THE EFFECT OF MOBILE MONEY ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY

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D61/61058/2013

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

NOVEMBER, 2014

DECLARATION

This research project is my original work and has not been submitted anywhere for award of a degree in any other university or college for examination/academic purposes except where due reference is made and author duly acknowledged.

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DEDICATION

I dedicate this study to my Dad, brothers and sisters for their love, support and the

encouragement they gave me to complete my postgraduate studies.

ACKNOWLEDGEMENTS

I thank God for giving me wisdom and strength to carry out my research work zealously for without Him I would have not made it this far.

I would also like to acknowledge Mr. Herick Ondigo for providing me invaluable guidance throughout the study. It is through his great encouragement, devotion and wonderful suggestions that motivated me. I am truly indebted.

Thirdly, I would not have made it this far were it not my family; James Moracha (Dad) for pushing me to soldier on and my siblings Eric, Roselyn, Raymond, Dennis and Faith for their encouragement and letting me miss important family moments while I was busy studying.

I am very grateful to my boss at work who always gave me permission to sit for my exams and time off to study and project consultation.

Lastly I give thanks to all my friends who showed me that I could attain this great achievement.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

CDS	Credit Default Swap
DEA	Data Envelopment Analysis
ROA	Return on Assets
ROE	Return on Equity

ABSTRACT

In an attempt to achieve high levels of performance, Commercial Banks have undergone a number of challenges. Financial innovation in banking has been a relevant topic since mid '70s. Nowadays, also due to the present financial system situation, it comes to further relevance. Despite the relevance of financial innovation and ever changing world, it's hard to list all financial innovations specifically. Adequate performance of financial institutions is of crucial importance to their customers. Commercial banks like many other financial service industries, facing a rapidly changing market, new technologies, economic uncertainties, competition and demanding customers have created an unprecedented set of challenges. The study sought to establish the effects of Mobile money on the financial performance of the commercial banks in Kenya. The study Objective was to determine the effects of mobile money on the financial performance of commercial Banks in Kenya. The study target population was the 43 Commercial banks in Kenya of 31st December 2013. The study used a descriptive survey design. The data collection was secondary based where the mobile money data as calculated in of the statement of the financial statement was obtained on the website and the statement of comprehensive income from the annual financial statement reports of the commercial banks on the website and the bank supervision annual report from 2008-2013 as organized by the Central bank. The collected data was analysed using descriptive statistics and multiple regression analysis. The study established that the financial performance of the 43 commercial banks under study as represented by ROA values increased by a mean ratio of 1.98 over the 5 year period. This is as represented by the difference between the lowest mean of 2.14 in year 2009 and the highest mean of 4.12 in year 2013 for the return on assets. Therefore, mobile money enhanced the financial performance of commercial banks in Kenya. The study found out that there was a steady decrease in the commercial banks' capital expenses management ratio as reflected by the decrease in mean values from 0.32 in year 2009 to 0.25 in year 2013. Therefore, the expenses management ratio negatively affected the financial performance of the commercial banks in Kenya over the 5 year period. Given that the mobile money of the commercial banks steadily increased over the 5 year period and the commercial banks' financial performance also steadily increased over the same period, the study concludes that mobile money positively affected the financial performance of the commercial banks in Kenya. From the findings the significance value was .004 which is less that 0.05 thus the model is statistically significant in predicting how mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio and bank size affect financial performance of commercial banks in Kenya. The F critical at 5% level of significance was 3.23. Since F calculated (value = 8.64) is greater than the F critical (3.23), this shows that the overall model was significant.

INTRODUCTION

1.1 Background of the Study

In trying to achieve high levels of performance, Commercial Banks have undergone a number of challenges. Financial innovation in banking has been a relevant topic since mid '70s. Nowadays, also due to the present financial system situation, it comes to further relevance. Despite the relevance of financial innovation and ever changing world, it's hard to list all financial innovations specifically. Adequate performance of financial institutions is of crucial importance to their customers. Commercial banks like many other financial service industries, facing a rapidly changing market, new technologies, economic uncertainties, competition and demanding customers have created an unprecedented set of challenges (Lovelock, 2001)

Banks operate in a complex, competitive and highly regulated environment, with low margins and high customer expectations. To manage this rapidly changing economic and regulatory system, banks need a reliable way of financial innovation with concrete actions that lead to measurable results. To increase their revenue and profits banks must improve their performance.

1.1.1 Mobile Money

Mobile Money generally refers to services operated and performed from a mobile device such as mobile phone, credit or debit cards. It is further clarified as the intersection of both banking and telecommunication service. It involves a diverse set of stakeholders from both mobile phone operators and financial service institutions. Money transfer

options means that one can send money from their mobile money account to a different subscriber anywhere anytime, which is similar to airtime transfer, where one can purchase and send airtime to another subscriber within the same network. Mobile banking works closely with banks to provide banking services to subscribers of mobile money. Use of mobile phone for financial transaction started with introduction of prepaid mobile phone services that targeted low income earners who desired more anonymity than post-paid phone subscribers.

Must and Ludewig (2010) trace the rise of mobile money to the rapid and worldwide penetration of mobile phones back to 1999. However, mobile phone enabled commerce (m-commerce) or services may have started as early as 1997 when mobile phone enabled Coco Cola vending machines and mobile phone banking services were introduced in Finland. Jenny & Isaac (2010) concentrated on Africa and they explored the history of mobile money services in different countries. Jack and Suri (2011) researched on the effect of reduced transaction costs and effect on household consumption in Kenya complementing the earlier research findings from Hughes and Lonie (2007). This data revealed that research on mobile money globally, regionally and locally is recent due to novelty of this technology.

Since 2007, mobile money usage has grown rapidly. By December of 2010 the estimated value of person-to-person transactions alone exceeded Kenya shillings 38 billion per month, which is more than 20 per cent of Gross Domestic Product (GDP). The number of mobile money customers exceeding 13 million by mid-2010 (Zutt, 2010). Communications Commission of Kenya (CCK) 2011/2012 report indicates that Kenya has a total of 26.49 million mobile phone subscribers with 18.4 million of them subscribing to mobile money services. The total number enrolled in mobile money

services accounts for approximately 48% of the entire Kenyan population, or 69.5% of the total mobile phone subscriptions. While initially mobile money services were publicized as money transfer service, Hughes and Lonie (2007) proposed that services such as bill payment, salary payment and local and international remittances could be included in mobile money. When literature was reviewed in 2012, all these services had been realized and surpassed.

The types of financial services provided through mobile money have been grouped by World Bank (2012) into mobile finance, mobile banking and mobile payments. Mobile finance includes credit, insurance and savings services. Mobile banking can be transactional or informational. Mobile payments range from payment made from person-to-person, government-to-person, and business-to-business. These types of financial services have traditionally belonged to commercial banks or microfinance institutions. The report by CCK indicates that by September 2012, a total of 56.7 billion Kenya shillings were deposited through mobile money services, which would have not been transacted, or would have followed mainstream financial institutions.

1.1.2 Financial Performance

Financial performance was defined as the level of performance of a firm over a specified period of time, expressed in terms of overall profits and losses during that time. Evaluating the financial performance of a firm allows decision makers to judge the results of business strategies and activities in objective monetary terms. These results are reflected in the firms ROA and Value Added. Financial performance typically used to compare one company's performance over time against competition. Possessing strong financial performance is one of the criteria for determining whether a bank is considered a

good position or not. Vincent, (2013) indicated that Commercial Banks play an important role in the economic resource allocation of countries and channel funds from depositors to investors continuously if banks generate necessary income to cover their operational cost they incur in due course. In other words for sustainable intermediation function, banks performance need to be good in profitability. Beyond the intermediation function, the financial performance of banks has critical implications for economic growth of countries. Good financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. On the other hand, poor banking performance can lead to banking failure and crisis which have negative repercussions on the economic growth. Therefore banking crisis could entail financial crisis which in turn brings the economic meltdown as happened in USA in 2007, (Marshall 2009).That is why governments regulate the banking sector through their central banks to foster a sound and healthy banking system which avoid banking crisis and protects the depositors and the economy (Hefferman, 1996; Shekhar and Shekhar, 2007).

