile phone loans is high</td>
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</tbody>
</table>

26. State the main purpose of the loan accessed through Mobile banking?

Section E: Recommendations

27. What are your recommendations?

Thank you for your co-operation.