THE RELATIONSHIP BETWEEN MOBILE PHONE BANKING AND FINANCIAL PERFOMANCE OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

I declare that this is my original work and has never been presented to any other university for any academic credit purpose.

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This project has been submitted with my approval as the University supervisor.

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DEDICATION

This work is dedicated to my family.

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ABSTRACT

Suoranta and Mattila (2004) have indicated that mobile phone banking is among the most recent financial channels today. Several authors have further identified the benefits of mobile phone banking in terms of ubiquity coverage, flexibility, interactivity, and with greater accessibility compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking. There has been tremendous growth in Mobile phone money transfers services in the country. Consequently, a number of institutions have initiated various innovations and new products to be able to conveniently serve their customers and reduce the long queues that were previously being experienced in the banking halls. As a result, thirteen banks have signed up partnerships with mobile phone providers to facilitate money transfer services for their customers. Several other banks have expressed interest to introduce mobile financial services with the aim of offering better and convenient services to their customers. Mobile money transfer services have been a phenomenal success and have put the country at the global centre stage of financial inclusion and innovation. The study sought to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya.

The causal study design was employed in this research. The target population composed of Commercial banks in Kenya. Mugenda and Mugenda, (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. Secondary data was collected for the purpose of this study and was extracted from Central Bank Website Bank Supervision Department annual reports and from commercial banks. Statistical package for social sciences (SPSS) was used to analyze the data. Test of significance was carried out to determine the extent of relationship among study variables. The results presented the real situation of the banks financial performance within the given period, that is, year 2007, 2008, 2009, 2010 and 2011.

The study found that there was a strong relationship between financial perfromance of commercial banks and size of the banks and mobile phone banking. Adoption of mobile phone banking has helped banks reduce costs and reach a greater customer base. Size of the bank was also found to positively influence the the financial perfomance of commercail banks in kenya.

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LIST OF ABBREVIATIONS

AML	Anti Money Laundering
ATM	Automatic Teller Machines
CCK	Communication Commission of Kenya
DOI	Diffusion of Innovations
EVA	Economic Value Added
LTD	Limited
M banking	Mobile Phone Banking
MBS	Mobile Banking Services
MFS	M Banking Functions
NGO	Non-Governmental Organizations
PDA	Personal Digital Assistant
ROA	Return on Assets
ROC	Return on Capital
ROE	Return on Equity
ROI	Return on Investments
ROS	Return on Sales
SMS	Short Message Services
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER ONE

INTRODUCTION

1.1Background of the Study

The revolution of information technology has influenced almost every facet of life, among them is the banking sector. The introduction of electronic banking has revolutionized and redefined the ways banks were operating. As technology is now considered as the main contribution for the organizations' success and as their core competencies. So the banks, be it domestic or foreign are investing more on providing customers with the new technologies through mobile banking. Technological advancements has not only affected the way of living but has had an effect on the way people do their banking. The last decade, has seen an incredible upsurge in mobile penetration in the developing world. However of great interest is that while the mobile phone offers several features including the possibility of mobile banking, almost half of the world populations have either failed to embrace mobile banking and financial services or they have been deprived of the same. Back in Kenya the scenario is no better. Astonishingly half of the Kenyan populations especially the rural folk do not have a clue on mobile banking. However, the outreach of the mobile banking sector has been found to vary across country (Ivatury & Mas, 2008).

The Kenya Bureau of Statistic Report (2011) indicates that more than 7 million adult rural Kenyans are either under-banked or unbanked. This is partly because of the high cost of maintaining the bank branches and the low nature of business transactions in rural Kenya- a situation which makes opening of new branches in the rural areas a less productive venture. At yet another level mobile technology has substantially penetrated rural Kenya and is likely

to be on an upward trend in the near future. Banks and other financial institutions which have traditionally relied on physically established branches to provide banking services are now gearing towards the adoption of mobile banking services (MBS) as a form of branchless banking. This has the consequence of lowering cost of banking. Technology has therefore created greater opportunities to service providers to offer great flexibility to the customers. To this end banks are fast developing branchless banking such as ATM, internet and mobile banking among others (Laukkanen & Pasanen, 2007).