In measuring the results of a firm's policies and operations in monetary terms the results are reflected in the firm's return on investment, return on assets, value added and other parameters. Commercial banks can use financial ratios to simplify financial data to monitor and improve business performance. ROA, ROE are used to measure a firms performance. ROA is a comprehensive determiner of overall bank performance from an accounting perspective. It indicates how capable the management of the bank has been converting the banks' assets into net earnings. ROA measures the profitability performance of total assets, and could be treated as a measure of efficiency and effectiveness.ROE measures accounting profitability from shareholder's perspective that

illustrates the rate of return flowing to the banks' shareholders. It approximates the net benefit that the stockholders have received from investing their capital (Rose and Hudgins, 2006). Simply stated much of the current performance literature describes the objective of financial organizations as that of earning acceptable returns and minimizing the risks taken to earn this return.

1.1.3 Effect of Mobile Money on Financial Performance of Commercial Banks

A well developed financial system helps in efficiency and effectiveness of commercial banks and is an important concept in operation of banks in today's' highly competitive environment. The high competition has led firms to embrace the concept of Mobile money to develop a competitive edge and stay in the market. Mobile money which is a part of financial innovation has an effect on the commercial banks' profitability and achievement of their objectives. Customer satisfaction of achieved, access to the banks, saves time and costs and enables to banks to increase competitiveness and ensure sustainable profit (NW, 2006).

Mobile banking, mobile payments and mobile finance have impacted the financial performance of commercial banks. The types of financial services provided through mobile money have been grouped by World Bank into mobile finance, mobile banking and mobile payments. Mobile finance includes credit, insurance and savings services. Mobile banking can be transactional or informational. Mobile payments range from payment made from person-to-person, government-to-person, and business-to-business. Broader financial inclusion can be achieved through establishing a mobile ecosystem that can support both closed loop as well as open loop schemes and can provide interoperability between the scheme operators. Achieving full financial inclusion requires

going beyond the narrow range of payment services to a broader range of services which will ensure that the account users find these suitable to their needs. Evidence has shown that existing mobile money arrangements have a limited scope in providing wide range of services.

A concerted industry effort is required with support from policymakers to facilitate establishment of mobile ecosystems which provide both interoperability as well a wide range of services. In 2007, Safaricom, Kenya's leading mobile phone operator, launched M-Pesa ("M" for mobile and "pesa," the Swahili word for "money"), which has become the world's leading example of mobile money. Mobile money, which allows cash to travel as fast as a text message, is not an extension of banking. It is a new form of banking, just as cell phones are a new form of telecommunication rather than an extension of landlines. Mobile money does not necessarily need a banking infrastructure. Mobile money is the rare case in which a poor African country is the world market leader and an exporter of innovation. In Kenya, mobile money was the game changer in bringing financial services to the middle class and the poor. According to a recent World Bank study, mobile money expanded differently than initially expected. In reality, mobile money was initially used by the wealthier groups of Kenya, especially in urban areas, but then spread rapidly into the middle and the bottom of the wealth pyramid. The clearest and most direct benefits of mobile money are greater convenience, far greater speed, and generally lower cost of transferring funds. In Kenya, mobile money has enabled commercial banks to improve their performance and reach wider markets thanks to its accessibility, low cost, security, and convenience.

Mobile money can change the world the way cell phones have already changed lives in most emerging economies. It presents an opportunity of banks to increase their

performance and delivery of services that satisfy customers across the world. The World Bank predicts that by 2020, mobile money could impact the lives of some 2 billion people in developing countries, heralding a new era of financial services where banking will no longer be the privilege of a small upper class due to exceptional bank performance.

1.1.4 Commercial Banks in Kenya

Commercial banks in Kenya are licensed and regulated pursuant to the provision of the Banking Act and the Regulation and Prudential Guidelines issued there under. Since they are dominant players in the Kenyan banking system, closer attention is paid to them by the Central Bank of Kenya as the regulating authority. Out of the 43 commercial banks, 31 are locally owned and 12 are foreign owned. The locally owned financial institutions comprise 3 banks with significant shareholding by the government and State Corporations.

The banking industry in Kenya has been very vibrant with majority of banks recording good performance as measured by increasing customer base and financial performance based on profitability. This can be attributed to good governance mechanisms which emanate from strategic steering through the board of directors. According to CBK (2014) the Kenyan banking sector registered improved performance in 2013 despite the marginal economic growth. The sector registered a 15.9 percent growth in total net assets from Kshs 2.33 million in December 2012 to Kshs 2.70 trillion in December 2013.Equally, customer deposits grew by 13.5 percent from Kshs 1.71 trillion in December 2012 to Kshs 1.94 trillion in December 2013.Commercial banks in Kenya help in deposits, process loans, and provide other financial services, such as international banking, documentary collection, and trade financing (Central Bank of Kenya, 2011). Commercial

banks are responsible for adding customer deposits in a safe and liquid form and lending the proceeds to worthy commercial, industrial, governmental and nonprofit institutions. Banks provide consulting and advisory services to customers as well as safekeeping and trust. Kenya's commercial banks play a crucial role in ensuring Kenya's economic progress. Kenya's commercial banks like any other organization are open systems operating in a turbulent environment. Their continued survival depends on the ability to secure a "fit" with the environment (Central Bank of Kenya, 2010).

The commercial banks in Kenya are liable to many forms of risk which have triggered occasional systemic crises. These include liquidity risk (where many depositors may request withdrawals in excess of available funds), credit risk (the chance that those who owe money to the bank will not repay it), and interest rate risk (the possibility that the bank will become unprofitable, if rising interest rates force it to pay relatively more on its deposits than it receives on its loan (Central Bank of Kenya, 2011). The Kenyan banking industry has been expanding branch networking amid the introduction of branchless of banking system. The annual reports of CBK clearly indicate that, branch network has been slowly expanding since 2002. The slow growth of branches can be attributed to the rapid rise of alternatives, which include electronic financial product through mobile phones and mobile money.

1.2 Research Problem

A way of understanding financial performance of a firm is to gather insight on business performance .It's useful to calculate ratios to measure the performance trend of the firm over a period and industrial comparison against other firms putting into consideration the uptake of mobile money in performing business transactions. Many benefits accrue from

good financial performance of banks and the mobile money and these accrue to various stakeholders of these banks. Thus, shareholders will greatly benefit when mobile money affect the performance of the banks due to high returns on investments, employees get their dues in form of salaries and wages, government gets taxes among others when there is good financial performance. The relationship between mobile money or broadly financial innovation and financial performance has been a discussion financial scholarly issue for a long time.

There has been a massive positive response to Mobile Money adoption in Kenya since its introduction in Kenya in 2007.This success is attributed to the services being affordable and accessible (Mbogo,2010) including low income earners. The technological invention is considered easy to use yet efficient and reliable with the potential to extend financial services to the unbanked or those preferring cheaper financial services. A number of studies on the role of financial innovation on commercial banks efficiency exist. For example, Musara (2010) did a study on whether technological innovations have resulted in increased efficiency and cost saving for bank customers. Omar et al.(2006) did a study on the efficiency of commercial banks in Malaysia.

Majority of local studies have sought to establish the impact of financial innovation on commercial banks in Kenya using profitability include; the relationship between financial innovation and the growth of commercial banks in Kenya in (Shakhala, 2012) and the study was based on profitability to base the banks revenues, pretax profits , customer deposits, loan advances and number of innovations; The effect of financial innovation on the financial performance of listed commercial banks in Kenya (Zewdie, 2013) ;the relationship between financial innovation and efficiency of commercial banks in Kenya among others. Githakwa (2011) clearly did a project on the relationship between financial

innovations and profitability of Kenya banks. He identified a research gap to the fact that past studies did not exhaust such aspects as efficiency, risk and performance but rather centered on productivity.

