EFFECTS OF MOBILE BANKING ON PROFITABILITY OF COMMERCIAL BANKS IN THIKA SUB COUNTY: A CASE STUDY OF EQUITY BANK KENYA LIMITED

BY
NAHASHON GITAU NJAU

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SPRING 2019
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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SPRING 2019
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University-Africa in Nairobi for academic credit.

Signed………………………………… Date....................................................

Nahashon Gitau Njau (ID No: 639079)

This research project has been presented for examination with my approval as the appointed supervisor.

Signed………………………………… Date....................................................

Mr. Kepha Oyaro

Signed………………………………… Date....................................................

Dean, Chandaria School of Business
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ABSTRACT

The general purpose of the study was to establish the effects of mobile banking on profitability of commercial banks’. The study focused on Equity Bank Kenya Limited. This study was guided by the following specific research objectives: to determine the effects of mobile banking loans on profitability of commercial banks’ in Kenya; to determine the effects of mobile banking funds transfer on profitability of commercial banks’ in Kenya and to determine the effects of mobile banking payment of bills on profitability of commercial banks’ in Kenya.

The study used primary data that was collected through questionnaires. A descriptive research design was adopted because the study was aimed at collecting information from the respondents on their perceptions in relation to effects of mobile banking on profitability. Further, the correlational approach was adopted as the study sought to describe relationship between the independent variables; mobile banking loans, mobile banking funds transfer, mobile banking payment of bills with the dependent variable which was profitability. The target population for this study was 89 employees in operations and credit department. A census was done out of the total of whom only 65 filled and returned giving a response rate of 73%. Descriptive statistics using means and variances as well as inferential statistics analysis using correlation and regression analysis was used to analyse the data using Statistical Package for Social Sciences (SPSS). The results were then presented in form of tables and figures.

The first objective established that majority of the staff agreed that mobile banking loans disbursed had a positive impact on the banks profit share. It was also agreed that mobile banking loans have led to increased loan interest income of the bank. The analysis done also shows that mobile banking has made it easy for the banks’ customers particularly the low income earners and the vulnerable to access loan services. This has led to the growth of the banks loan book.

Analysis of objective two established that respondents found the mobile banking funds transfer facility offered by the bank to be very efficient. Mobile banking services have enabled customers to access their deposits with ease for withdrawals. A majority also agreed that the funds transfer service had led to the reduction of operational costs of the bank, thereby enhancing income generating potential of the bank.
The third objective of the study established that bill payment service as offered by the bank has a positive impact on the banks profits. The bill payment service has led to an increased number of customers purchasing goods through eazzypay and Lipa na M-pesa tills thereby increasing the number of eazzypay merchants. The results however indicated that customers were still worried about transaction errors and safety of their information while making bill payments. The study concluded that there was existence of a strong positive relationship between profitability and the Mobile banking services. Therefore, an increase in combined variables of mobile loans, mobile funds transfer and mobile bill payment leads to increased profitability of the bank.

The study recommended that there was need for commercial banks to enhance accessibility of mobile loans especially to the low income earners so as to increase loan disbursement. Furthermore banks should ensure mobile loan application processes are made easier and flexible repayment structures put in place that considers ones ability to pay. In addition constant reviewal of loan processing fees is necessary to keep up with competition from other digital platforms.

The study further recommended that banks should continuously enhance awareness to their customers about the mobile banking funds transfer service to increase uptake by customers. Commercial banks should ensure their funds transfer services are linked to platforms such as PESALINK, so as to increase the number of customers utilizing their mobile banking services. It was also recommended that the banks should undertake a continuous review and enhancement of safety measures and quick transaction settlement through mobile banking system modifications and improvements. This will enhance confidence among customers and therefore more clients would be willing to be onboarded in to the mobile banking system.
ACKNOWLEDGEMENT

First and foremost, I would like to thank God for bringing me this far in my academics. I am grateful to my project supervisor Mr Kepha Oyaro for the critical guidance provided and for dedicating his time towards taking me through step by step to see this entire research project become a success. I also appreciate the moral support and continuous prayers my family gave me throughout the whole MBA course.
DEDICATION

I dedicate this research project to my family for their moral and financial support to ensure that I acquire this quality education. I am grateful.
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<td>Automated Teller Machine.</td>
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<td>E-Banking</td>
<td>Electronic Banking</td>
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<td>ICT</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Mobile banking can be defined as the utilization of cell phones such as mobile phones or tablets to execute banking transactions (Anyasi & Otubu, 2009). Sathye (1999) defines mobile banking as the utilization of mobile phones for settlement of financial transactions, which involves the use of a card infrastructure for the execution of payments and short message service messaging for confirmation of receipt. Mobile banking relates to mobile financial transactions that are linked to customers’ bank accounts (Cheney, 2008). The banking industry is one of the significant sectors of financial systems in many countries (Njeru & Omagwa, 2018).

The revolution of information innovation has affected pretty much every feature of life, among them is the banking sector. The introduction of electronic banking has changed the manner in which banks were working. According to Donner and Tellez (2008), mobile banking has digitized the aspect of money enabling users to store money in bank accounts linked to their mobile phones and therefore convert cash in and out of the accounts while making funds transfers using a short messaging service (SMS) and personal identification number (PIN).

Technology has become a useful resource in achieving efficiency, productivity and profitability. Technology has not only played a greater role in development and introduction of new products and facilities such as ATMs, mobile banking and internet banking but has played a critical role in achieving operational efficiency (Bhosale, 2014). Auta (2010) observes that the perception among Nigerian customers is that E-banking provided and enhanced flexibility and convenience. It has enabled transaction related benefits such as easy and speedy transfers while costing less and saving time.

Mobile banking has basically gotten a handle in Kenya. Mobile networks in Kenya have continued to offer M-money benefits for example M-pesa by Safaricom, Orange money by Orange and Airtel money cash through Airtel. A number of banks have also innovated various M-banking products for example Equity bank Eazzy loan from Equitel and Eazzy App, KCB Mobi bank, Family bank Pesa pap, Cooperative bank’s M-Coop Cash and Commercial bank of Africa’s M-shwari. Currently the mobile money market size is about 45.3 million users, of these, 23.9 million are M-pesa customers, Airtel money 3.6 million
customers and Equitel 1.96 million customers, as per the CAK-2017/2018 industrial report. According to the report the number of mobile money transactions conducted for the fourth quarter of the year 2017/2018 stood at 140 million transactions with a volume of Ksh 413 billion. Total value of mobile money transfer services stood at Ksh 1.9 trillion with 611 million transactions conducted. Mobile network providers have partnered with commercial banks to offer mobile based financial products that aim to reach the unbanked (Vekya, 2017).

The evolution of electronic banking in Nigeria can be traced back to 1986 when the banking sector was deregulated. Rivalry with new items ended up inside the framework while client modernity represented a test for them, thus the reengineering of methods of handling business accounts empowered the mechanization of money related administrations particularly among new age of business and shipper banks (Oluwagbemi et al., 2011).

In Nigeria, over 90 per cent of funds circulate outside the banking sector as observed from the study of Oladejo, (2016) this money conveying character of the economy was seen to be in charge of vast pool of cash in the hands of the unbanked residents. According to Akintaro (2012), Nigerians had lost confidence in anything electronics, if it had to do with their cash. The Central Bank of Nigeria (CBN) policy on e-payment has encouraged e-payment initiatives such as the establishment of switching companies that facilitate interconnectivity, introduction of payment instruments such as Point of Sale (POS) terminal and Automated Teller Machine (ATM) which gave rise to significant growth in the use of electronic payment systems (Adeoti & Osotimehin, 2013).

Digitization through mobile financial services has continued to enhance financial inclusion in Kenya, with the percentage of population living within 3 kilometres of financial access point rising to 77% in 2017 from 59% in 2013. The increased adoption of alternative business channels such as internet banking and mobile banking has seen the growth in the number of transactions carried outside the commercial banks branches and this has resulted to reduction in front office operations implying reduced staff, translating to reduced operating expenses and increased operational efficiency (Cytonn, 2018).

Mobile banking has been gainful to both the banks and clients as it diminishes the banks overheads and exchange related expenses and it is helpful and modest as lesser expenses are charged on mobile transactions (Nyangchama, 2015). The advent of M-banking was as
a result of the competition from telecommunication industry mainly between Safaricom with their M-pesa services and Airtel’s Airtel money transfer services. It has enabled clients of a budgetary establishment to conduct various monetary exchanges including balance request, credit exchanges, paying bills among different exchanges (Saleem & Rashid, 2011). Mobile banking shows an open door for monetary establishments to stretch out banking services to new customers (Lee et al., 2007).

Profitability refers to the net income generated by corporations from gross revenues once the costs incurred have been deducted. Bank’s mostly get their profits from the fees they charge for services provided and from interest earned on the banks assets such as loans and securities they hold (Nyangoma, 2015). The typical proportions of bank's profitability includes Net Interest Margin (NIM), Return on Equity (ROE), Return on Assets (ROA), Market Power Efficiency and capitalization (Burja, 2011). According to Khrawish (2011), Return on Equity (ROE) is a proportion between net benefit and complete value estimating the gainfulness of the firm’s investors’ ventures. This proportion relies upon net revenue, money related influence and speed resources. Profit for resources estimates the general bank gainfulness from interest in resources. ROA shows the productivity of the administration of the organization in creating overall gain from every one of the assets of the foundation.

As indicated by Njeru and Omagwa (2018), profitability of banks is imperative since the soundness of an industry is firmly associated the soundness of the entire economy. Profitability is the effectiveness of an organization in creating more revenues than costs acquired over a similar period under thought. Mobile banking has extended the test among banks as they are advancing progressively present day strategies for banking and beneficial to organizations (Nyangoma, 2015). Commercial banks play a key role in the economic resource allocation of any country as they channel funds from depositors to investors on a day to day basis. This job is conceivable when they can produce vital pay to take care of operational expense they bring about in the entire procedure. Furthermore, for a sustainable intermediation job of business banks, they should be gainful since benefits rewards speculators for their interests thus supports future extra ventures and achieves monetary development of a nation. Poor banking performance can lead to banking failure and crisis which will have adverse effects on the economic growth of a country (Nyangoma, 2015).
As at December 2017 there were 43 banking institutions with 42 commercial banks and 1 mortgage finance company. 40 banking institutions were privately owned, while the Kenyan government had a majority stake in 3 institutions. The total net assets in the banking sector stood at Ksh. 4 trillion in Kenya (CBK, 2017). In an effort to meet the increasing demand for timely and efficient service provision to their customers, the commercial banking industry across the Kenyan nation has for the last one decade been aggressive in innovating the way they serve their customer (Muiruri & Ngari, 2014). The major drivers for financial institutions in relation to service innovation is mainly costs and benefits (Barnes & Corbitt, 2003). According to Herzberg (2003), banks are also motivated by convenience and flexibility they offer to their clients.

According to CBK (2010) report, more investment in electronic technology has resulted in to a significant decrease in exchange costs and in this manner wipes out the requirement for least parity prerequisites, along these lines extending access. Towards the end of year 2016, several commercial banks submitted applications to the Central Bank of Kenya to introduce a payment system product, PESALINK. This is a secure and efficient payment platform where an account holder can transfer money from his/her account to another bank account using his/her mobile phone. The platform is managed by Kenya Bankers Association (KBA) through its subsidiary Integrated Payment Services Limited (IPSL) (CBK, 2017).

In Kenya, an aggregate of 13 out of 47 counties registered a decrease in the number of bank branches. The decrease in physical bank branches development is mostly credited to the selection of alternate conveyance channels, for example, cell phone banking, internet banking and agency banking (CBK, 2017). Listed banks recorded a growth in net loans and advances growth of 4.2% to Ksh 2 trillion in the third quarter of 2018 from 1.9 trillion in the same quarter of 2017. Deposits grew at a rate of 7.4% to Ksh 2.6 trillion in the third quarter of 2018 from 2.4 trillion in the third quarter of 2017 (Cytomn, 2018). The large and medium peer groups registered increases in capital and reserves while the small peer group registered a decrease. The increase in capital and reserves was attributed to additional capital injections by commercial banks as well as retained earnings from the profits realized in the year. The growth was supported by mobilization of deposits through agency banking and mobile phone banking platforms (CBK, 2017).
As indicated by a yearly report by the Central Bank of Kenya (CBK), mobile banking adoption and usage has overtaken Automated Teller Machine (ATMs) over the most recent couple of years (CBK, 2014). The huge increment in number of individuals embracing M-banking has been attributed to ease of use and high number of mobile phone users. This is steady with the hypothesis of customer decision and request as conceptualized by Yoris and Kauffman (2008) in relation to mobile payments.