Suoranta and Mattila (2004) have indicated that mobile banking is among the most recent financial channels today. Several authors have further identified the benefits of mobile phone banking in terms of ubiquity coverage, flexibility, interactivity, and with greater accessibility compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking. In line with this, Laukkanen (2007) reported that mobile phone banking was found faster than non-mobile internet banking with the intensive development of advanced mobile technologies. Although mobile phone banking yields enormous benefits, numerous scholars found that mobile phone banking adoption still remains at infancy stage. Meanwhile, Kleijnen et al. (2007) further indicated that the usage of mobile phone banking has yet to meet the industrial expectations.

The mobile phone banking service provides convenience and promptness to customers along with cost savings, banks are also interested in expanding their market through mobile services. Traditionally, the most widespread method of conducting banking transactions has been through offline retail banking. Wireless technology, however, is rapidly changing the

way personal financial services are designed and delivered. With the increased use of mobile phones in Kenya, the commercial banking sector has introduced and diffused mobile banking systems throughout their operations to improve their operations as well as to reduce costs. Despite all the efforts aimed at developing better and easier mobile banking systems, mobile banking is seriously underutilized, since many customers do not accept it while others do not have an idea about how to use it (Riquelme et al, 2010).

1.1.1 Commercial Banks

Currently there are 43 licensed commercial banks in Kenya. Commercial banks account for much of the total deposit in the country. The banks that dominate the commercial banking sector in Kenya are: Barclays Bank, Kenya Commercial Bank, Standard Chartered Bank, Equity bank, the National Bank of Kenya Ltd and Cooperative Bank of Kenya have also opened many branches in most areas of the country. These banks engage in the general banking system although some smaller banks tend to be rather specialized in domestic trade and others in import and export finance facilities offered by Kenya Commercial Banks (www.centralbank.go.ke).

According to Kumar (2003) facilities offered by Kenya Commercial Banks include: Money telegraphic transfer by mail, Standing order payments, Foreign exchange transactions services, Issue of traveler's cheques, discounting of bills of exchange and promissory notes, providing documentary credit to overseas trade, providing credit status information to customers, Offering share brokerage services i.e. buying and selling of shares and stock on behalf of their customers, operation of safe deposits, operation of trust departments, dealing

with confidential share purchases, offering business advisory services, acceptance of various deposits like fixed and regular deposits and providing loans and advances. All mainstream banks have introduced Mobile phone banking services in an effort to reach more customers at a relatively lower cost.

1.1.2 Concept of Mobile Phone Banking

Today, the advancement of mobile technologies has provided an opportunity for financial providers in introducing new financial innovations. One of the emerging financial innovations introduced by financial providers is mobile phone banking. The rapid development of information technology has affected the banking industry globally. An impact of information technology in the banking sector is the introduction of mobile phone banking. Earlier studies have shown the usefulness of mobile phone banking in facilitating the financial transactions between banks and their customers (Kleijnen et al., 2004; Luarnand Lin, 2005; and Mattila, 2003). However, these earlier studies on mobile phone banking and factors influencing its usage have produced mixed results. Kleijnen et al., (2004) found perceived usefulness to be less significant in explaining the adoption of mobile financial services. On the other hand, Luarn and Lin (2005) concluded that perceived usefulness to be a significant factor in mobile phone banking. Also, Mattila (2003) found risk to be a very significant factor in adopting mobile phone banking.

Mobile phone banking is defined as a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA). On the other hand mobile payments are defined as the use of a mobile device to conduct a payment

transaction in which money or funds are transferred from a payer to a receiver via an intermediary, or directly without an intermediary (Mallat, 2006). Another definition of mobile phone banking is that it is a form of banking transaction carried out via a mobile phone. Mobile phone banking allows bank customers to check their account balances, perform credit card transaction as well as provide information on the latest transaction made by customers. It is a fact that mobile phone banking is still in its infancy and relatively alien to Kenyans. Hence, there is a possibility that mobile banking remains unknown to and underutilized by bank customers.