Literature reveals that the mobile money is faster, cheaper, more reliable, and safer (Jack & Suri 2011). The benefits of cashless transaction including less opportunity for fraudulent and criminal activities, and mobile money technology (Wishart 2006) have increased adoption rates among Commercial Banks in Kenya (Mbogo 2010).With many studies carried out regarding mobile money and the effects on the economy, Kimondo,(2012) argued that mobile money affects banking services in Commercial banks but does not focus on the effect on the banks performance. Other studies have covered the relationship of mobile money and financial performance, the determinants of financial performance of commercial banks in Kenya.

With all the studies that have been done, none has been done to try and establish the effect of mobile money on the financial performance of the commercial banks based on the banks ROA and ROE .Thus, this necessitated the current study. What is the effect of mobile money on the financial performance of commercial banks in Kenya?

1.3 Objective of the Study

To determine the effect of mobile money on the financial performance of Commercial Banks in Kenya.

1.4 Value of the Study

The study may be important to different groups of people including the Management and shareholders in the Commercial Banks in Kenya by enabling them identify appropriate and strategic mobile money services that would make their banks efficient.

This study may provide important insights to commercial banks in Kenya, other related organizations, and the policy makers in the banking or financial sector and also contribution to scholars by providing further empirical evidence on this area. This study may add knowledge on mobile money and wider spectrum of financial innovation. It may also provide clarity on the relationship that exists between mobile money and the financial performance of Commercial Banks in Kenya.

It may provide additional literature that would be of value to scholars, students and researchers and may be used as a basis for further research on the area of contribution of financial innovation and its effects on the economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides theoretical and empirical information from papers on topics related to the research problem. It examines what various authors and academic scholars have studied and written about mobile money and financial performance of Commercial banks. Mugenda and Mugenda (2003) said literature review involves the systematic identification, location and analysis of documents containing information related to the research problem being investigated. The objective is to gain a deeper understanding of the history, evolution and direction which will provide justification in revealing the knowledge gap for which this study is intended.

2.2 Theoretical Review

This section reviews the various theories related to mobile money and financial innovation and will help guide the study. The theories will include Diffusion theory which seeks to establish why financial innovation evolution has led to improved financial efficiency. Silber's constraints theory of Innovation shows attempts by profit maximizing firms to reduce the impact of various types of constraints that reduces profitability. The third theory to review will be Kanes' theory of innovation which deals with reduction of potential risk to minimum, response to financial costs created by changes and improving performance to attract customers despite the regulative burden.

2.2.1 Diffusion Theory

Rogers (2003) defined diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. Rogers' theory of diffusion contains four elements that are present in the diffusion of innovation process. The first is innovation which he defines as an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The other is communication channel which is the means by which messages get from one individual to another.

Time is the other that encapsulates innovation-decision process, relative time (innovation is adopted by an individual or group) and innovation's rate of adoption. Last element is social system which is a set of interrelated units that are engaged in joint problem solving to accomplish a common goal.

It seeks to explain how, why and at what rate new ideas and innovations spread through cultures. This can explain how financial innovation has evolved over time in the commercial banks in Kenya. Banks efficiency due to innovation takes time as it involves transmission of new ideas and processes to its customers and employees. This new idea has to be accepted by all stakeholders, shareholders to the customers, so that the social systems can understand the importance of the innovation despite high costs and work towards streamlining the processes (Honor, 1998).

2.2.2 Silber's Constraints Theory of Innovation

Silber (1975) attributes financial innovation to attempts by profit maximizing firms to reduce the impact of various types of constraints that reduces profitability. The theory points out that the purpose of profit maximization of financial institutions is the key reason of financial innovation. Firms that rare less profitable in their respective sector are

disproportionately innovative. Moreover, their decrease in profitability, which can be attributed to external competition or government regulation, has provided these firms with the necessary motivation to increase profitability. Silber considers the main historical causes of innovation by US banks as a response to a reduction of their utility or adversity in innovation: the interest rate ceiling, where banks tried to indogenize exogenous items of the balance sheet (Certificate of Deposit and bank related commercial paper); decline in the market for particular assets; a declining growth rate of sources of funds (new products in order to get new sources of funds) and an increase of the risk of a particular asset or of all assets due to the economic environment are reason for financial innovation.

On the hand, success innovations are the extensive use of cost reducing information technology and elaborate new finance theories in the financial sector and several new products designed to cope with the rising yield of assets in order to attract new funds. Generally, Silber proposes that the three possible ways a financial institution could innovate, by indogenizing an exogenous item of the balance sheet, introducing an existing financial instrument from another country and thirdly as the mixture of the ways above, taking the form of modification of an existing instrument. The importance of Silber's theory is that, by using the concept of financial innovation, he provides us with a wider spectrum of potential reason contributing to the innovating process that helps to improve the performance of financial institutions. The suggestion in the work of Silber, is that investment in innovation is a rational response to an unfavourable competitive position (Silber, 1983)

2.2.3 Kane's theory of Innovation

Kane (1984) sees financial innovation as an institutional response to financial costs created by changes in technology, market need, and political forces, particularly laws and regulations. Financial industry is special, it has stricter regulations and financial institutions have to deal with these regulations in order to reduce the potential risks to minimum. Kane's theory where an institution responds to the changes in its operating environment is the rise of the shadow banking system in the US Economics believes the current financial current crisis was triggered by the shadow banking system. Because shadow banking institutions don't receive traditional deposits like a depository bank, they have escaped most regulatory limits and laws imposed on the traditional banking system .members are able to operate without being subjected to regulatory oversight for unregulated activities.

An example of an unregulated activity is a credit default swap (CDS). This parallel banking system essentially caused the credit market to freeze, due o lack of liquidity in the banking system. These entities which make up the shadow banking system include hedge funds, ''borrowed short term in the liquid market and then purchased long term, illiquid risky assets''. Banks cannot operate in such a manner but since the existing legislation were only designed to regulate banks; investment vehicles like hedge funds came up with risky innovative technique in a bid to minimize their operational cost.

Kane approaches innovation as an arbitrage instrument trying to take advantage of regulation lags. Innovation takes the form of product substitution in order to circumvent regulation sometimes by just rearranging contracts and by just simply moving along different financial systems. He defines regulation's burden as a form of taxation imposed

on banks. Banks' main concern during the 1970s was to avoid it. In order to attract customers despite the regulative burden, they used a mixture of means initially covering non-monetary benefits to indirect benefits and at the end mainly monetary advantages. But on the other hand regulators developed their own defenses and adopted new approaches resulting in the emergence (Kane 1984).His contribution is essential for the better understanding of the existence of dialectic between financial institutions (banks) and exogenous factors that leads to permanent evolution under the process of financial innovation.

2.3 Determinants of Financial Performance of Commercial Banks

The concept of financial performance and research into its determination is well advanced within finance and management fields. Sound financial health of a bank in the guarantee not only to its depositors but is equally significant for the shareholders, employees and whole economy as well (Wachira, 2010).

There are many ways to determine financial performance, but all the determinants should be taken in aggregation. Revenues from operations, operating income or cash flow from operations can be used, as well as profit of the banks. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. The application of CAMEL rating system for evaluating financial strengths of commercial banks have been growing both local and internationally. At international level, several academic studies examined whether and to what extent private supervisory information is useful in supervisory monitoring of banks. With respect to predicting banks failure, Barker and Holdsworth (1993) CAMEL ratings are useful even after controlling a wide range of publicly available information about the condition and

performance of banks. The criteria for the performance of all commercial banks under CAMEL ratings include capital adequacy, asset's quality, management standard, earnings and liquidity maintenance. This well judged technique named CAMEL ratings is widely used for evaluating performance of financial institutions, especially to banks. Efforts have been made from time to time to determine the financial position of each bank and manage it efficiently and effectively. The purpose of CAMEL ratings is to determine a banks' overall condition and to identify its strengths and weaknesses in financial, operational and managerial aspects. Performance of the banking sector under CAMEL framework, which involves analysts and evaluation of the crucial dimensions of banking operations that give a comprehensive view of the banks based on the following rates: C- Capital adequacy, A-Asset quality, M-Management quality, L-Liquidity.