The quick expansion in the adoption of mobile banking in Kenya can help accomplish more note worthy monetary incorporation by bringing progressively advanced and lower cost services to rural communities. Equity Bank has so far issued loans worth sh. 57 billion through its platform Equitel launched in May 2014, highlighting Kenya’s growing uptake of mobile lending. Equity mobile loans start from ksh. 100 to ksh. 3 million and are charged at a capped interest rate of 14 per cent per annum. Commercial Bank of Kenya disburses an average of 70,000 loans through M-Shwari, with the average credit size being sh. 3,300 (Herbling, 2017). Paelo (2017) notes that in 2012, Equity Bank Limited and Orange money had launched a product to enable savings group to save and borrow through Iko Pesa.Airtel money users could receive short term loans from Faulu microfinance immediately on their mobile phones with a product knowns as Kopa Chapaa. In 2015 M-pesa launched a similar product but in partnership with KCB known as KCB-M-pesa.

1.2 Statement of the Problem

A lot of attention has been given to discover the important determinants of banks’ profitability worldwide. Banks’ profitability can be expressed as a function of both internal and external factors. Internal factors can be referred as bank specific factors or micro factors and external factors can be referred as macroeconomic factors that affect the profitability of banks. Increase in mobile banking adoption by customers’ leads to costs reduction (Bradley & Stewart, 2003).

Various studies have been performed on the effect of e-banking on the profitability of commercial banks. De Young, Lang and Nolle (2007) analyzed the effect of e-banking on the performance of banks in the US. Their study concluded that e-banking improved the profitability of banks. Siam (2006) examined the impact of e-banking on the profitability of Jordanian banks. The study found that e-banking affected profitability negatively in the short run. Wambari (2009) studied mobile banking in developing countries using a case
of Kenya. This study sought to establish the importance of mobile banking in the day to day running of small businesses in Kenya and to understand the challenges involved in using m-banking as a business tool and appreciate the advantages and disadvantages therein. The study elaborated that the adoption and use of mobile phones is a product of a social process, embedded in social practices such as SMEs Practices which leads to some economic benefits.

Tchouassi (2012) sought to find out whether mobile phones really work to extend banking services to the unbanked using empirical lessons from selected sub-Saharan Africa countries. This study sought to discuss how mobile phones could be used to extend banking services to the unbanked, poor and vulnerable population. The study noted that the poor, vulnerable and low-income households in Sub-Saharan Africa (SSA) countries often lacked access to bank accounts and faced high costs for conducting basic financial transactions. The mobile phone presented a great opportunity for the provision of financial services to the unbanked. In addition to technological and economic innovation, policy and regulatory innovation was needed to make these services a reality.

Abaenewe, Ogbulu and Ndugbu (2013) investigated the effect of adoption of e-banking on the profitability of Nigerian banks. They found that e-banking does not significantly improve the Returns on Assets (ROA). In Kenya there has been an extensive research on the area of electronic banking and profitability. Wambua (2012) did a study on the impact of internet banking on the performance of commercial banks in Kenya. The study found that there was a significant association between internet banking and performance of commercial banks in Kenya. Gikandi (2009) analyzed the effectiveness of the adoption of e-banking in Kenya. The study found that e-banking adoption was at its infancy in Kenya but held tremendous potential.

Aduda and Kingoo (2012) did a study on the relationship between electronic banking and financial performance of commercial banks in Kenya where they found out that there was a strong positive relationship between electronic banking and bank performance in respect to return on assets. However, Aduda and Kingoo (2012) in their study only looked at the wider electronic banking whereas this study concentrated on mobile banking. Abishua (2010) studied the application of mobile banking as a strategic response by Equity Bank Kenya Limited to the challenge in the external environment. He reviewed
the concept of mobile banking as a strategic response where its profitability was not considered.

From the above discussions, it is evident that not much research has been focused on mobile banking and profitability of commercial banks in Kenya. This research therefore aimed at bridging the gap. The study aimed to explore mobile banking and profitability of commercial banks, a case study of Equity Bank Kenya Limited branches in Thika Sub County.

1.3 General Objective

The general objective of this study was to find out the effects of mobile banking on profitability of commercial banks, a case study of Equity Bank Kenya Limited in Thika Sub County.

1.4 Specific Objectives

1.4.1 To determine the effects of mobile banking loans on profitability of commercial banks’ in Kenya.

1.4.2 To determine the effects of mobile banking funds transfer on profitability of commercial banks’ in Kenya.

1.4.3 To determine the effects of mobile banking payment of bills on profitability of commercial banks’ in Kenya.

1.5 Importance of the Study

1.5.1. Investors

This research has highlighted on the current trends of technology and innovation in the mobile banking industry. Many innovations are being adopted daily in the banking sector and therefore investors will be able to identify the niche to invest in for greater returns or which ones to drop in order to avoid losses.

1.5.2. Banking Sector

As the main research participants, the information help in understanding the role of mobile banking in their service provision duties. The banks will be able to identify how this affects their overall profitability and can use this information in regards to any new modifications or adoption of mobile banking technology required so as to enhance profitability.
1.5.3. Policy Makers

The law making institutions such as the legislature may require this data to set up directions to either secure clients or control the banking segment by guaranteeing a reasonable playing ground. Other government agencies such as Central Bank of Kenya may require the data in policy formulation, regulation and improvement of mobile banking services in Kenya.

1.5.4. Researchers and Academicians

The findings of the study makes additional contributions and act as reference for other researchers and academicians who may wish to explore further on the same topic. The study highlights areas requiring further research and investigation.

1.6 Scope of Study

The research focused on one commercial bank in Kenya named Equity Bank Kenya Limited, whose branches are situated in Thika Sub County and involved eighty nine (89) respondents who are the employees of Equity Bank Kenya Limited. The study covered the four branches in Thika Sub County which include; Thika Equity Plaza branch, Thika Kenyatta Highway branch, Thika Supreme branch and Thika Makongeni branch. The important prerequisite for any survival and success of a firm is profitability. Commercial banks are profitable if they have amassed more gains in the financial perception from the invested capital. Equity Bank Kenya Limited is used as case study since it has become one of the most profitable banks that has been able to be in the forefront in embracing mobile banking by having a SIM card technology in use as well as having the largest customer base in Kenya. The research was carried out in March of 2019.

1.7 Definition of Terms

1.7.1. Banking

Is the act of accepting money deposits from members of the public which is repayable on demand (CBK Banking Act, 2012).

1.7.2. Mobile Banking

Mobile banking can be defined as the utilization of cell phones such as mobile phones or tablets to execute banking transactions (Anyasi & Otubu, 2009).
1.7.3. Internet Banking

This refers to a type of information system that uses innovative resources of the internet to enable customers to effect financial services in virtual space (Shih & Fang, 2011).

1.7.4. Electronic Banking

Electronic banking is defined to include the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services delivered electronically (Delgado, 2004).

1.7.5. Profitability

This refers to the efficiency of a company at generating more earnings than expenses incurred over the same period under consideration (Nyanchama, 2015).

1.7.6. Commercial Bank

Refers to a financial institution that accepts money from members of the public on deposits repayable on demand, expiry of a fixed period, on notice and on acceptance of cheques (CBK Banking Act, 2015).

1.8 Chapter Summary

This chapter has presented the background information to the study, the effects of mobile banking on profitability of commercial banks in Kenya and around the globe. The chapter also examined the problem statement, general objective of the study, the specific objectives of the study and the importance of the study. Moreover the scope of the study was defined and explained. The next chapter gives a review of the literature on mobile banking and profitability of commercial banks and the specific objectives are discussed. Chapter three describes the methodology and procedure that was used to carry out the study. In chapter four, the results and findings are discussed based on the data collected. In chapter five the discussions, conclusions and recommendations of the study will be presented.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews previous published literature relevant to mobile banking and profitability of commercial banks. It is within this chapter the literature focuses on the three aspects of mobile banking which are mobile banking loans, mobile banking funds transfer and mobile banking payment of bills on profitability of commercial banks.

2.2. Mobile Banking Loans and Profitability of Commercial Banks

2.2.1. Mobile Banking Loans and Banks’ Profitability

One of the main tasks of banks is to offer credits to borrowers and advances fill in as one of a definitive wellspring of profit for business banks. As indicated by Abreu and Mendes (2000), one of the highest yielding resources on banks’ balances sheet. Clearly the more banks offer advances the more it generates income and therefore more profits. Banks must be affable in offering more advances in light of the fact that as they offer more advances to clients they open themselves to liquidity and default dangers which impacts adversely on banks' profits and survival (Rasiah, 2010). The loan of a bank is the real resource that produces the real offer of the banks salary. The nature of loan portfolio determines the profitability of banks. The highest risk confronting a bank is the misfortunes gotten from non-performing loans (Dang, 2011). Thus, non-performing loan ratios are the best measures for asset quality and high non performing loan affects the profitability of the bank.

As indicated by the Croatia National Bank official reports, referred to by Filip et al., (2018), Croatian banks recorded growth of their balance sheet items during the years 2005-2008, particularly loans (18 per cent on average), deposits (20 per cent on average) and capital (22 per cent). Croatian banks in the pre-emergency period kept up an abnormal state of liquidity and resource quality. Namely, the average money-to-total assets ratio was about 24 per cent; the average credit-to-deposit ratio was about 95 per cent, while NPLs were at about 4.5 per cent of the total loan portfolio.

Commercial banks play a key job in the financial asset allotment of any country as they channel assets from contributors to speculators on an everyday basis. As indicated by Rasiah (2010), there is a general idea that stores are the least expensive wellsprings of
assets for banks thus to this degree stores have positive impact on banks gainfulness if the interest for bank advances is extremely high. Banks are said to be vigorously subject to the assets fundamentally given by the public as deposits to finance the loans being offered to the clients. That is, the more deposits commercial bank is able accumulate the greater is its capacity to extend more loans and make profits. One should be aware that if banks loans are in low demand, having more deposits could decrease earnings which may result to low profits for the banks. This is because deposits like fixed deposits or term deposits attract high interest from the banks to the depositors (Rasiah, 2010).

The bank loans provide a major source of long term financing in major economies. Commercial banks play the critical role of mobilizing savings and allocating the financial resources. Ultimately, commercial banks find themselves playing a critical role in determining the economic growth and development in any country. Olokoyo (2011) notes that, banks have the capacity, potential and prospects for financial resources mobilization and allocating and extending them to productive investments. Olokoyo (2011) further observes that commercial banks would be interested in extending credit facilities to their customers as they are guided by three principles of solvency, liquidity and profitability without necessarily being influenced by country’s economic policies. Bashir (2003) asserted that large-sized banks are better placed in provision of a bigger array of financial instruments to their customers by mobilizing deposits and funds from various sectors and institutions. Cole et al, (2004) also opines that, smaller financial institutions leans towards underwriting small sized loans to small business people which tend to be more risky than the portfolio of the bigger banks. A huge balance sheet allows credit risk managers to diversify their investment portfolio by exploring different geographical and economic sectors so as to mitigate the risk of asymmetric shocks. Rajan and Dhal (2006) asserts that, bank size has a relationship with the occurrence of non-performing loans.

In the past few years, digital credit has emerged as an alternative mechanism for providing short-term loans. In a typical digital credit offering, a mobile phone operator will partner with a financial institution to extend small, short-term loans directly to customers over an existing mobile money ecosystem. Loans thus tend to look like payday loans in the developed world; while high interest rate loans can in principle be helpful for liquidity constrained customers by providing cash in times of high need, Karlan and
Zinman (2010); Morse (2011) note that they may also be harmful, resulting to debts and eventually bankruptcy. Furthermore, consumer protection measures for these digital loans are not yet well developed and evidence suggests many borrowers do not fully understand loan terms (McKee et al., 2015).