2.3.1 Mobile money

Mobile money greatly influences financial inclusion in commercial Banks and to a great extent the institutions financial performance. In the dynamic and highly competitive environment commercial banks must make use of mobile money to increase customer loyalty, increase flow of funds from deposits and to investors with the end result of increasing profitability and financial performance. Focus on mobile banking, payments and finance will help achieve this.

Focus on the banks returns' in their statements of financial position at the end of the year will reflect the effect that mobile money has on the banks operations and transactions. Banks have evolved over time and thus the need to increase convenience, efficiency, transactional optimization and the need for customer loyalty in order to develop a

17

competitive edge. These has increased the speed and simplicity with which transaction are done and thus increased the banks' returns.

2.3.2 Capital Adequacy

Focus on the total position of the bank's capital and protests the depositors from the potential shocks of losses that a bank incurs. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005).Capital adequacy ratio is percentage ratio of a financial institution's primary capital to its assets (loans and investments), used as a determinant of internal strength and stability of the bank to withstand losses during crisis.

The banks use capital adequacy concept to determine the risk exposures they are prone to. Banking regulators require a minimum capital adequacy ratio so as to provide the banks with a cushion to absorb the losses before they become insolvent. This improves stability in financial markets and protects deposit-holders.

2.3.3 Asset Quality

The composition of all commercial banks shows the concentration of loans and advances in total assets. The high concentration of loans and advances indicate vulnerability of assets to credit risk, especially since the portion of non-performing assets is significant. Loan is the major asset of commercial banks from which they generate income. The quality of loan portfolio determines the profitability of banks. The loan portfolio quality has a direct bearing on bank profitability. The highest risk facing a bank is the losses derived from delinquent loans (Dang, 2011).

Thus, nonperforming loan ratios are the best proxies for asset quality. Different types of financial ratios used to study the performances of banks by different scholars. It is the major concern of all commercial banks to keep the amount of nonperforming loans to low level. This is so because high nonperforming loans affect the profitability of the bank. Thus, low nonperforming loans show the good health of the portfolio of a bank. The lower the ratio the better the bank is performing (Sangmi and Nazir, 2010).

2.3.4 Management Efficiency

Sound management is the most important pre-requisite for the strength and growth of any financial institution; since indicators of Management quality are primarily specific to individual institutions. Management Efficiency is one of the key internal factors that determine the bank profitability. It is represented by different financial ratios like total asset growth, loan growth rate and earnings growthrate. Yet, it is one of the complexes subject to capture with financial ratios. Moreover, operational efficiency in managing the operating expenses is another dimension for management quality. The performance of management is often expressed qualitatively through subjective evaluation of management systems, organizational discipline, control systems, quality of staff, and others. Yet, some financial ratios of the financial statements act as a proxy for management efficiency.

The capability of the management to deploy its resources efficiently, income maximization, reducing operating costs can be measured by financial ratios. One of this ratios used to measure management quality is operating profit to income ratio (Sangmi and Nazir, 2010). The higher the operating profits to total income (revenue) the more the efficient management is in terms of operational efficiency and income generation. The

other important ratio is that proxy management quality is expense to asset ratio. The ratio of operating expenses to total asset is expected to be negatively associated with profitability. Management quality in this regard, determines the level of operating expenses and in turn affects profitability (Athanasoglou et al. 2005).

2.3.5 Liquidity Management

Liquidity indicators measured as percentage of demand and time liabilities (excluding interbank items) of the banks. Liquidity refers to the ability of the bank to fulfill its obligations, mainly of depositors. According to Dang (2011) adequate level of liquidity is positively related with bank profitability. The most common financial ratios that reflect the liquidity position of a bank according to the above author are customer deposit to total asset and total loan to customer deposits. Other scholars use different financial ratio to measure liquidity like the cash to deposit ratio.

The system helps the supervisory authority identify banks that are in need of attention. Soundness of a bank measured on a scale of 1(strongest/best) to 5(weakest/worst); average scores 2-3 high qualities, if it is greater than three unsatisfactorily. Bank examiners (trained and employed by the country's central bank) award these ratings on the basis of the adequacy and quality of a bank's capital, Assets (loans and investments), management, earnings, and liquidity. Banks with a rating of a 1 are considered most stable; banks with a rating of 2 or 3 are considered average, and those with rating of 4 or 5 are considered below average, and are closely monitored to ensure their viability.

2.4 Empirical Review

The empirical evidence covered included both international and local evidence on the study area.

2.4.1 Global Evidence

Chien and Dawn (2004) did a study in operational efficiency and operational effectiveness, which might directly influence the survival of a company. By using an initiative two-stage data envelopment analysis model in their study, the empirical result of the study was that a company with better efficiency does not always mean that it has better effectiveness or positive effect of the banks' performance. Thus they showed in their study that the most previous studies concerning company performance evaluation focus merely on operational efficiency and operational effectiveness, which might directly influence the survival of a company.

Enyi et al. (2007) did a study on measuring Commercial bank performance and efficiency in Sub-saharan Africa and determined input and output factors on two fronts. They applied the first font, Data Envelopment Analysis(DEA) for assessing efficiency level. Secondly, the banks ratio analysis measuring banks performance though returns volatility for each bank, asset utilization and provision for bad and doubtful debts over the study period were useful as tools for the analysis. The estimated scores efficiency for banks in Sub-saharan Africa was on the average 98.35% efficient for output maximization. These outputs/inputs include;shareholders equity(input),loans(output) and deposit with other banks. Their research work indicated that banks had very high provision for bad and doubt debts for the banks in consideration on average in 2007.

Omar et al. (2006) did a study on the efficiency of commercial banks in Malaysia to investigate the change in the productivity of banking industry during the period of 2000 to 2004. The data consisted of a panel of 11 commercial banks in Malaysia. Productivity was measured by the measured by the malinquist index, using a Data Envelopment Analysis (DEA) technique using efficiency change, technical and scale efficiency. In the year 2003 to 2004 the highest technical and efficiency changes at a rate of 5.5 and 3.9% respectively was recorded. Total factor productivity growth in the commercial banking industry in Malaysia had been largely due to the efficiency change (1.6%) compared to the technical component which contributed a negative change(-0.3%) to the overall total factor productivity growth.

2.4.2 Local Evidence

Muthoni (2011) did a case study on Kenyan Commercial Bank on measuring banks operational efficiency using DEA analysis. The study population was 168 branches of the bank that were operational within Kenya in 2010.Secondary data was obtained from the banks database of each branch. The inputs were Interest payable, staff cost, other operating expenses and depreciation costs. The selected outputs that were used included interest receivable, fees and commission earned and other operating income. The CCR model was used to compute the relative operational efficiency for each branch and the output file contained; constant return to scale, variable return to scale, relative operational efficiency scores, peers for each branch, slack variable measures and optimal input and output targets for each branch. The average operational efficiency for the whole bank was found to be 65%. Only 25 branches out of 168 were found to be relatively efficient with a score equal to 1. Small and large branches in terms of assets were found to be more efficient than middle sized branches. The results revealed that the cause of inefficiency

was the staff cost variable with only 41 out of 168 branches having surplus staff cost units.

Gitau (2011) did a study on the relationship between financial innovation and financial performance of commercial banks in Kenya over a period of 5years based on quasi-experimental research design. It had a target of all 44 commercial banks in Kenya where primary data was collected from the questionnaires and secondary data about financial innovation collected from the banks financial results and publications. The study found that 70% of the institutions had adopted process innovations, 16% product innovations and 14% institutional innovations. The study also concluded that there was a positive relationship between financial innovation and financial performance of commercial banks in Kenya. The study found that efficiency of financial innovation affected the financial performance through a mean of 3.9 by answering the question that to what extent did financial innovation affect financial performance of banks in Kenya. Out of 35 firms analyzed, 23 firms were found to be operating efficiently. He concluded that operational efficiency does not depend on the size of the firm.