According to Kaffengerber et al., (2018), in their survey noted that high volumes of digital credit are driven by a segment of active users particularly small traders and entrepreneurs, who borrow multiple times weekly or monthly and have built themselves a positive credit score and therefore such borrowers should be given opportunities to graduate to more affordable loans by lenders. They also noted that digital credit remains out of reach for most vulnerable groups due to their primary sources of income being characterized by irregular cash flows, and therefore for digital credit to serve these groups effectively flexible repayment structures and pricing that considers borrower’s ability to pay should be set up.

According to Ninad and Ashish (2018), digital lending has numerous advantages to banking institutions in that it saves a lot of cost over the human resource and fixed assets that would have been required as well as transactions made on a daily basis or recorded by manual procedure. Furthermore collection of borrower’s information, its validation and disbursement of loan is easy and quick therefore it becomes easy to handle many customers at different locations at a time.

2.2.2. Mobile Loans Average Repayment Period and Banks’ Profitability

An investigation by the Federal Reserve System (2016) on the use of mobile financial services, which concentrated on the US Financial market, discovered that Mobile telephones have progressively become devices that consumers use for banking, budgeting, payments and shopping. The study revealed that use of mobile banking is continuously rising. Forty three per cent of all cell phone users who had accounting banks were found to have interacted with mobile money banking services for the twelve months preceding the study, up from thirty nine per cent for year 2014, compared to 33 per cent in 2013.

Most bank clients were progressively using their phones for all their banking needs. One of the most common reasons why consumers have adopted the use of mobile banking is convenience (40 per cent). Getting a smartphone is the second most common reason individuals began using mobile payments (20 per cent). Fourteen per cent of clients said
the capacity to make mobile payment available to them was the main reason while 7 per cent showed that they started using mobile payments since they became comfortable with the security. Because of simplicity of executing, this has expanded payment of credits, in this way guaranteeing timely repayment (Federal Reserve System, 2016).

According to Australian Securities and Investment commission (2017), keeping up with or making extra repayments on a loan ensures loans are repaid on time. One also needs to ensure he gets a good interest rate in the market so as to increase the premium component of the loan. One needs also to check on fees and commission, and if allowed by the loan service provider, one should repay more than the required monthly contribution to reduce the loan amount.

Ndegwa (2014) did an examination on the impact of mobile money on non-performing loans of commercial banks in Kenya. The study employed descriptive research design. The study attempted to clarify the essentialness of Mobile loans to interest rate, GDP growth, inflation, exchange rate and the level of loans non-performing decrease in revenue. The study used descriptive research method, where data was collected from the listed commercial banks in Kenya. The study concluded that there was a negative relationship between mobile money operations and non-performing loans.

Acquah and Addo (2012) deduced in their paper that because of inalienable vulnerability coming about because of unpredicted changes in climate patterns plus market associated risks, fishermen were more likely to default in their loan repayment. The paper which analyzed the loan repayment performance of fishermen in Ghana, demonstrated that 70.1% of the fishermen questioned had defaulted in repayment, which was partially attributed to low catch and inflated debts from fishmongers. The study findings indicated that loan repayment increased with fishing revenue, education level, fishing experience, and amount of loan. On the other hand, age and investment made had a negative influence on amount of credit repaid. Further, the study revealed that fishing revenue, credit and amount of investment made were significant determiners of amount of loans repaid and the repayment period.

**2.2.3 Theory of Financial Intermediation**

According to Harelimana (2017) financial intermediation is a process which involves surplus units having to deposit funds with financial institutions who in turn lend to deficit units. Allen and Franklin (1998) note that banking business thrives on financial
intermediation abilities of financial institutions allowing them to lend out money at higher rates of interests while receiving money on deposits at relatively low interest rates.

Financial intermediaries are organizers of risk transmission and deal with progressively complex financial tools and markets. The character of financial intermediaries is that of crafting specific financial commodities. Financial intermediation occurs when excess units deposit funds with the financial institutions who in turn lend to deficit units (Scholtens & Wenseveen, 2003). According to Andries (2009), financial intermediaries are financial institutions specialized in the activity of buying and selling assets and financial contracts. Financial intermediaries mediate between providers and users of financial capital.

Financial intermediaries play a crucial role to create assets for creditors and liabilities for debtors which are much more attractive for each of them, than if the transfer of funds from creditors to debtors were to be implemented directly between the two parties. Gains made by financial intermediaries are due to price differential between the price for which financial assets are resold and their purchase price. Commercial banks attract deposits indebting itself towards depositors and grants loans to fund users (Andries, 2009).

2.3. Mobile Banking Funds Transfer and Profitability of Commercial Banks

2.3.1 Transaction Costs and Banks’ Profitability

Mobile banking offers a major favorable position to banks as it radically reduces the expenses of giving support of the clients. According to Allen and Hamilton (2002), an estimated cost of providing the routine service in U.S.A is 1.07 dollars per transaction while that of telephone banking would be 54 cents.

According to a report by Price Water House Coopers (2010) adoption of mobile banking can lead to significant cost advantage in distribution of banking services. As per Reserve Bank of India estimates, it costs close to 50 Rupees if a transaction is conducted in the branch, an ATM transaction costs is about 15 Rupees and an internet based transaction costs the bank about 4 Rupees, primarily due to savings in real estate and personnel costs. Mobile banking transaction would be expected to be of the same order as internet banking transaction cost.

According to Hicks and Niehans (1983), the dominant factor of financial innovation is the minimization of transaction costs and the financial innovation is the response of the
technology advancement, which has caused transaction costs to reduce. The minimization of transaction costs can stimulate financial innovation and improve financial service. Commercial banks like other firms continue to face challenges of increasing transaction costs that threaten their sustainability (Muia, 2013).

According to Ndewiga and Maina (2018), in their study they concluded that banks investment on innovation assisted in reducing the operational costs, improved customer service and loyalty and moreover increased customer deposits and credits. Banks should therefore continue to invest in promising innovation strategies that enhance cost reductions and improve customer satisfaction. This would cushion banks against financial distress or bankruptcy and being financially sustainable. According to Kaleem (2008), banks’ customers believe that there are gains in the usage of mobile banking, due to the reduction in transaction costs.

According to a study done by Deloitte (2010), banks can realize operational efficiencies by incorporating integrated channel strategy that includes mobile banking. The cost of processing a transaction through a mobile phone can be as much as 10 times lower than an ATM and as much as 50 times lower through a branch. A bank with a footprint of 100 branches and 250 ATMs and an average daily deposit and withdrawal volume of 165 branch transactions and 65 ATM transactions could expect to save about 5 million dollars annually, if the bank were able to convert 20 percent of those ATM transactions in to its mobile channel.

The more branch transactions that a bank can drive to mobile phones, the higher the possibility they can close poorly performing branches and increase operational efficiencies by shifting focus of employees from transactions to more advisory type services leading to greater sales. Mobile financial services can drastically increase volumes improves stickiness by providing additional revenue stream and tap on customer loyalty. Mobile financial services have enabled people in rural areas in India, to avoid 2 to 3 day trips to banks in the closest large village or town and not to forget the avoidance of investment in setting up of the local banking branches by banks in rural areas (PWC, 2010).

2.3.2. Convenience of Mobile Banking Funds Transfer and Banks’ Profitability

As indicated by Cook and McKay (2017), recently the banking industry came together to roll out PESALINK, a real time payment system that enables customers from
participating banks to transfer funds using only their phone numbers and the roll out began with person to person transfers. As of May 2017 more than 20 commercial banks were live with more than 2 million registered users. The transactions are high speed and intended to be low cost. Bank transactions of less than 5 dollars are free to the banks, and participating banks have agreed not to charge customers for transactions of those amounts. Banks in Kenya have discovered new ways to compete and collaborate as they adapt to an increasingly digital mobile financial services market.

A similar model was implemented in the Indian banking industry as indicated by Upendra (2011), which saw the introduction of interbank mobile payment service (IMPS) which has enabled registered customers of the participating banks to transfer funds between banks through their mobile phones. The model was expected to allow over 300 million bank accounts to transfer funds within 700 million mobile phone connections and possibly making it one of the largest interbank facility in the world. One of the largest mobile networks, Airtel India has partnered with India’s’ largest bank State Bank of India to facilitate cashless transfers, cashless spending and payment targeting rural and urban poor. The joint venture also aimed at onboarding 2 million bank accounts annually.

According to a report by Ernst and Young (2016), India’s payment banks would need to push for the adoption of low cost digital channels from the start of their banking relationships so as to minimize their own and consequently their customers cost. A critical aspect of the relationships is to incentivize customers to transact within the system, reducing the cash out requirements and managing low cost cash operations. Payment banks could achieve this by making transactions or transfers within the system almost free.

According to Sharma and Kaur (2016), the main reason of increasing usage in mobile banking is that it helps to perform banking activities at anytime and anywhere. Mobile banking enables customers in carrying out clearing and settlement of transactions and enables real fund transfer in any bank account and operated by users using mobile banking services of any operators. With the convenience of use of mobile, people can take advantage of banking services 24 hours a day and wherever and whenever they need. It not only saves time for customers but also reduces cost for banks.

Chatain et al. (2008) however notes a major drawback as a result of prompt service of mobile banking which poses a threat to commercial banks. The fact that transactions can
be performed virtually anytime and from any location is perceived to be a major tool to terrorist financers and money launderers. This provides a new means of access to transferring funds both within and outside jurisdictions from, in the case of money laundering terrorist financing and criminal organizations poses problems.

Kimet et al., (2010) in their study note that sending or receiving money for the purposes of payment of salaries, settlement of business transactions, payment of school fees, or for family support is a common activity for both businesses and individuals. Therefore an efficient, reliable and affordable money transfer services whereby money can be deposited in one location and withdrawn in another in both urban and rural areas is required.

Traditional branches are no longer necessary and will need to be productive and less costly. Banks will need to reduce branch sizes and costs by introducing low touch digital channels, of which several have already reduced staff levels and closed most uneconomic branches and experimenting new branch concepts. Branches that remain will take many forms for example becoming advisory and engagement hubs (PWC, 2014).

2.3.3. Bank Focused Theory

According to Hussein and Ellyjoy (2018), bank focused theory emerges when traditional banks uses non-traditional low cost delivery channels to provide banking services to its existing customers for example by using automated teller machine (ATM), internet banking and mobile banking and therefore banks switch from their old method of service delivery known as traditional to new methods known as non-traditional. The theory sees the customer’s primary concerns as to do with the quality of experience, security of identity and transactions, reliability and accessibility of service and extent of personalization allowed. Banks therefore address these issues by providing a branchless banking service with an easy to use interface, made secure with the help of multi-factor authentication and other technology, capable of running uninterrupted 365 days a year (Kapoor, 2010). This model is seen a modest way of conventional branch based banking providing additional value to its customers.

2.3.4. Transaction Costs Theory

This theory explains why banks exist and why they expand to the external environment. Banks try to minimize the costs of provision of their services to the external environment and also within the company. Financial institutions, which have struggled in providing
profitable services through customary banking, see mobile financial services as a form of branchless banking which sinks the costs and time involved in serving customers Ivatury and Mas, (2008). Transaction costs arise every time a product or service is being transferred from one end to another. Most efforts to increase financial access have focused on reducing transaction costs by introducing low fee accounts and assimilating banking services with mobile money products.

Low-cost banking can bring a significant number of clients who previously could be served only at a very high cost (Datta et al., 2001). According to Rosenberg (2010), transaction costs of sending money through the mobile money technology are lower than those of banks and money transfer corporations and therefore more people are adopting mobile banking especially due to its suitability which is a clear indicator that banks will continue to produce more profits from mobile banking services.

2.3.5. Mobile Banking Funds Transfer and Financial Accessibility

Gupta (2013) defined mobile banking as a service delivered by financial institutions in collaboration with the various mobile phone operators. This allows customers with busy lives convenient banking methods using their phones at any given time. This is an indicator that financial services become more available. Mobile banking is generally about providing banking services to the unbanked, those who do not have bank access or bank accounts, and those who are at the bottom of the financial pyramid, often living in rural areas. These targeted people will access the benefits of banking services such as being able to save and borrow in a cost-efficient and secure way.

The services that are provided by mobile banking include viewing account balances, making cash transfers between accounts, buying airtime or paying bills via a mobile device. In today’s world, mobile banking is frequently performed via SMS or the Internet but there has also been an emergence of special applications downloaded to the mobile device (Uwuigbe, Ranti, & Babajide, 2015). According to the German mobile operator Mobilcom, mobile devices, in specific smart phones, are the most capable way to reach the multitudes and to create “stickiness” among existing customers, due the capacity to provide services anytime and anywhere. There is also a high rate of penetration and a lot of potential to grow.

Conventionally, the delivery of banking services was an expensive venture. The banks had to invest in staff, machines and infrastructure in order to deliver services to their
customers. With the introduction of Mobile banking, banks do not need to invest in principal equipment to provide banking services. Many people in rural areas have access to financial services brought about by mobile banking penetration (Olokoyo, 2011).

2.4. Mobile Banking Payment of Bills and Profitability of Commercial Banks

2.4.1. Ease of Bill payments and Banks’ Profitability

According to Cheney (2008), mobile payments are financial transactions related to payment of goods and services conducted through mobile phones. Mobile payment is an alternate payment method, instead of paying with cash, cheques or credit cards, a consumer can utilize a mobile phone device to pay for a wide range of goods and services such as transportation fee (bus, subway or train) parking meters and other services (Oladeju, 2016). In addition, Oladeju (2016) further notes that several banks in Nigeria launched mobile banking services that enable customers to carry out simple transaction based on short message service (SMS) technology with their mobile phones serving as terminals.

As per the IFC Washington GSMA report (2006), one advantage of developing a market for mobile commerce is that it aids in the reduction of cash handling costs for the users and allows the value for money to be better utilized. Cash held outside the banking system cannot be available for short term investment, and therefore time value of the cash asset is lost. The huge increment in number of individuals receiving M-banking has been credited to usability and high number of cell phone clients.

As indicated Donner and Tellez (2008), who did a study on mobile banking and economic development where they sought to link adoption, impact, and use. The study established that through offering an approach to bring down the expenses of moving cash from spot to place and offering an approach to carry more clients into contact with formal financial systems, mobile payments systems could prove to be an important innovation for the developing world. However, the genuine proportion of that significance required numerous investigations utilizing various systems and different hypothetical viewpoints previously noting the inquiries concerning selection and effect.

In Ghana, developments in information technology (IT) are radically changing the way business is conducted. Electronic commerce is now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and to sell or buy products and services. This transformation in the
commercial center has gotten under way an upset in the saving money part for the arrangement of an installment framework that is good with the requests of the electronic commercial center customers can ask data and complete most saving money administrations, for example, account balance request, inter-account transfers, and bill-payment via the Internet (Korankye, 2014).

Mobile payment services comprise of five basic functions: mobile services, customer interface, transaction processing, account provision and settlements. Mobile service is provided by mobile network operators and settlement by banks. Customers using the Mobile payment service have a direct contractual relationship with a licensed financial institution. The development of mobile life insurance products, demand for mobile health and consequently mobile payments is further enhanced. In Bangladesh, mobile network operators have collaborated with banks launching domestic cross border mobile wallet programs in some markets and bill payments (AFDB, 2013).

As Equity Bank Kenya Limited has been able to come up with a new product to ease payments, Eazzy pay has helped in the payment of bills, goods and services straight from the phone (Equity Bank, 2018). Equitels’ growth in mobile money payment is attributed to the following; Equitel eazzypay is comparatively cheaper for merchants as customers payments are made at no extra cost and Equitel eazzypay interoperability, where merchants can accept payments from all mobile money wallets making it convenient to subscribers across all networks (Sterling Capital limited, 2018). Numerous scientists appreciate that electronic banking is defined to include the provision of retail and small value banking products and services through electronic channels as well as large value electronic payments and other wholesale banking services delivered electronically (Georgescu, 2005). Banks likewise offer payment services on behalf of their client who shop in various electronic shops.

Majority of urban residents use Mobile-banking services to make payments of airtime, prepaid electricity, and transfer of money to friends and relatives in rural villages. Mobile banking is facilitating relocation of wealth. An instance would be new business will start in order to deliver services to the users; new agency growing in orders to serve the unreached areas in the country. Mobile banking and mobile phone business contribute to economic growth though creating openings for revenue generation. A wide range of mobile/branchless banking ideas are being recognized now (Wambua, 2012).
A study conducted by Rasiah (2010) on the effect of mobile banking and financial performance of Spanish commercial banks, determined that banks that executed mobile banking were able to entice more customers and this definitely directed to increased contact to customer deposits leading to positive financial performance. Sometimes it is difficult for financial services like banking to be readily available. Given a situation like one is at a function and it is in the middle of the night and no bank and ATM is available and payments for food or drinks have to be made, mobile money will come in handy (Sharma & Kaur, 2016). It will make the financial services more accessible.

Picken and Morawczynski (2009) point out those further potential benefits downstream are beginning to be visible in East Africa, where payment by mobile phone is being introduced for public utilities such as water and electricity. Recent evidence shows that consumers have become used to using the service for ever smaller transactions as they became familiar with the system. Such systems can help to avoid transitional problems such as those when poor consumers are connected to such services for the first time. For low cost payments by mobile phone at short intervals may not only save consumers the time and expense associated with old-fashioned queuing systems, but also improve payment levels and reduce arrears. This improved payment technology thus brings potential benefits to sectors far removed from financial services.

According to Arunga and Kahora (2007), there has been tremendous adoption of mobile payment by Kenyan business operators in undertaking their transactions due to its convenience and affordability. The transaction undertaken included; paying bills, paying suppliers for goods and services and this has increased its access to new services and more customers. With mobile payments attaining greater acceptance, there is a higher likelihood that new users are being encouraged to use mobile payment services by the existing users.

2.4.2. Electronic Banking Bill Payment and Banks’ Profitability

As per Delgado et al, (2004), E-banking has the provision of banking services to customers through the internet. Electronic banking is defined to include the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services delivered electronically. The world has witnessed an upsurge of electronic payment instruments meant to facilitate trade and simplify payments. Prior to the introduction of electronic
payment into Nigerian banking system; customers had to walk into the banking halls to do transactions of all kinds. They had to line up and spend more hours to converse with a teller to make their transactions. Inconveniences caused by these long queues discourage most customers who sometimes renegade from the queues in annoyance. For many years, bankers, IT experts, entrepreneurs and others have advocated for the replacement of physical cash and the introduction of more flexible, efficient and cost effective retail payment solutions (Siyanbola, 2013).

As per Trajhavo (2005), who did an examination on the impact of electronic banking on bank profitability; the model of the study projects profitability measured in net present value and internal rate of return over a five years’ time horizon considering anticipated migration of customers from traditional to digital channels. The researcher found that banks are not likely to achieve profit unless they are able to persuade a very substantial portion of their customers to bank online; that internet banking provides financial institutions with array of applications including home banking with electronic bill payment, check images, authenticated online applications, online statement modules, e-commerce finance services portal.

Electronic banking is not just a process innovation that allows existing banks to centralize back office operations and increase their efficiency; the existence of virtual and branch offices has important effects on the interaction between customers and the bank (Werner, 2016). Wright (2002) mentions that internet-banking has lifted the branch network as an entry barrier to the retail banking while introducing price transparency as customers can now easily compare prices online. Sharma and Kaur (2016) show that Internet-banking lowers operational costs while increasing customer satisfaction and retention.

Onay et al., (2008) in a study on Turkish banks concluded that e-banking has a positive impact on the profits of banks. According to their study, internet has changed the dimensions of competition in the retail banking sector. Lympenopoulos and Chaniotakis (2004) argue that there might be a reduction in the number of bank branches in the future due to the provision of electronic services. This translates to lower operating costs and increased profitability. However, other researchers argue that ATMs should serve to complement and not replace physical branches (Mosoti & Mwaura, 2014). Electronic banking has an impact on banking performance by influencing the nature of relationship between banks and their customers (Ndwiga & Maina, 2018).
2.4.3. Mobile Banking Risks and Security

Many people are utilizing their cell phones, for example, advanced mobile phones to get to different online services everyday. Specifically, mobile banking applications are progressively getting to be well known. Numerous banks are putting forth mobile banking services which allow bank clients to check balance in their personal account, to transfer funds between accounts and make online payments anywhere and at any time by simply using mobile banking applications installed on their mobile devices (Werner, 2016). However, the wide use of Smartphone’s is also accompanied with an equally alarming rise in mobile malware (Rosenberg, 2010).

Information system security in bank accounts remains major concern in the provision of effective mobile phone banking services. At present, mobile banking idea depends on PIN as a security effort in validating client bank accounts, sending emails or updating customers by sending SMS (Sullivan, 2000). Much like emails, text messages are not encoded. So if customers agree to accept normal account balance checks via text message, his or her information is being transmitted in a way that makes it vulnerable to interception. For an effective provision of this mobile phone banking services. Olokoyo, (2011) affirms that, the arrangement of mobile phone banking is impacted by security concerns where he suggested that extra information system security needed to be in place for the mobile phone banking to be effective.

Security and trustworthiness of a service was identified as one of the most important factors within every target customer segment when deciding on the use of a banking service delivery channel. Security is the biggest challenge facing the mobile banking world. The use of wireless technology creates a risk that information will be stolen, therefore service providers have to employ the use of highly secure encryption technology to prevent third party data intrusion and losses. The mobility of the mobile handset and the nature of wireless communications makes it difficult to authenticate a customer, hence this becomes a security concern for both banks and their customers.

Siyanbola (2013) contends that using mobile phone in banking is trustworthy. Early researchers’ evidence and intuition alike suggests that trust plays a major role in use of the m-banking services (Gupta, 2013). Vekya (2017) have proposed modification to the technology acceptance model. They introduced a trust variable perceived credibility to predict m-banking adoption in Taiwan. Yet their modification also included another
variable, self-efficacy and a form of trusting oneself. Generally, trust being a comprehensive concept may have to be handled carefully in any credible analysis of m-banking success (Oladejo, 2016).

People can trust the interface, the network across which their funds travel, the representatives of the institutions (channels) who control their money and/or the institutions themselves. Mobile banking overview (January 2009) stated that, security issue must be addressed in order to encourage adoption of mobile banking in the following ways: data transmission must be secure in terms of confidentiality and therefore require encryption of the connection between the device and the bank. Application and data access must be controlled; whereby before users receive any sensitive information related to their bank accounts, a certain degree of verification must be completed.

Werner (2016) defines risk as a perception of consumer, not a characteristics of a product. It was found that the security factor could influence consumers’ attitudes towards online banking (Nyangchama, 2015). Furthermore, it was considered to be one of the greatest concerns in adoption of mobile banking services as individuals may worry about security issues during mobile banking service transactions such as data input and output mechanisms, loss of connection risk and personal performance mistakes (Chatain et al., 2008). As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking. However, some previous studies have argued that, on the contrary, security issues were not major obstacles for consumers in adopting mobile banking (Chatain et al., 2008).

2.5 Chapter Summary

This chapter provided a constructive literature review with a focus on mobile banking and the effects it has on the profitability of commercial banks. The chapter aimed at reviewing past studies that have been done in relation to the effects of mobile banking on the profitability of commercial banks. The next chapter describes the methods and procedures used to carry out the study. This is specifically research design, population and sampling design, data collection methods, and data analysis methods used in the study. In Chapter four, the results and findings are discussed based on the data collected. In chapter five the discussions, conclusions and recommendations of the study will be presented.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with collection of data, analysis and presentation of data. It outlines the methodology that was used in the study and it includes; research design employed, the population and sampling design. Sampling frame, sampling technique, sample size are defined under sampling design. Described also in the chapter are data collection and analysis techniques employed.

3.2 Research Design

Research design is the strategy conceived in a bid to acquire solutions to research problems; it is also defined as a blueprint for collection, measurement and data analysis (Cooper & Schindler, 2008). According to Kothari (2004), descriptive research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research, purpose with economy procured. Descriptive design is appropriate because it involves a means of collecting and analyzing data in order to answer research questions (Mugenda & Mugenda, 2003).