Nyaga (2013) studied the impact of mobile money services on the performance of small and medium enterprises in an urban town in Kenya. Data was collected in Naivasha Municipality; a market town in Rift Valley Province of Kenya. The selection of Naivasha Municipal Town was identified through purposive sampling for convenience from 24 towns and 31 municipal towns in Kenya. Secondary data was used in literature review to clarify gaps existing in literature. Primary data was collected by researcher to fill in identified gaps. The study found that mobile money has made a significant contribution to the SME sector. Majority of the traders rely on it as opposed to the formal banking sector for their day to day transactions. Secondly, it is evident that all the respondents in this

study had a clear understanding of the basic functions of mobile money services. Mobile money services have a positive impact on productivity.

2.5 Summary of Literature Review

Based on the above literature it's evident that a lot of studies are being done on mobile money. The majorities of the studies on financial innovation were of a descriptive nature, and most often deal with issues like effects of financial innovation in regulation and technological change on innovation, profitability of specific innovations, determinants of financial innovation and challenges of financial innovation in implementation. Since financial innovation is a critical issue within any financial institution, dealing based on a few studies may lead to inadequate conclusions. Despite the fact, commercial banks in Kenya have been engaged in numerous financial innovations in the past largely on mobile money. In addition to the ever changing business environment, the innovations also change. These changes affect the performance of financial institution positively and negatively. From the literature review done, all this studies have hardly focused on how mobile money is currently affecting the performance of commercial banks and this could be attributed to the very competitive environment witnessed in the commercial banking sector. This study will seek to address the effect of mobile money as a variable on the banks' ROA through the banks data and other publications, an area literature has so far not clarified. Therefore, with the continuous developments, this study will concentrate of focusing on how mobile money has affected the financial performance of commercial banks which is an area that has not been studied in Kenya and mobile money concept is growing and changing rapidly.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the researchers' plan in terms of the methodology and tools on how this study was conducted. Kothari (2004) asserts that the purpose of research methodology is to give details regarding procedures used in conducting the study. The sections discussed here includes research design, population, data collection and analysis.

3.2 Research Design

A research design is a plan for a study used as a guide in collecting and analyzing data. According to Cooper & Schindler (2006) research design aid the researcher in allocation of limited resources by posing crucial choices in methodology and those descriptive studies have various objectives: they describe characteristics associated with a target population; estimate the population of the population that have these characteristics and discovers associations among different variables.

The study used descriptive research study. Descriptive research portrays an accurate profile of persons, events, or situations. Surveys allow the collection of large amount of data from a sizeable population in a highly economical way. It allows one to collect quantitative data, which could be analyzed quantitatively using descriptive and inferential statistics. Therefore, the descriptive survey was deemed the best strategy to fulfill the objectives of this study.

3.3 Population of the Study

According to Cooper and Schindler (2006) a population is a total collection of elements about which we wish to make some inferences. The study target population was the 43 Commercial Banks in Kenya as of 31st December 2013(CBK 2013). The population of the study consisted of all the currently registered Commercial Banks (appendix).

3.4 Data Collection

For the purpose of this study, secondary data was used for analysis. Data collection on mobile money was in publications on mobile money and various transaction processes through this media and mobile money data as calculated in of the Statement of Financial Position and the Statement of Comprehensive Income as in the annual financial statement reports of commercial banks on the website and the bank supervision annual report from 2008-2013 as organized by the Central Bank.

3.5 Data Analysis

After collection of the secondary data, it was grouped into meaningful subsets and analysis using descriptive statistics and multiple regression analysis. Data collected was analyzed using descriptive statistics in terms of percentages, mean and mode while financial ratios were used to measure the performance of Commercial Banks.

3.5.1 Data Analysis model

Multiple linear regression analysis was used to analyze the effect of the independent variables on the dependent variable. The purpose of multiple linear regression was to

learn more about the link between several independent (predictor) variables and a dependent (criterion) variable Pearson (1908).

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where: Y = Financial performance as measured by ROA (Net Income / Total Assets)

α = the constant (regression intercept)

β_1 to β_5 = the coefficients indicating the various levels of signicance

e = error term

Variable specifications:

Banks Financial Performance was measured by ROA.

Independent variables were measured by the following determinants.

X_1 = Mobile money [bank's investment in mobile banking/ operating profit].

X_2 = Liquidity Management = [total loans/total deposits]

X_3 = efficiency ratio = [total operating expenses/total income].

X_4 = expenses management ratio = [operating expenses / total assets]

X_5 = bank size = [value of total banking assets].

3.5.2 Test of significance

Pearson correlation was used for this study to measure the direction of the linear association of the variables. ANOVA was used to test result significance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis and interpretation. The study sought to determine the effect of mobile money on the financial performance of Commercial Banks in Kenya. Data was collected from 43 commercial banks for a period of five years from 2009 to 2013. The data sources were published annual reports spanning five years (2009-2013) for the sampled 43 commercial banks as well as other publications. Data was collected based on the study variables with regard to return on assets, mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management and bank size.

4.2 Descriptive Statistics

This section provides information on descriptive statistics on study variables which include; return on assets, mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio, bank size.

4.2.1 Return on assets

The findings on the return on assets (ROA) mean values are as presented in the table 4.1 below.

Table 4.1 Return on Assets

Year	N	Mean	Std. Deviation
2009	43	2.14	0.283
2010	43	2.58	0.325
2011	43	3.16	0.690
2012	43	3.85	0.148
2013	43	4.12	0.022

Source: Research Findings

The findings as shown in table 4.1 above shows the distribution of return on assets mean values over a period of 5 years. The lowest mean value for ROA was 2.14 in year 2009 while the highest mean value for ROA was 4.12 in 2013. The steady rise in the return on assets values over the 5 year period indicates that there was increasing financial performance of the 43 commercial banks over the last 5 years. On the other hand, the different scores of standard deviation indicate variation in the financial performance for the various commercial banks.

4.2.2 Mobile Money

The findings on the mobile money mean values are as presented in the Table 4.2 below.

Table 4.2 Mobile Money

Year	N	Mean	Std. Deviation
2009	43	0.03	0.614
2010	43	0.04	0.317
2011	43	0.07	1.016
2012	43	0.08	0.467
2013	43	0.11	0.418

Source: Research Findings

The findings as shown in table 4.2 above indicate the trend of mobile money over the 5 year period. From the findings, the lowest value of mobile money was a mean of 0.03 in year 2009 while the highest value of mobile money was a mean of 0.11 in year 2013. This shows a steady increase in the mobile money of the 43 commercial banks over the 5 year period. In addition, the different stardard deviation values depict a variation in the mobile money levels of the different commercial banks in Kenya. Thus, mobile money had a positive impact on the financial performance of the various commercial banks in Kenya that were implementing the same.

4.2.3 Capital Ratio

The findings on the capital ratio are as presented in the Table 4.3 below.

Table 4.3 Capital Ratio

Year	N	Mean	Std. Deviation
2009	43	0.14	0.614
2010	43	0.21	0.317
2011	43	0.28	1.016
2012	43	0.36	0.467
2013	43	0.42	0.418

Source: Research Findings

The findings as shown in table 4.3 above indicate the trend of capital ratio over the 5 year period. From the findings, the lowest value of capital ratio was a mean of 0.14 in year 2009 while the highest value of capital ratio was a mean of 0.42 in year 2013. This shows a steady increase in the capital ratio of the 13 commercial banks over the 5 year period. In addition, the stardard deviation depict a variation in the capital ratio of the different commercial banks in Kenya. Thus, capital ratio positively affected the financial performance of the various commercial banks in Kenya.