According to Sekaran and Bougie (2013), descriptive research is a design used to answer the question, what is happening? how it is happening? why it is happening?. This study adopted this design because the study was aimed at collecting information from respondents on their perceptions in relation to effects of mobile banking on profitability of commercial banks’ in Thika Sub County, a case study of Equity Bank Kenya Limited.

Further, the correlational approach was adopted as the study was aimed at describing the relationship between the independent variables; mobile banking loans, mobile banking funds transfer, and mobile banking payment of bills and the dependent variable, profitability of commercial banks. According to Cooper and Schindler (2011) one of the objectives of descriptive studies is the discovery of associations among different variables. This objective is sometimes labeled a correlation study, a sub set of descriptive studies.
3.3 Population and Sampling Design

3.3.1 Population

According to Kothari (2004), population refers to a sum total of individual with requisite information being sought by the researcher. Because there is limited time and money to gather information from everyone or everything in a population, the goal becomes finding a representative sample of population which becomes the target population. Target population represents all cases of people or organizations which possess certain characteristics; it is the larger group from which a sample is taken (Mugenda & Mugenda, 2003). The target population is the entire group a researcher is interested in; the group about which the researcher wishes to draw conclusions. The target population was eighty nine (89) respondents who are the employees of Equity bank Kenya Limited from the branches in Thika Sub County. These include; Thika Equity Plaza branch, Thika Kenyatta Highway branch, Thika Supreme branch and Thika Makongeni branch.

3.3.2 Sampling Design

According to Sekaran and Bougie (2013), in probability sampling, the elements in the population have some known, non zero chance or probability of being selected as sample subjects. This design is used when the representatives of the sample is of importance in the interest of wider generalizability. This was the design that the study adopted, as the sample was inferred to the population.

3.3.2.1 Sampling Frame

A sampling frame is the source material or device from which a sample is drawn. It represents a list of all those within a population who can be sampled, and may include individuals, households or institution (Zikmund & Babin, 2012). The sampling frame for the study was all the eighty nine (89) employees working in the operations and credit departments at Equity Bank Kenya Limited Thika branches as indicated by the human resource department, Equity Bank Kenya Limited.

3.3.2.2 Sampling Technique

The sampling frame for any probability sample is a complete list of all the cases in the target population from which the sample will be drawn (Saunders, Lewis, & Thornhill, 2016). It is therefore essential because the methodology applied is used to determine whether the sample of the study is a true representative of the whole population from
which it is drawn or not. The findings of the study assumed a true representative of the study population (Cooper & Schindler, 2014). The study adopted a census technique where all employees in the four branches were targeted. According to Saunders et al., (2016), a census often results in enough respondents hence resulting in a high degree of statistical confidence in the survey results. The census method is important as it gives everyone the opportunity to provide feedback.

3.3.2.3 Sample Size

From the initial target population of 89 a total census was carried out thus applying that, the 89 target respondents formed the sample size. According to Cooper and Schindler (2014), census method ensures higher degree of accuracy than other techniques. It provides complete information because each and every item is investigated carefully.

Table 3.1: Sample Size

<table>
<thead>
<tr>
<th>Departments in the Equity Bank Kenya Limited Branches</th>
<th>Number of employees</th>
<th>Percentage of Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Department</td>
<td>54</td>
<td>60.6</td>
</tr>
<tr>
<td>Credit Department</td>
<td>35</td>
<td>39.4</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100</td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

Data collection is simply how information is gathered; every researcher has two general approaches to data collection, namely primary and secondary; primary data is acquired directly from original sources whereas data collected indirectly from reports and publications is referred to as secondary (Kothari, 2006). To collect primary data, questionnaires are used. A questionnaire is a document containing all respondent’s answers or reactions. Ngechu (2004) states that, a questionnaire is a tool designed to ask the same set of questions to several people. The questionnaire was chosen taking into consideration its advantages.

According to Orodho (2009), the questionnaire is less expensive since it saves time as well as human and financial resources. It offers greater anonymity and in some situations where sensitive questions are asked, it helps to increase the likelihood of obtaining accurate information. The fact that the questionnaire is easy to distribute to a large
number of people and is relatively inexpensive to conduct makes it appropriate for this study.

The variables on the key objectives of the study was measured in interval scales on a five point Likert scale (1-representing strongly disagree to 5–Strongly agree) to determine the effects of mobile banking loans, effects of mobile banking funds transfer and effects of mobile banking payment of bills on profitability of commercial banks’ in Kenya. The researcher delivered the questionnaires to the respective respondents and gave them ample time to respond.

**3.5 Research Procedure**

The researcher used piloting to check the reliability and validity of the research instruments and the effectiveness of the research design. According to Kaimenyi (2012), it is difficult to give the exact number for the pilot group but as a rule of thumb, it is recommended that the researcher pilots 5-10% of the final sample. Reliability of each instrument was ascertained through discussing the drafts with the supervisor and making necessary adjustments to the research instrument before conducting a pilot study research. During the pilot study, draft questions were pre-tested. On the other hand, questions which did not yield good results were reviewed.

After approval of the final questionnaire, the researcher sought an introduction letter from the Chandaria School of Business. The letter was sent to respondents to assist in seeking for the approval. Thereafter, the final questionnaires were distributed to the respondents.

Questionnaires were administered at the all the four Equity Bank branches and the study utilized a drop and pick method. To ensure validity of the data the researcher undertook Cronbacch alpha test where all the variables were found to be reliable.

**3.6 Data Analysis Methods**

According to Kothari (2004), data analysis is a process of gathering, modeling and transformation data with the goal of highlighting useful information, suggesting conclusions and supporting decision making hence preparing crude data into interpretable designs. Statistical Package for Social Sciences (SPSS) program was used to analyze quantitative data and allowed easy interpretation, conclusions and recommendations. Correlation was used to describe degree of relationship between the variables used.
As per the coefficient the equation \( Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \) was established where:

\[
Y = 0.70 + 0.243X_1 + 0.343X_2 + 0.448X_3
\]

Where \( Y \) is the dependent variable bank profitability

\( X_1 \) – Mobile loans

\( X_2 \) – Mobile funds transfer

\( X_3 \) – Mobile bill payment

3.7 Chapter Summary

The chapter has presented a description of the methodology that was used in carrying out the study. It has defined and explained the chosen research design, the population and sampling designed used i.e the sampling frame, sampling technique and the sample size. Data collection techniques and research procedures used have also been discussed. The next chapter is chapter four that presents the results and findings of the study. In chapter five the discussions, conclusions and recommendations of the study are presented.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results established from the data analysis done. This included results relating to the demography and specific research questions of the study aimed at establishing effects of mobile banking on profitability of commercial banks’ in Thika Sub County.

4.2 Response Rate

The researcher issued a total of 89 questionnaires and a total of 65 were filled and returned giving a response rate of 73%. This was sufficient for the study as indicated in Table 4.1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled and returned</td>
<td>65</td>
<td>73</td>
</tr>
<tr>
<td>Non-response</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3 Reliability Test

A pilot study was undertaken to establish reliability of the questionnaires. The pilot study was done and random sample selected among 5 employees. By use of Cronbach’s Alpha in SPSS a reliability analysis was done to evaluate internal consistency of the variables and the results are displayed in Table 4.2.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach's Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile banking loans on profitability</td>
<td>.726</td>
<td>11</td>
</tr>
<tr>
<td>Mobile banking funds transfer on profitability</td>
<td>.874</td>
<td>11</td>
</tr>
<tr>
<td>Mobile banking payment of bills on profitability</td>
<td>.846</td>
<td>11</td>
</tr>
<tr>
<td>Profitability</td>
<td>.774</td>
<td>8</td>
</tr>
</tbody>
</table>

The findings shows that effects mobile banking funds transfer had the highest reliability (α= 0.874), effects of mobile banking payment of bills (α=0.846), Profitability (α=0.774)
and Effects of mobile banking loans on profitability (α= 0.726). The data on the reliability scale indicated that all the variables were reliable α > 0.7

4.4 Demographic Data

The research analysed data with regard to the demographic factors and the results were presented as follows:

4.4.1 Respondents Gender

To analyse the gender of the respondents, the result established that majority of respondents accounting for 62.2% were male, while only 33.8% were females as shown in Figure 4.1 below. This implies that the data received represented the views of all the genders.

![Respondents Gender](image)

**Figure 4.1: Respondents Gender**

4.4.2 Respondents Education

To analyse the literacy levels the result established that majority of respondents accounting for 69.2% were degree holders while diploma holders were 24.6% and masters degree holders represented 6.2% as shown in Figure 4.3 below. This implies that the data received from respondents was precise as the respondents were literate to comprehend the questions asked.
Figure 4.2: Respondents Education

4.4.3 Respondents Age

An analysis of the respondents age revealed that majority of respondents accounting for 56.9% were aged between 25-34 years while those aged 18-24, and 35-44 represented 2.15% respectively. Those aged above 44 years had no representation. This implies that Equity Bank has a diverse age group and majority are still young therefore able to serve the bank for a long time.

Figure 4.3: Respondents Age

4.4.4 Work Experience

To establish the duration the respondents have worked in the firm, the findings revealed that majority of the respondents have worked in Equity Bank for 6-8 years representing 49.2%, those of between 3-5years followed closely at 44.6%, and those of 1-2 years were 6.2% as shown in Figure 4.4
4.4.5 Years Worked in the Banking Sector

To establish the duration the respondents have worked in the banking sector, the findings revealed that majority of the respondents have worked in the sector for 6-10 years representing 50.8%, those of between 1-5 years followed closely at 30.8%, and those of less than a years were 15.4%, those who had worked in the sector for over 10 years represented 3.1% as shown in Figure 4.5.

4.4.6 Access of Banking Services through Mobile Phone

The study sought to establish if respondents had access to banking services through their mobile phones and the study revealed that a majority accounting for 93.8% did, while only 6.2% did not.
Figure 4.6: Access of Banking Services through Mobile Phone

4.4.7 Perceive Mobile Banking Services as Secure

The study sought to establish if respondents perceive mobile banking services as secure and the study revealed that a majority accounting for 50.8% somewhat found it secure, while 43.1% found it very secure and only 6.2% did not find it secure.

Figure 4.7: Perceive Mobile Banking Services as Secure

4.4.8 Mobile Banking Loans

The study sought to respondents opinion in regard to mobile banking loans and the study revealed that a majority accounting for 60% found it to be good, while 33.8% indicated that it was average and only 6.2% indicated it was poor as shown in Figure 4.8
4.5 Effects of Mobile Banking Loans on Banks’ Profitability.

The first objective set to establish how mobile banking loans affected profitability of Equity Bank. Respondents were asked a set of questions to indicate to what extent they agree or disagreed with statement using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agreed.

4.5.1 Descriptive Statistics of Mobile Banking Loans

Majority of the staff agreed that mobile banking loans disbursed had a positive impact on the banks profit share (M=4.16, sd=1.001). It was also agreed that Mobile banking loans had led to increased loan interest income of the bank (M=4.02, sd=1.340). Most respondents agreed that mobile banking loan issuance process was short easy and less costly since a lot of paper work had been reduced (M=4.28, sd=1.193).

The study also revealed that mobile banking has made it easy for the banks customers to access loan services with the technological advancement in place (M=3.89, sd=1.336). Mobile banking loans have led to the growth of the banks’ loan book (M=4.11, sd=1.174). Results also show that mobile banking loans have had an impact on the non-performing loans (M=4.05, sd=.926). Mobile banking has also encouraged repeated borrowing by the banks’ customers (M=4.02, sd=1.293).
Table 4.3: Descriptive Statistics of Mobile Banking Loans

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mobile banking loans disbursed have had a positive impact on the banks profit share.</td>
<td>65</td>
<td>4.16</td>
<td>1.001</td>
</tr>
<tr>
<td>Mobile banking loans have led to increased loan interest income of the bank.</td>
<td>65</td>
<td>4.02</td>
<td>1.340</td>
</tr>
<tr>
<td>Mobile banking loan issuance process is short easy and less costly since it cuts down on a lot of paper work</td>
<td>65</td>
<td>4.28</td>
<td>1.193</td>
</tr>
<tr>
<td>Mobile banking loans have led to easier tracking and monitoring of borrowers.</td>
<td>65</td>
<td>3.31</td>
<td>1.211</td>
</tr>
<tr>
<td>Mobile banking Loans are easy to access by the banks customers due to the existing mobile banking platform.</td>
<td>65</td>
<td>3.89</td>
<td>1.336</td>
</tr>
<tr>
<td>Mobile banking loans have led to the growth of the bank’s loan book.</td>
<td>65</td>
<td>4.11</td>
<td>1.174</td>
</tr>
<tr>
<td>Mobile banking loans have had an impact on the non-performing loans.</td>
<td>65</td>
<td>4.05</td>
<td>.926</td>
</tr>
<tr>
<td>Mobile banking has made it easy for low income earners and the vulnerable persons to access loans.</td>
<td>65</td>
<td>3.60</td>
<td>1.498</td>
</tr>
<tr>
<td>Mobile banking has encouraged repeated borrowing by the banks’ customers.</td>
<td>65</td>
<td>4.02</td>
<td>1.293</td>
</tr>
<tr>
<td>Loan processing fees have been greatly reduced for customers due to mobile banking.</td>
<td>65</td>
<td>2.75</td>
<td>1.447</td>
</tr>
</tbody>
</table>

The study also showed that mobile banking has made it easier for low income earners and the vulnerable persons to access loans (M=3.60, sd=1.498). There was however a disagreement on whether mobile banking loans have led to easier tracking and monitoring of borrowers (M=3.31, sd=1.211). Majority disagreed that the loan processing fee had been greatly reduced for customers due to mobile banking (M=2.75, sd=1.447).

4.6 Effects of Mobile Banking Funds Transfer on Banks’ Profitability

The second objective set to establish how mobile banking funds transfer affected profitability of Equity Bank. Respondents were asked a set of questions to indicate to what extent they agree or disagreed with the statement using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agreed.
4.6.1 Perception of Mobile Banking Funds Transfer

The study sought to establish respondents thought about the mobile banking funds transfer facility offered by the mobile banking system. The result indicated that 15.4% found it to be very efficient while a majority accounting for 84.6% found it efficient.

![Figure 4.9: Perception of Mobile Banking Funds Transfer](image)

4.6.2 Descriptive Statistics of Mobile Banking Funds Transfer

Results indicated that mobile banking funds transfer service had expanded the income generating potential of the bank (M=4.19, sd=1.128). The funds transfer service was also found to positively influence the non-funded income of the bank. (M=3.85, sd=1.326). The study also indicated that mobile banking funds transfer service led to the reduction of operational costs of the bank (M=3.92, sd=1.094). Customers have found it easy to send and receive funds through mobile banking (M=4.12, sd=.893). Results also show that mobile banking funds transfer service is real time and saves time (M=4.25, sd=1.031).
Table 4.4: Descriptive Statistics of Mobile Banking Funds Transfer

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile banking funds transfer has expanded the income generating potential of the bank.</td>
<td>65</td>
<td>4.19</td>
<td>1.128</td>
</tr>
<tr>
<td>Mobile banking funds transfer has influenced positively the non-funded income of the bank.</td>
<td>65</td>
<td>3.85</td>
<td>1.326</td>
</tr>
<tr>
<td>Customers are satisfied with the existing funds transfer limits between accounts.</td>
<td>65</td>
<td>3.09</td>
<td>1.234</td>
</tr>
<tr>
<td>Mobile banking funds transfer influenced the reduction of operational costs of the bank.</td>
<td>65</td>
<td>3.92</td>
<td>1.094</td>
</tr>
<tr>
<td>Customers find it easy to send and receive funds through mobile banking.</td>
<td>65</td>
<td>4.12</td>
<td>0.893</td>
</tr>
<tr>
<td>Mobile banking funds transfer is real time and saves time.</td>
<td>65</td>
<td>4.25</td>
<td>1.031</td>
</tr>
<tr>
<td>Mobile banking has made transfer of money from one bank account to another cheaper.</td>
<td>65</td>
<td>3.78</td>
<td>1.111</td>
</tr>
<tr>
<td>Human errors have been reduced and accuracy of transactions enhanced due to mobile banking.</td>
<td>65</td>
<td>3.63</td>
<td>1.084</td>
</tr>
<tr>
<td>Platforms such as PESALINK have enhanced mobile banking funds transfer service thus increasing income for the bank.</td>
<td>65</td>
<td>3.60</td>
<td>1.297</td>
</tr>
<tr>
<td>Equitel customers are well aware and knowledgeable of the funds transfer service.</td>
<td>65</td>
<td>3.48</td>
<td>1.187</td>
</tr>
<tr>
<td>Mobile banking services have enabled customers to access their deposits with ease for withdrawals.</td>
<td>65</td>
<td>4.29</td>
<td>.785</td>
</tr>
<tr>
<td>Mobile banking service has increased customer access to bank services.</td>
<td>65</td>
<td>4.09</td>
<td>1.128</td>
</tr>
</tbody>
</table>

Mobile banking has made transfer of money from one bank account to the other much cheaper (M=3.78, sd=1.111), human error had been reduced and accuracy of transactions enhanced due to mobile banking (M=3.63, sd=1.084). Findings also indicated that platforms such as PESALINK have enhanced mobile banking funds transfer service thus increasing income for the bank (M=3.60, sd=1.297). Mobile banking services have enabled customers to access their deposits with ease for withdrawals (M=4.29, sd=.785). A majority also agreed that mobile banking service has increased customer access to bank services (M=4.09, sd=1.128). There was however an uncertainty among members on customers being satisfied with the existing funds transfer limits between accounts (M=3.09, sd=1.234) and whether Equitel customers being aware and knowledgeable of the funds transfer service (M=3.48, sd=1.187).
4.7 Effects of Mobile Banking Payment of Bills on Banks’ Profitability

The last objective set to establish how mobile banking payment of bills affected profitability of Equity Bank. Respondents were asked a set of questions to indicate to what extent they agree or disagreed with statement using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agreed.

4.7.1 Perception of Bill Payment Services

The study sought to establish respondents thought about the bill payment services as offered by the mobile banking system. The result indicated that 52.3% found it to be very efficient while 43.1% found it efficient, at the same time only 4.6% found it to be inefficient.

![Figure 4.10: Perception of Bill Payment Services](image)

4.7.2 Descriptive Statistics of Bill Payment Services

The results indicated that customers are worried about transaction errors while making bill payments (M=3.54, sd=0.969). It was also established that mobile banking bill payment service had increased the number of customers purchasing goods and services using Equitel through eazzypay and Lipa na M-pesa (M=3.75, sd=1.487).
Table 4.5: Descriptive Statistics of Bill Payment Services

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill payment service offered by the bank through mobile banking is easy and quick.</td>
<td>65</td>
<td>3.26</td>
<td>1.511</td>
</tr>
<tr>
<td>Mobile banking bill payment service had a positive impact on the banks non-funded income.</td>
<td>65</td>
<td>3.87</td>
<td>1.301</td>
</tr>
<tr>
<td>Customers are worried about transaction errors while making bill payments.</td>
<td>65</td>
<td>3.54</td>
<td>.969</td>
</tr>
<tr>
<td>Customers are worried about the safety of personal information in mobile banking when it comes to payment of bills.</td>
<td>65</td>
<td>3.17</td>
<td>1.306</td>
</tr>
<tr>
<td>Transaction settlement is instant and real time once bill payment is conducted.</td>
<td>65</td>
<td>3.29</td>
<td>1.288</td>
</tr>
<tr>
<td>Mobile banking bill payment service has increased the number of customers purchasing goods and services using Equitel through Eazzypay/Lipa na M-pesa</td>
<td>65</td>
<td>3.75</td>
<td>1.487</td>
</tr>
<tr>
<td>The banks bill payment service has had a positive impact on the banks’ profits.</td>
<td>65</td>
<td>4.28</td>
<td>.909</td>
</tr>
<tr>
<td>Mobile banking bill payment service has expanded the income generating potential of the bank.</td>
<td>65</td>
<td>3.88</td>
<td>1.139</td>
</tr>
<tr>
<td>Mobile banking bill payment service has led to an increased number of Eazzypay merchants.</td>
<td>65</td>
<td>3.89</td>
<td>1.07</td>
</tr>
<tr>
<td>Customers find the mobile banking bill payment service convenient thus leading to customer retention</td>
<td>65</td>
<td>3.83</td>
<td>1.098</td>
</tr>
</tbody>
</table>

Findings show that banks bill payment service has a positive impact on the banks’ profits (M=4.28, sd=.909) and mobile banking bill payment service has expanded the income generating potential of the bank (M=3.88, sd=1.139). The study also established that mobile banking bill payment service had led to an increased number of eazzypay merchants (M=3.89, sd=1.077) and customers have found mobile banking technology convenient thus leading to customer retention (M=3.83, sd=1.098). The study also concluded that mobile banking bill payment had a positive impact on the banks non-funded income (M=3.87, sd=1.301).

There was uncertainty on whether bill payment service offered by the bank through mobile banking was easy and quick (M=3.26, sd=1.511). Results also indicated that respondents had a neutral response about customers being worried about the safety of personal information in mobile banking when it comes to payment of bills (M=3.17,
There was also uncertainty about transaction settlement being instant and real
time once bill payment is conducted (M=3.29, sd=1.288).

4.8 Inferential Statistics

4.8.1 Correlation Analysis

A Pearson correlation analysis was done to establish the relationship between the
dependent variable (profitability of commercial banks) against the independent variables;
mobile loans, mobile funds transfer and bill Payment and the result established a strong
positive relationship between profitability and mobile loans (r=0.677, p value=0.000),
mobile funds transfer (r=0.832, p value=0.000), bill payments (r=0.838, p value=0.000).
Therefore, an increase in combined variables of mobile loans, mobile funds transfer and
bill payments lead to an increase in profitability of commercial banks.

Table 4.6: Correlation Analysis of Mobile Loan, Mobile Funds Transfer and Mobile
Bill Payment

<table>
<thead>
<tr>
<th></th>
<th>Profitability</th>
<th>Mobile Loan</th>
<th>Mobile Fund Transfer</th>
<th>Mobile Bill Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Pearson Correlation 1</td>
<td>.677**</td>
<td>.832**</td>
<td>.838**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Mobile Loan</td>
<td>Pearson Correlation .677**</td>
<td>1</td>
<td>.617**</td>
<td>.559**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Mobile Fund Transfer</td>
<td>Pearson Correlation .832**</td>
<td>.617**</td>
<td>1</td>
<td>.799**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Bill Payment</td>
<td>Pearson Correlation .838**</td>
<td>.559**</td>
<td>.799**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

4.8.2 Regression Analysis

The research analysed relationship between the dependent variable (profitability of banks)
against other core factors. The results showed that the R² value was 0.804 hence 80.4% of
the variation in profitability was explained by the variations in Mobile loan, mobile funds
transfer and mobile bill payment as illustrated in Table 4.7.
Table 4.7: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.897a</td>
<td>.804</td>
<td>.794</td>
<td>.36217</td>
<td>F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1</td>
</tr>
<tr>
<td></td>
<td>.804</td>
<td>83.401</td>
<td>3</td>
<td>61</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), mobile loan, mobile fund transfer, mobile bill payments
b. Dependent Variable: profitability

An ANOVA analysis was done between the dependent variable (profitability of banks) against other core factors at 95% confidence level, the F critical was 83.401 and the P value was (0.000) therefore significant and the results are illustrated below in Table 4.8

Table 4.8: Anova Analysis

<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>1</td>
<td>32.819</td>
<td>3</td>
<td>10.940</td>
<td>83.401</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>8.001</td>
<td>61</td>
<td>.131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.821</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: profitability
b. Predictors: (Constant), mobile loan, mobile fund transfer, mobile bill payments

As per the coefficient Table 4.9, the equation \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 \) becomes:

\[
Y = 0.70 + 0.243X_1 + 0.343X_2 + 0.448X_3
\]

Where \( Y \) is the dependent variable bank profitability

\( X_1 \) – Mobile loans

\( X_2 \) – Mobile funds transfer

\( X_3 \) – Mobile bill payments

The regression equation illustrated in Table 4.9 has established that taking all factors into account (mobile loans, mobile funds transfer and mobile bill payments) all other factors held constant bank profitability experiences a positive increase of 0.07. The findings presented also showed that with all other variables held at zero, a unit change in mobile loans would lead to 0.243 increase in profitability, and a unit change in mobile funds transfer would lead to 0.343 increase in profitability. Moreover, the study also showed that a unit change in bill payment would result in 0.448 increase in profitability. All
variables were significant (p<0.05), therefore in the equation mobile loans, mobile funds transfer and mobile bill payments are all significant in determining profitability.