4.2.4 Liquidity ratio

The findings on the liquidity ratio values are as presented in the table 4.4 below.

Table 4.4 Liquidity ratio

Year	N	Mean	Std. Deviation
2009	43	2.68	0.203
2010	43	2.70	0.160
2011	43	2.80	0.148
2012	43	2.87	0.135
2013	43	2.97	0.180

Source: Research Findings

The findings as shown in table 4.4 above indicate the trend of liquidity ratio over the 5 year period. From the findings, the lowest value of liquidity ratio was a mean of 2.68 in year 2009 while the highest value of liquidity ratio was a mean of 2.97 in year 2013. This shows a slight increase in the liquidity ratio of the 43 commercial banks over the 5 year period. Thus, the liquidity ratio positively impacted on the financial performance of the various commercial banks in Kenya.

4.2.5 Efficiency ratio

The findings on the efficiency ratio values are as presented in the Table 4.5 below.

Table 4.5 Efficiency ratio

Year	N	Mean	Std. Deviation
2009	43	0.67	0.552
2010	43	0.63	0.621
2011	43	0.59	0.098
2012	43	0.56	1.035
2013	43	0.54	0.247

Source: Research Findings

The findings as shown in table 4.5 above indicate the trend of efficiency ratio over the 5 year period. From the findings, the lowest value of efficiency ratio was a mean of 0.54 in year 2013 while the highest value of efficiency ratio was a mean of 0.67 in year 2009. This shows a steady decrease in the efficiency ratio of the 43 commercial banks over the 5 year period. In addition, the stardard deviation depict a variation in the efficiency ratio of the different commercial banks in Kenya. Thus, the efficiency ratio negatively affected the financial performance of the various commercial banks in Kenya.

4.2.6 Expenses management ratio

The findings on the expenses management ratio values are as presented in the table 4.6 below.

Table 4.6 Expenses management ratio

Year	N	Mean	Std. Deviation
2009	43	0.32	0.502
2010	43	0.31	0.424
2011	43	0.28	0.108
2012	43	0.27	0.724
2013	43	0.25	0.727

Source: Research Findings

The findings as shown in table 4.6 above indicate the trend of expenses management ratio over the 5 year period. From the findings, the lowest value of expenses management ratio was a mean of 0.25 in year 2009 while the highest value of expenses management ratio was a mean of 0.32 in year 2009. This shows a steady decrease in the expenses management ratio of the 43 commercial banks over the 5 year period. Thus, the expenses management negatively affected the financial performance of the various commercial banks in Kenya.

4.2.7 Bank size

The findings on the bank size mean values are as presented in the Table 4.7 below.

Table 4.7 Bank size

Year	Value of total Banking Assets (in KES millions')	
	Mean	**Std. Dev.**
2009	2016	1537
2010	2218	1690
2011	2440	1859
2012	2683	2045
2013	3220	2454

Source: Research Findings

The findings as shown in table 4.7 above indicate the trend of bank size over the 5 year period. From the findings, the lowest value of bank size was a mean of KES. 2016 million in year 2009 while the highest value of bank size was a mean of KES. 3220 million in year 2013. This shows a steady increase in the bank size of the 43 commercial banks over the 5 year period. In addition, the high stardard deviation scores depict a variation in the bank size of the different commercial banks in Kenya. Thus, the bank size positively affected the financial performance of the various commercial banks in Kenya.

4.3 Multiple Regression Analysis

In determining the effect of mobile money on the financial performance of Commercial Banks in Kenya, the study conducted a multiple linear regression analysis to determine the nature of relationship between the variables. The regression model specification was as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon.$$

Where; Y= financial performance = Return on Assets

X_1 = mobile money, X_2 = capital ratio; X_3 = liquidity ratio; X_4 = efficiency ratio; X_5 = expenses management ratio while X_6 = bank size

α=constant,

ε= error term,

β=coefficient of the independent variables.

This section presents a discussion of the results of the multiple regression analysis. The study conducted a multiple regression analysis to determine the relative importance of each of the variables with respect to financial performance of the 43 commercial banks in Kenya. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study. The findings are as presented in the following tables;

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	. 899[a]	.8082	.786	0.0125	

Source: Research Findings

a. Predictors: (Constant), mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio, bank size

b. Dependent Variable: financial performance

36

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the changes in the independent variables or the percentage of variation in the dependent variable (financial performance) that is explained by all the five independent variables (mobile money, capital ratio, liquidity ratio, efficiency ratio, capital adequacy ratio and bank size).

The five independent variables that were studied, explain 80.82% of variance in financial performance of the 43 commercial banks as represented by the R^2. This therefore means that other factors not studied in this research contribute 19.18% of variance in the dependent variable, therefore, further research should be conducted to investigate them.

Table 4.9 ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.323	2	.202	8.64	.004[a]
	Residual	5.408	3	.246		
	Total	6.898	42			

Source: Research Findings

a. Predictors: (Constant), mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio, bank size

b. Dependent Variable: financial performance

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $\beta \neq 0$ against the

null hypothesis that $\beta = 0$ (Weisberg, 2005). From the findings the significance value is .004 which is less that 0.05 thus the model is statistically significant in predicting how mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio and bank size affect financial performance of commercial banks in Kenya. The F critical at 5% level of significance was 3.23. Since F calculated (value = 8.64) is greater than the F critical (3.23), this shows that the overall model was significant.

Table 4.10 Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	B	
(Constant)	3.374	.836		3.61	.000
Mobile money	0.614	.386	0.317	2.42	.0018
Capital ratio	0.811	.412	0.228	1.81	.0008
Liquidity ratio	0.732	.854	0.159	8.41	.0011
Efficiency ratio	0.543	.580	0.151	4.56	.0028
Expenses management ratio	0.580	.620	0.172	1.45	.0022
Bank size	0.632	.723	0.164	1.37	.0015

Source: Research Findings

From the regression findings, the substitution of the equation

$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon$ becomes;

$Y = 3.374 + 0.614\ X_1 + 0.811\ X_2 + 0.732\ X_3 + 0.543\ X_4 + 0.580\ X_5 + 0.632\ X_6 + \varepsilon$

Where Y is the dependent variable (financial performance), X_1 is the mobile money, X_2 is the capital ratio, X_3 is the liquidity ratio, X_4 is the efficiency ratio, X_5 is the expenses management ratio and X_6 is the bank size.

According to the equation, taking all the factors (mobile money, capital ratio, liquidity ratio, efficiency ratio, expenses management ratio and bank size) constant at zero, financial performance will be 3.374. The data findings also show that a unit increase in mobile money will lead to a 0.614 unit increase in financial performance; a unit increase in capital ratio will lead to a 0.811 unit increase in financial performance; a unit increase in liquidity ratio will lead to a 0.732 unit increase in financial performance, a unit increase in efficiency ratio will lead to a 0.543 unit increase in financial performance, a unit increase in expenses management ratio will lead to a 0.580 unit increase in financial performance while a unit increase in bank size will lead to a 0.632 unit increase in financial performance. This means that the most significant factor is capital ratio followed by liquidity ratio.

At 5% level of significance and 95% level of confidence, capital ratio had a 0.0008 level of significance; liquidity ratio had a 0.0011 level of significance, bank size had a 0.0015 level of significance; mobile money ratio had a 0.0018 level of significance, expenses management ratio had a 0.0022 level of significance while efficiency ratio had a 0.0028 level of significance, implying that the most significant factor is capital ratio followed by liquidity ratio, bank size, mobile money, expenses management ratio and efficiency ratio, respectively.

4.4 Interpretation of findings

The study sought to determine the effect of mobile money on the financial performance of Commercial Banks in Kenya.