**Table 4.9: Coefficient of Bank Profitability and Co Factors**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.070</td>
<td>.264</td>
</tr>
<tr>
<td>Mobile loans</td>
<td>.243</td>
<td>.082</td>
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<tr>
<td>Mobile funds transfer</td>
<td>.343</td>
<td>.099</td>
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<tr>
<td>Mobile bill payments</td>
<td>.448</td>
<td>.097</td>
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</table>

**4.9 Chapter Summary**

This chapter has highlighted results and findings established from the data analysis done. The first section provided an analysis of demographic data of the respondents, followed by results from each of the three objectives done. In chapter five this results are discussed and relevant conclusions and recommendations made with regard to profitability of Equity Bank Kenya Limited.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section sought to discuss the findings and this was done by comparing and contrasting with previous literature. This section is organized based on the specific research objectives which sought to establish how mobile banking loans, mobile banking funds transfer and mobile banking payment of bills affect profitability of commercial banks’ in Kenya. Finally it provided appropriate recommendations and suggestions for further research areas.

5.2 Summary

The general objective of the study was to find out the effects of mobile banking on profitability of commercial banks’ in Thika Sub County a case study of Equity Bank Kenya Limited. This study was guided by the following specific research objectives: To determine the effects of mobile banking loans on profitability of commercial banks’ in Kenya. To determine the effects of mobile banking funds transfer on profitability of commercial banks’ in Kenya. To determine the effects of mobile banking payment of bills on profitability of commercial banks’ in Kenya.

The study adopted a descriptive research design because the study aimed at collecting information about the respondents’ perceptions in relation to effects of mobile banking on profitability. The target population for this study was 89 staff from the operations and credit departments in the four branches. The method of data collection was through questionnaires. The response rate was 73%. This means that the number of respondents, who successfully filled completed and returned the questionnaires to the satisfaction of the researcher were 65 while 24 respondents did not give an effective response. A correlational approach was adopted as the study sought to describe relationship between the independent variables; mobile banking loans, mobile banking funds transfer, mobile banking payment of bills with the dependent variable which was profitability. Data was analyzed using Statistical Package for Social Sciences, the results were illustrated in form of tables and figures.

Majority of the staff agreed that mobile banking loans disbursed had a positive impact on the banks profit share. They were of the view that mobile banking loans had led to
increased loan interest income of the bank. The respondents were in agreement that mobile banking loan issuance process had become shorter and less costly due to a lot of paper work being eliminated. The analysis done also showed that mobile banking had made it easier for the banks customers to access loan services with the mobile banking platform in place. Mobile banking loans have driven the growth of the banks’s loan book. Results also show that mobile banking loans have had an impact on the non-performing loans. Non performing loans have an adverse effect on the banks loan book and overall leading to reduced profits. Mobile banking has also enticed banks’ customers to borrow repeatedly. The study also showed that mobile banking has made it easy for low income earners and the vulnerable persons to access loans. However majority of the staff disagreed that loan processing fees had been greatly reduced due to mobile banking.

The second objective established that respondents were in agreement that the mobile banking funds transfer facility offered by the mobile banking system was efficient. Results also show that mobile banking funds transfer has expanded the income generating potential of the bank. Mobile banking funds transfer was also found to positively influence the non-funded income of the bank. Majority of the staff concurred that mobile banking funds transfer led to the reduction of operational costs of the bank. The staff agreed that the banks’ customers found it easy to send and receive funds through mobile banking. Results also show that mobile banking funds transfer facility is real time and saves time. In addition, mobile banking funds transfer facility has made transfer of money from one bank account to the other less costly. The respondents agreed that human errors had been reduced and accuracy of transactions enhanced due to mobile banking. Findings also indicated that platforms such as PESALINK have enhanced mobile banking funds transfer service thus increasing income for the bank. The study also revealed that mobile banking services have enabled customers to access their deposits with ease for withdrawals. However the study revealed uncertainty as to whether customers were satisfied with the existing funds transfer limits.

Majority of the respondents found the bill payment services to be efficient. The results from the respondents however revealed that customers were still worried about transaction errors while making bill payments. It was also established that mobile banking bill payment service has fueled the growth of the number of customers purchasing goods and services using Equitel through eazzypay and Lipa na M-pesa tills thereby increasing income margins of the bank. Findings show that banks bill payment service has a positive
impact on the banks’ profits. Furthermore mobile banking bill payment service has expanded the income generating potential of the bank. The study also established that mobile banking bill payment service had led to an increased number of eazzypay merchants and customers found the mobile banking bill payment service convenient thus leading to customer retention.

A Pearson correlation analysis was done to establish the relationship between the dependent variable (profitability of commercial banks) against Mobile loans, Mobile funds transfer and mobile bill Payment and the result established a strong positive relationship between profitability and the variables. Therefore, an increase in the combined variables of mobile loans, mobile funds transfer and mobile bill payment results to increased profitability of the bank.

5.3 Discussions

5.3.1 Effects of Mobile Banking Loans on Profitability of Commercial Banks

From the study findings, the results show that majority of staff agreed that mobile banking loans disbursed have a positive impact on the banks profit share. These findings are in agreement with the study Abreu and Mendes (2000), who noted that the more banks offer advances, the more it generates income and therefore more profits. Rasiah (2010) also noted that banks must be willing to offer more advances despite the fact that as they offer more advances to clients they open themselves to liquidity and default dangers which impacts negatively on banks' profits.

The study found out that mobile banking loan issuance process was short, easy and less costly and had cut down on a lot of paper work. These findings were consistent with the study by Ninad and Ashish (2018), who were also of the same opinion that digital lending had several advantages to banking institutions including cost foregone such as human resource and fixed assets that would have been required as well as transactions made on a daily basis or recorded by manual procedure. They further conclude that collection of borrower’s information, its validation and disbursement of loans was easy and quick thereby becoming easier to handle many customers at different locations at a time.

The study also revealed that mobile banking had made it easy for the banks’ customers to access loan services. As noted by Karlan and Zinman (2010) and Morse (2011), digital credit has emerged as an alternative mechanism for providing short-term loans. Partnerships between mobile phone operators and financial institution are created to
extend small, short-term loans directly to customers. They note while high interest rate loans can in principle be helpful for liquidity constrained customers by providing cash in times of high need they may also be harmful, resulting to debts and eventually bankruptcy.

The results indicated that Mobile banking loans had led to the growth of the banks’ loan book. Similar results were posted by Kaffenberger et al, (2018), who in their survey also noted that high volumes of digital credit were driven by a segment of active users particularly small traders and entrepreneurs, who borrow multiple times weekly or monthly. The study further revealed that mobile banking enhanced accessibility of loans by the low income earners and the vulnerable which is a contradiction to the results posted by Kaffenberger et al, (2018) who indicated that digital credit had remained out of reach for most vulnerable groups’ due to their primary sources of income being characterized by irregular cash flows.

The findings revealed that mobile banking loans had an impact on the non-performing loans. Non performing loans have a negative impact on the banks loan book. These findings are consistent with those stated by Ndewa (2014) who did an examination on the impact of mobile money on non-performing loans of commercial banks in Kenya. The study used a descriptive research method, where data was collected from the listed commercial banks in Kenya. The study concluded that there was a negative relationship between mobile money operations and non-performing loans. Dang (2011) in his study notes that the nature of loan portfolio determines the profitability of banks, with the highest risk confronting a bank is the misfortunes gotten from non-performing loans.

5.3.2 Effects of Mobile Banking Funds Transfer on Profitability of Commercial Banks

Results from the study indicated that mobile banking funds transfer has reduced the operational costs of the bank. These findings are in agreement with a study conducted by Deloitte, (2010), where it was found that the cost of processing a transaction through a mobile phone would be as 10 times lower than an ATM and as much as 50 times lower through a branch. The study concluded that the more branch transactions that a bank can drive to mobile phones, the higher the possibility they can close poorly performing branches and increase operational efficiencies by shifting focus of employees from transactions to more advisory type services leading to greater sales. The findings of this
study are further consistent with the findings of Allen and Hamilton (2002), where they concluded that the cost of providing the routine service in U.S.A is 1.07 dollars per transaction while that of telephone banking would be 54 cents. This was due to reduced expenses of giving support to clients. The findings were further supported by Ndewiga and Maina (2018), where in their study they concluded that banks investment on innovation assisted in reducing the operational costs, improved customer service and loyalty and moreover increased customer deposits and credits. Results of this study further indicate that customers found it easier and cheaper to send or receive money through the mobile banking service. They are consistent with findings by Rosenberg (2010), who found out that transaction costs of sending money through the mobile money technology were lower than those of banks and money transfer corporations and therefore more people were adopting mobile banking and clear indicator that banks would continue to produce more profits from mobile banking services. Kaleem (2008) further supports this by concluding that banks’ customers believe that there are gains in the usage of mobile banking, due to the reduction in transaction costs.

The study also found that mobile banking funds transfer was real time and saves time. The findings were in agreement with Sharma and Kaur (2016) who in their study noted that mobile banking facilitated customers in carrying out clearing and settlement of transactions and enabled real fund transfer in any bank account. Therefore customers could take advantage of banking services 24 hours a day and wherever and whenever they need. It not only saves time for customers but also reduces cost for banks.

Findings also indicated that platforms such as PESALINK had enhanced mobile banking funds transfer service thus making funds transfer service real time resulting to increased income generation potential for the bank. This is consistent with the study by Cook and McKay (2017), who noted that already 20 commercial banks were live with more than 2 million registered users on the PESALINK platform. They further noted that the transactions were high speed and low cost, enabling registered customers of the participating banks to transfer funds between banks through their mobile phones.

The study however revealed uncertainty as to whether the banks’ customers were satisfied with the existing funds transfer limits. Enhancing funds transfer limits is a delicate affair for banks. Chatain et al. (2008) note in their study, the fact that transactions can be performed virtually anytime and from any location is perceived to be a major tool
to terrorist financers and money launderers. This provides a new means of access to transferring funds both within and outside jurisdictions from, in the case of money laundering terrorist financing and criminal organizations poses problems.

5.3.3 Effects of Mobile Banking Payment of Bills on Commercial Banks Profitability

The study established that mobile banking bill payment service had increased the number of customers purchasing goods and services using Equitel through eazzypay and Lipa na M-pesa and in turn increasing income margins of the bank. Similarly Oladeju (2016) notes that banks in Nigeria launched mobile banking services that enable customers to carry out simple transaction based on short message service (SMS) technology with their mobile phones serving as terminals. Instead of paying with cash, cheques or credit cards, a consumer can use a mobile phone device to pay for a wide range of goods and services such as transportation fee, parking meters and other services.

The study also established that mobile banking bill payment service had led to an increased number of eazzypay merchants. According to the report by Sterling Capital limited (2018), Eazzypay till numbers are comparatively cheaper for merchants as customers payments are made at no extra cost and Equitel eazzypay interoperability, where merchants can accept payments from all mobile money wallets making it convenient to subscribers across all networks.

The study also revealed customers found the mobile banking bill payment service convenient thus leading to customer retention. This is consistent with the study by Arunga and Kahora (2007), who noted an increase in adoption of mobile payment by Kenyan business operators in undertaking their transactions due to its convenience and affordability. The transactions included; paying bills, paying suppliers for goods and services and this has increased its access to new services and more customers. Similarly, a study conducted by Rasiah (2010) on the effect of mobile banking and financial performance of Spanish commercial banks determined that banks that executed mobile banking were able to entice more customers and this definitely directed to increased contact to customer deposits leading to positive financial performance. Sometimes it is difficult for financial services like banking to be readily available. Given a situation like one is at a function and it is in the middle of the night and no bank and ATM is available and payments for food or drinks have to be made, mobile money will come in handy (Sharma & Kaur, 2016). It will make the financial services more accessible.
The study however found that customers were worried about the safety of personal information during bill payments. This would affect the usage of the service. The findings are consistent with Nyanchama (2015), in her study who found that the security factor could influence consumers’ attitudes towards online banking.

Despite this challenge, Wright (2002) mentions that internet-banking has lifted the branch network as an entry barrier to the retail banking while introducing price transparency as customers can now easily compare prices online. Sharma and Kaur (2016) show that internet-banking lowers operational costs while increasing customer satisfaction and retention. This is in agreement with the findings of the study where respondents concurred that bill payment service has had a positive impact on the banks profits.

The results of the study further revealed that clients tend to worry about transaction errors while making bill payments. These findings are further supported by Chatain et al., (2008), who in their study note that some of the concerns in adoption of mobile banking services by individuals include loss of connection risk and personal performance mistakes that may occur. As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking.

5.4 Conclusions

5.4.1 Effects of Mobile Banking Loans on Banks’ Profitability

Mobile banking loans disbursed have had a positive impact on the banks profits, this is attributed to the fact that it has led to increased loan interest income of the bank. Mobile banking loan issuance process is also seen to be short, easy and less costly since it cuts down on a lot of paper work. Mobile banking has made it easy for the banks customers especially the low income earners and the vulnerable to access driving the volume of loans disbursed leading to the growth of the banks’ loan book.

5.4.2 Effects of Mobile Banking Funds Transfer on Banks Profitability

Mobile banking funds transfer has expanded the income generating potential of the bank as well reducing the operational costs of the bank. Customers have found it easier to send and receive funds through mobile banking funds transfer as it is real time and saves time. Use of mobile banking has led to inter bank transfers becoming cheaper, and human errors have been reduced and accuracy of transactions enhanced. Customers can access
their deposits with ease of withdrawals. The funds transfer service has positively influenced the non funded income of the bank.

5.4.3 Effects of Mobile Banking Payment of Bills on Banks Profitability

Mobile banking bill payment service has had a positive impact on the banks profits as has expanded the income generating potential of the bank. The bill payment service has increased the number of customers purchasing goods and services using Equitel through eazzypay and Lipa na M-pesa till platforms and in turn increasing income margins of the bank. The bill payment service has led to an increased number of eazzypay merchants as more customers continue to be onboarded on the mobile banking platform.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Effects of Mobile Banking Loans on Profitability of Banks

There is need for commercial banks to enhance accessibility of mobile banking loans especially to the low income earners while ensuring enhanced tracking and monitoring measures are put in place to mitigate the increase in non performing loans. Loan limits for bank customers should be continuously reviewed depending on the customer’s ability to repay the previous loans. For example customers who borrow repeatedly, might be enticed by higher loan limits and thereby continuing to borrow even more. Loan application through the mobile phone should made easier and simpler to enhance loan disbursements. Commercial banks should set up flexible loan repayment structures that considers borrower’s ability to pay to enhance loan repayment thereby reducing the non performing loans. Enhanced loan disbursement results to higher loan interest income for the bank and thus having a positive impact on the banks profit share. Continuous adoption of mobile banking technology by banks, results to reduced costs in terms reduced paperwork and credit staff at the physical branches. Banks should continuously review their loan processing fees so as to keep up with competition from other digital credit lenders such as the Tala application, and Safaricom’s Mshwari platform.

5.5.1.2 Effects of Mobile Banking Funds Transfer on Profitability of Banks

Use of mobile banking funds transfer expands the income generating potential of the bank, therefore banks need to enhance awareness to their customers about the facility. This results in to increased uptake by customers and therefore a reduction of costs
incurred in processing such transactions at the traditional branches. Adoption of the mobile banking funds transfer technology enhances accuracy with minimal human errors thereby enhancing uptake by customers and reducing possible losses. Banks therefore should adopt and continuously improve the service. Banks should also ensure that customers are satisfied with the existing funds transfer limits while considering safety measures. By linking their funds transfer services to platforms such as PESALINK, banks enhance their income generation as this enhances continuous transactions by customers. Therefore commercial banks should link their mobile funds transfer services to such platforms. Banks should ensure that funds transfer is real time to enhance customer satisfaction and therefore resulting to increased mobile banking service uptake.

5.5.1.3 Effects of Mobile Banking Payment of Bills on Banks Profitability

Commercial banks should ensure that there are minimal transaction errors experienced by their customers while making bill payments using their mobile banking platforms. Continuous reviewal and enhancement of safety measures and quick transaction settlement through mobile banking system modifications and improvements boosts confidence among customers. Customer awareness and enhancement about the bill payment service by banks is crucial. This will have a positive impact on the number of customers purchasing goods and services through the mobile banking bill payment service and in turn increase income margins of the bank. It is therefore necessary for banks to adopt mobile banking technology to enhance profitability.

5.5.2 Recommendation for Further Studies

This study only focussed on the effects of mobile banking on profitability of Equity Bank Kenya Limited. Therefore the same variables also need to be tested on other banks in order to generalize the findings in the banking sector and other financial sectors. Similarly, the same research can be done in Equity Bank branches in other geographical locations.
REFERENCES


Ernst & Young, (2016). *Alternate revenue models for Payments*. Jarkata, IN: Published in India.


APPENDICIES

Appendix I: Letter of Introduction to the Bank

4 March 2019

To whom it may concern

RESEARCH PROJECT BY NAHASHON GITAU NJAU- STUDENT ID: 639079

The bearer of this letter is a student at the United States International University-Africa pursuing a Master’s Degree in Business Administration (MBA).

As part of the program, he is required to undertake a research project on “Effects of Mobile Banking on Profitability of Commercial Banks in Thika Sub-County: A Case of Equity Bank Kenya Limited.” This requires him to collect data and information from various relevant institutions.

Kindly assist by enabling him access data, information and contacts with respondents who can complete his questionnaires. I assure you that the information provided will be treated with the utmost confidentiality.

Should you have any queries regarding the student research please feel free to contact me on my email, ilinge@usi.ac.ke or phone, +254 730116419

Yours sincerely

Dr. Teresa Kavoo Linge
Associate Dean, Chandaria School of Business
Appendix II: Questionnaire

The purpose of this questionnaire is to identify and analyze the effects of mobile banking on profitability of commercial banks in Thika Sub County. Kindly, respond by selecting the response among the choices given that best represents to your views. Please do not indicate your name anywhere in this questionnaire. Tick where appropriate in the choices given.

(Tick like [✓] where appropriate.

Section A: Background and Demographic Details of the Respondent.

1. Gender:  
   Male [ ]  Female [ ]

2. Level of Education  
   Diploma [ ]  Degree [ ]  Masters [ ]  Doctorate [ ]

3. Age  
   18-24 Years [ ]  25-34 Years [ ]  35-44 Years [ ]  45 Years + [ ]

4. How long have you been working in the organization?
   a. 1 – 2 years [ ]
   b. 3 – 5 years [ ]
   c. 6 – 8 years [ ]
   d. 10 -12 years [ ]
   e. 13 and above years [ ]

5. How long have you worked in the Banking Sector?
   a. Less than 1 Year [ ]
   b. Between 1-5 years [ ]
   c. Between 6-10 years [ ]
   d. Over 10 years [ ]

6. Do you access banking services with your mobile phone?
   a. Yes [ ]
   b. No [ ]

7. Do you perceive mobile banking as secure?
   a. Very [ ]
   b. Somewhat [ ]
   c. Not at all [ ]

Section B: Mobile Banking Loans and Profitability

8. What do you think about the mobile banking loans offered by the bank?
   a. Good [ ]
   b. Average [ ]
   c. Poor [ ]
9. Kindly indicate by ticking the extent to which you agree with the following statements. Use the following Likert scale of 1-5; *Strongly Agree 5, Agree 4, Uncertain 3, Disagree 2, Strongly Disagree 1*

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<tbody>
<tr>
<td>1</td>
<td>The mobile banking loans disbursed have had a positive impact on the banks profit share.</td>
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<td>2</td>
<td>Mobile banking loans have led to increased loan interest income of the bank.</td>
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<td>3</td>
<td>Mobile banking loan issuance process is short easy and less costly since it cuts down on a lot of paper work</td>
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<td>4</td>
<td>Mobile banking loans have led to easier tracking and monitoring of borrowers.</td>
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<td>5</td>
<td>Mobile banking Loans are easy to access by the banks customers due to the existing mobile banking platform.</td>
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<td>6</td>
<td>Mobile banking loans have led to the growth of the bank’s loan book.</td>
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<td>7</td>
<td>Mobile banking loans have had an impact on the Non-performing loans.</td>
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<td>8</td>
<td>Mobile banking has made it easy for low income earners and the vulnerable persons to access loans.</td>
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<td>9</td>
<td>Mobile banking has encouraged repeated borrowing by the banks’ customers.</td>
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<td>10</td>
<td>Loan processing fees have been greatly reduced for customers due to mobile banking.</td>
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</table>
**Section C: Mobile Banking Funds Transfer and Profitability**

10. What do you think about the mobile banking funds transfer facility offered by the bank?
   a. Good
   b. Average
   c. Poor

11. Kindly indicate by ticking the extent to which you agree with the following statements. Use the following Likert scale of 1-5: Strongly Agree 5, Agree 4, Uncertain 3, Disagree 2, Strongly Disagree 1

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<td>1</td>
<td>Mobile banking funds transfer has expanded the income generating potential of the bank.</td>
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<td>2</td>
<td>Mobile banking funds transfer has influenced positively the non-funded income of the bank.</td>
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<td>3</td>
<td>Customers are satisfied with the existing funds transfer limits between accounts.</td>
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<td>4</td>
<td>Mobile banking funds transfer influenced the reduction of operational costs of the bank.</td>
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<td>5</td>
<td>Customers find it easy to send and receive funds through mobile banking.</td>
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<td>6</td>
<td>Mobile banking funds transfer is real time and saves time.</td>
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<td>7</td>
<td>Mobile banking has made transfer of money from one bank account to another cheaper.</td>
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<td>8</td>
<td>Human error has been reduced and accuracy of transactions enhanced due to mobile banking.</td>
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<td>9</td>
<td>Platforms such as PESALINK have enhanced mobile banking funds transfer service thus increasing income for the bank.</td>
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<td>10</td>
<td>Equitel customers are well aware and knowledgeable of the funds transfer service.</td>
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<td>11</td>
<td>Mobile banking services have enabled customers to access their deposits with ease for withdrawals.</td>
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<td>12</td>
<td>Mobile banking service has increased customer access to bank services.</td>
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</table>
Section D: Mobile Banking Payment of Bills and Profitability

12. What do you think about the bill payment services offered by the bank through the mobile banking system?
   a. Good
   b. Average
   c. Poor

13. Kindly indicate by ticking the extent to which you agree with the following statements. Use the following Likert scale of 1-5: Strongly Agree 5, Agree 4, Uncertain 3, Disagree 2, Strongly Disagree 1

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<td>1</td>
<td>Bill payment service offered by the bank through mobile banking is easy and quick.</td>
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<td>2</td>
<td>Mobile banking bill payment service has had a positive impact on the banks non-funded income.</td>
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<td>3</td>
<td>Customers are worried about transaction errors while making bill payments.</td>
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<td>4</td>
<td>Customers are worried about the safety of personal information in mobile banking when it comes to payment of bills.</td>
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<td>5</td>
<td>Transaction settlement is instant and real time once bill payment is conducted.</td>
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<td>6</td>
<td>Mobile banking bill payment service has increased the number of customers purchasing goods and services using Equitel through Eazzypay/Lipa na M-pesa and in turn increasing income margins of the bank.</td>
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<td>7</td>
<td>The banks bill payment service has had a positive impact on the banks’ profits.</td>
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<td>8</td>
<td>Mobile banking bill payment service has expanded the income generating potential of the bank.</td>
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<td>9</td>
<td>Mobile banking bill payment service has led to an increased number of Eazzypay merchants.</td>
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<tr>
<td>10</td>
<td>Customers find the mobile banking bill payment service convenient thus leading to customer retention.</td>
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