From the findings, financial performance of the 43 commercial banks under study increased over the 5 year period as depicted by the ROA values. The mean increase in the ROA values from a mean of 2.14 in year 2009 to a mean of 4.12 in year 2013 indicates a steady increase in the commercial banks' financial performance over the 5 year period. Thus, mobile money enhanced the financial performance of commercial banks in Kenya. the findings were similar to Gitau (2011) whose study revealed that there was a positive relationship between financial innovation and financial performance of commercial banks in Kenya.

The study findings revealed that mobile banking steadily increased from a mean of 0.03 in year 2009 to a mean of 0.11 in year 2013. Thus, mobile money positively affected the financial performance of the various commercial banks in Kenya. These findings are in line with Haron and Ahmad (2001) who observed that mobile money as an emerging banking concept had a positive impact on the profitability of modern day banks.

The study findings revealed that capital ratio steadily increased from a mean of 0.14 in year 2009 to a mean of 0.42 in year 2013. Thus, capital ratio positively affected the financial performance of the various commercial banks in Kenya. These findings are in line with Haron and Ahmad (2001) who observed that capital ratio, interest rate and inflation are positively related with the profitability of commercial banks.

The study findings revealed that liquidity ratio slightly increased from a mean of 2.68 in year 2009 to a mean of 2.97 in year 2013. Thus, the liquidity ratio positively impacted on the financial performance of the various commercial banks in Kenya. The findings are consistent with previous studies done by Kader, Janbota, Asarpota and Anju (2007) and Safiullah (2010) where they all concluded that banks are not suffering from excess liquidity and are cost effective.

The study findings revealed that efficiency ratio steadily decreased from a mean of 0.67 in year 2009 to a mean of 0.54 in year 2013. Thus, the efficiency ratio negatively impacted on the financial performance of the various commercial banks in Kenya. The findings are consistent with Hassoune (2002) who concluded that commercial banks are certainly profitable. The findings are also in agreement with Hassan & Bashir (2003) who also found out that the NIM as another indicator of performance measure indicated that banks are operationally efficient.

The study findings indicated that expenses management ratio decreased from a mean of 0.32 in year 2009 to a mean of 0.25 in year 2013. Thus, the expenses management had an inverse relationship with the financial performance of the various commercial banks in Kenya. The findings are consistent with Hassan & Bashir (2003) who observed that the profitability of interest-free banks is positively influenced by high capital and loan-to-asset ratios, favorable macroeconomic conditions, and negatively to taxes.

The study findings revealed that bank size steadily increased from a mean of Kshs. 2016 million in year 2009 to a mean of Kshs. 3220 million in year 2013. Thus, the bank size positively affected the financial performance of the various commercial banks in Kenya. The findings are consistent with Ahmednoor (2012) who observed that there exist a

strong positive relationship between bank size and financial performance of commercial

bank in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study findings on the effect of mobile money on the financial performance of Commercial Banks in Kenya. The conclusions and recommendations are drawn there to. The chapter is therefore structured into summary of findings, conclusions, recommendations and areas for further research.

5.2 Summary

The study established that the financial performance of the 43 commercial banks under study as represented by ROA values increased by a mean ratio of 1.98 over the 5 year period. This is as represented by the difference between the lowest mean of 2.14 in year 2009 and the highest mean of 4.12 in year 2013 for the return on assets. Therefore, mobile money enhanced the financial performance of commercial banks in Kenya.

The study found out that there was a steady increase in the commercial banks' mobile money value as reflected by the increase in mean values from 0.03 in year 2009 to 0.11 in year 2013. Therefore, mobile money positively affected the financial performance of the commercial banks in Kenya over the 5 year period.

The study found out that there was a steady increase in the commercial banks' capital ratio as reflected by the increase in mean values from 0.14 in year 2009 to 0.42 in year 2013. Therefore, capital ratio positively affected the financial performance of the commercial banks in Kenya over the 5 year period.

The study found out that there was a slight increase in the commercial banks' liquidity ratio as reflected by the increase in mean values from 2.68 in year 2009 to 2.97 in year 2013. Therefore, liquidity ratio positively impacted on the financial performance of the commercial banks in Kenya over the 5 year period.

The study found out that there was a slight decrease in the commercial banks' efficiency ratio as reflected by the decrease in mean values from 0.67 in year 2009 to 0.54 in year 2013. Therefore, the efficiency ratio had a negative effect on financial performance of the commercial banks in Kenya over the 5 year period.

The study found out that there was a steady decrease in the commercial banks' capital expenses management ratio as reflected by the decrease in mean values from 0.32 in year 2009 to 0.25 in year 2013. Therefore, the expenses management ratio negatively affected the financial performance of the commercial banks in Kenya over the 5 year period.

The study found out that there was a steady increase in the bank size of the commercial banks as reflected by the increase in mean values from Kshs. 2016 million in year 2009 to Kshs. 3220 million in year 2013. Therefore, the bank size positively affected the financial performance of the various commercial banks in Kenya over the 5 year period.

5.3 Conclusion

Given that the mobile money of the commercial banks steadily increased over the 5 year period and the commercial banks' financial performance also steadily increased over the same period, the study concludes that mobile money positively affected the financial performance of the commercial banks in Kenya.

Given that the capital ratio of the commercial banks steadily increased over the 5 year period and the commercial banks' financial performance also steadily increased over the same period, the study concludes that capital ratio positively affected the financial performance of the commercial banks in Kenya.

Given the increase in the liquidity ratio of the commercial banks over the 5 year period and the corresponding increase in the commercial banks' financial performance over the same period, the study concludes that liquidity ratio positively impacted on the financial performance of the various commercial banks in Kenya.

Given the decrease in the efficiency ratio of the commercial banks over the 5 year period and the corresponding increase in the commercial banks' financial performance over the same period, the study concludes that efficiency ratio negatively affected the financial performance of the commercial banks in Kenya.

Given the steady decrease in the expenses management ratio of the commercial banks over the 5 year period and the corresponding increase in the commercial banks' financial performance over the same period, the study concludes that expenses management ratio negatively affected the financial performance of the commercial banks in Kenya.

Given the steady increase in the bank size of the commercial banks over the 5 year period and the corresponding increase in the commercial banks' financial performance over the same period, the study concludes that the bank size positively affected the financial performance of the various commercial banks in Kenya.

5.4 Recommendations for Policy

From the findings, the study established that mobile money positively affected the financial performance of the commercial banks in Kenya. Therefore the study recommends that the management of the commercial banks should conduct research on other possible m-banking packages to capture market niches that competitors have not identified hence expand on the market share leading to improved financial performance.

From the findings, the study established that capital ratio positively affected the financial performance of the various commercial banks in Kenya. Therefore the study recommends that the management of the commercial banks should strive to achieve an optimal capital structure for their firms in order to enhance their firms' value hence leading to an increase in their firms' financial performance.

From the findings, the study established that the liquidity ratio positively affected the financial performance of the various commercial banks in Kenya. Therefore the study recommends that the management of the commercial banks should strive to achieve a stable liquidity position in order to enhance their firms' financial performance.

From the findings, the study established that both the efficiency ratio and the expenses management ratio had a negative influence on the financial performance of the various commercial banks in Kenya. Thus, the study recommends that the management of the commercial banks should strive to enhance operational efficiency and expenses management of the banks in order to enhance their firms' financial performance.

From the findings, the study established that bank size of the commercial banks positively affected the financial performance of the commercial banks in Kenya. Therefore the study

recommends that the management of the commercial banks should strive to expand target markets for the growth of their commercial banks which in turn enhances their financial performance.

5.5 Limitations of the Study

The study was limited by lack of adequate information. The Kenyan commercial banks' level of information disclosure differed. Some of the commercial banks did not disclose all the information on mobile money in their annual publications. To cope with this challenge, the researcher approached the firms with scanty information seeking clarification on mobile money not disclosed. However, some of the respondents approached were not willing to disclose the information fearing that it could be shared with their competitors.

The descriptive research design had inherent limitation. These limitations included the risk of non-response rate. The study conducted using descriptive research design was conducted on the basis of voluntary participation. The respondents being busy with their work were not willing to participate in giving the information being sought. Where respondents were not fully informed and motivated to give information, cross-sectional designs may be underproductive.

The study was further limited by the lack of co-operation from the study respondents. This is owing to their busy work schedule when the researcher sought clarification on the information on corporate mobile money from them. The study was also limited by the short time frame in which it was conducted. The variables of the study were many and required a lot of time to collect the data from the firms. The short time that the study was carried out required the researcher work for long hours to meet the deadline.

5.6 Areas for Further Research

Since this study explored the effect of mobile money on financial performance of commercial banks in Kenya, the study recommends that; similar study should be done in other countries for comparison purposes and to allow for generalization of findings on the effect of mobile money on the financial performance of commercial banks.

The study recommends further study on the causes of the inconvenience associated with mobile money and reasons why mobile-bank services (accessing bank account via mobile phone) are not popular among.

Further follow-up studies on the same topic could identify changes over time especially with the expectation that mobile money services may become the primary platform for cashless transactions especially with services like 'Lipa-na-M-Pesa' rapidly gaining popularity.

A more detailed study can be conducted to establish whether the adoption of financial innovations contributed to financial deepening in Kenya.

REFERENCES

Athanasoglou, P. Sophocles, N. B. & Matthaios, D. D. (2005). Banks-specific, industry - specific and macroeconomic determinants of bank profitability.Working Paper, Bank of Greece.

Barker, D. & Holdsworth, D. (1993). The causes of bank failures in the 1980s.Research paper No.9325, Federal Reserve Bank of the US, New York.

Chien, T. & Dawn, S. Z. (2004). ''Performance measurement of Taiwan Commercial Banks'', *International journal of productivity and performance Management*, Vol. 53(5), pp.425-434.

Communications Commission of Kenya (2011/2012). *Quarterly Sector Statistics Report;* (1st Quarter July-September 2011/2012). CCK, November 2011.

Cooper, D. R., & Schindler, P. S. (2008). *Business Research Methods.* 10th Edition; McGraw-Hill International Edition; Singapore (ISBN: 978-007-12633-7)

Dang, U. (2011). The CAMEL rating system in Banking Supervision: a Case study of Arcade University of Applied Sciences,International business.

Enyi, N. & Mesfin, T.(2007). Measuring Commercial Bank performance and Efficiency in Sub-saharan Africa. Master Thesis in Economics and Finance/Financial Economics, Level D. University of Scodve, School of Technology and Society.

Gitau, R. M. (2011).*The relationship between financial innovation and financial performance of Commercial banks in Kenya*. (Unpublished MBA Research project).University of Nairobi.

Githakwa, P. W. (2011). *The relationship between financial innovation and profitability of Commercial Banks in Kenya* (Unpublished MBA Research Project.) University of Nairobi.

Hefferman, S. (1996): Modern Theory in Banking and practice, England; published by John Wiley & Sons Ltd, West Sussex.

Hughes, N. & Lonie, S. (2007).M-Pesa: Mobile Money for the "Unbanked", Turning Cell Phones into 24-hour Tellers in Kenya. *Nick Hughes and Susie Lonie innovations*; Winter and Spring 2007.

Jack, W. & Suri, T. (2011). Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution *Working Paper.*

Jenny, C. A. & Isaac, M. (2010). "Mobile Phones and Economic Development in Africa", *Journal of Economic Perspectives, 24*(3), 207-232.

Kane, E. J. (1984). Financial Innovations: *Their Impact on Monetary Policy and Financial Markets*, pp 3-20.

Kothari, C. (2010). *Research Methodology: Methods and Techniques,* Mumbai: New Age International publishers.

Lovelock, C. & Flier (2001). ''Innovation strategy, process and performance in the Commercial Banking Industry'', *Journal of Marketing Management Volume 19,2003*.

Marshall, J. (2009). The financial crisis in the US: key events, causes and responses, Research Paper 09/34, http://www.parliament.uk

Mbogo, M. (2010). The Impact of Mobile Payments on the Success and Growth of Micro - Business: The Case of M-Pesa in Kenya. *The Journal of Language, Technology & Entrepreneurship in Africa, 2*(1), 182-203. ISSN 1998-1279.

Mugenda, M & Mugenda, A (2003).Research methods, Quantitative & Qualitative approaches

Musara, M. F. O (2010); Has technological innovations resulted in increased efficiency and cost savings for bank' customers? *African journal of business management*, 4(9), 1813-1821

Must, B. & Ludewig, K. (2010). Mobile Money: Cell Phone Banking In Developing Countries. *Policy Matters Journal, pp 27-33*.

Muthoni, J. M. (2011). *Measuring Bank operational efficiency using Data Envelopment Analysis: A case study of Kenya Commercial Bank Ltd*. (Unpublished MBA Project). University of Nairobi

Nyaga, K.M (2013).*The impact of mobile money services on the performance of small and medium enterprises in an urban town in Kenya.* (Unpublished MBA Project). University of Nairobi

NW, H. (2006) Financial Innovation and its impact on Central Banks; *www.amcm.gov.mo/publication*.

Omar, M.,Rahman, A., Yosof, R., & Mohd, M. (2006). Efficiency of Commercial Banks in Malasyia. *Asian Academy of journal of Accounting and Finance*, 2(2), 19-42.

Rogers, E. M. (2003). Diffussion of Innovations, Fifth Edition 2003, Free Press, New York, p221

Rose, P.S & Hudgins, Sylvia C. (2006).Bank Management & Financial Services, 6[th]ed.) McGraw-Hill, New York.

Sangmi, M, & Tabassum, N. (2010). Analyzing financial performance of banks in India: Application of CAMEL Model.Pakistan Journal Commercial Social Sciences.

Shakhala, L. (2012). *The relationship between financial innovations and the growth of commercial of Banks in Kenya.* Unpublished MBA Project. University of Nairobi.

Shekhar, K & Lekshmy, S. (2007): Banking Theory and practice, 20th Ed, VIKAS Publishing House, New Dheli.

Silber, W. (1983). 'The Process of Financial Innovation', *American Economic Review*, May, 89-95.

Silber, W. (1975),' Financial Innovation, Lexington Books, Lexington MA.pp.1-3.

Vincent, O.O. (2013). Determinants of financial performance of Commercial Banks in Kenya. *International journal of Economics & Financial issues, Vol 3, No 1,2013,PP.*237-252. www.econjournals.com

Wachira, G. D. (2010). Study of relationship between financial performance and camel rating of Commercial Banks in Kenya.MBA project, UON.

Zewdie, G.H. (2013) .The *effect of financial innovation on the Financial Performance of listed Commercial Banks in Kenya*.Unpublished MBA Project. University of Nairobi

Zutt, J., (2010). Kenya Economic Update: Poverty Reduction and Economic Management Unit Africa Region Edition 3. World Bank

APPENDIX 1: LIST OF COMMERCIAL BANKS IN KENYA

AS AT 31ST DECEMBER, 2013

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank (Kenya)
6. CfCStanbic Holdings
7. Chase Bank (Kenya)
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank
17. Equatorial Commercial Bank
18. Equity Bank
19. Family Bank
20. Fidelity Commercial Bank Limited
21. First Community Bank
22. Giro Commercial Bank
23. Guaranty Trust Bank
24. Guardian Bank
25. Gulf African Bank
26. Habib Bank
27. Habib Bank AG Zurich
28. Housing Finance Company of Kenya

29.I & M Bank

30.Imperial Bank Kenya

31.Jamii Bora Bank

32.Kenya Commercial Bank

33.K-Rep Bank

34.Middle East Bank Kenya

35.National Bank of Kenya

36.NIC Bank

37.Oriental Commercial Bank

38.Paramount Universal Bank

39.Prime Bank (Kenya)

40.Standard Chartered Kenya

41.Trans National Bank Kenya

42.United Bank for Africa

43.Victoria Commercial Bank

Source: CBK (2013)