The terms mobile phone banking and mobile payments describe distinct but in some cases overlapping sets of products. Some m-banking platforms provide services, such as money transfers, that are considered forms of mobile payment, while some m-payments products are so closely linked to bank accounts as the source of funds that they assume m-banking functions. MFS refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank account, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products (Donner & Tellez, 2008).

Porteous (2006) distinguishes two aspects of mobile banking: Additive and transformational characteristics. Additive aspects are those in which the mobile phone is merely another channel to an existing bank account. Mobile phone banking is additive when it merely adds to the range of choices or enhances the convenience of existing customers of mainstream financial institutions. Transformational characteristics arise when the financial product linked

to the use of the phone is targeted at persons who do not hold formal bank accounts with the conventional banking institutions.

Sarker and Wells (2003) assert that the only single access requirement or barrier to the resultant mobile phone banking will be the mobile phone. However, worldwide market penetration of affordable cellular devices and growing network service diffusion makes this intricacy almost fully resolved hence setting a firm pedestal for mobile phone banking escalation. Porteous (2006) asserts that mobile phone banking has the potential to be transformational owing to various facts. First, it uses existing mobile communications infrastructure which already reaches unbanked persons. Secondly it may be driven by new players, such as mobile phone industry operators, with different target markets from traditional banks who are able to harness the power of new distribution networks for cash transactions. These include airtime merchants, who extend the reach beyond the conventional tellers or ATM networks of banks. In addition it may be cheaper than conventional banking, if the offering is competitive enough (Tellez, 2008).

1.1.3 Financial Performance

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure firms' performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash

flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt (Mido, 2006).

Quantitative measures of firm performance include profitability measures such as gross margin, net margin for example return on sales, return on equity, economic value added, return on equity less cost of equity, return on capital employed; cash flow measures such as free cash flow over sales; and growth measures such as 1-, 3-, and 5-year historical revenue growth. Ideally, forward-looking measures such as expected profitability, cash flow and growth should be used to measure a firm's performance because the current operating conditions (such as number of hierarchical levels or organization form) will influence future performance (Kumar, 2003).

Management researchers prefer accounting variables as performance measures such as return on equity (ROE), return on investment (ROI), and return on assets (ROA), along with their variability as measures of risk. Earlier studies typically measure accounting rates of return. These include: Return on Investment (ROI), return on capital (ROC), return on assets (ROA) and return on sales (ROS). The idea behind these measures is perhaps to evaluate managerial performance-how well is a firm's management using the assets to generate accounting returns per unit of investment, assets or sales. The problems with these measures are well known. Accounting returns include depreciation and inventory costs and affect the accurate reporting of earnings. Asset values are also recorded historically. Return on equity (ROE) is a frequently used variable in judging top management performance, and for making executive

compensation decisions. ROE is defined as net income (income available to common stockholders) divided by stockholders equity. On the other hand, ROA is the most frequently used performance measure in previous studies. It is defined as net income (income available to common stockholders), divided by the book value of total assets (Donaldson & Preston, 1995).

1.1.4 Determinants of Financial Performance

Said et al (2003), points out that financial performance measures provide a means of transforming a firm's strategy and vision into a tool that motivates performance and communicates strategic intent. The common measures of financial performance include, revenue from operations, operating income, cash flows from operations, total unit sales, margin growth rates, declining debt. According to Brian (2006) a large set of variables determine a firm's financial performance. They include characteristic of the industry in which the firm competes, the firm's position relative to its competitors; and the quality or quantity of the firm's resources. Inflation, economic policies, competition, cost management, price and volume.etc. A recent study by Schmalensee (2005) indicated that differences between industries as measured by average industry return on assets account for almost all the explained variance in business unit performance.

Most studies divide the determinants of commercial banks performance into two categories, namely internal and external factors. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, i.e. financial statement variables and nonfinancial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income

statement; non-financial statement variables involve factors that have no direct relation to the financial statements. The examples of non-financial variables within this category are number of branches, status of the branch (e.g. limited or full-service branch, unit branch or multiple branches), location and size of the bank. External factors are those factors that are considered to be beyond the control of the management of a bank. Among the widely discussed external variables are competition, regulation, concentration, adoption of Mobile phone banking and other innovative products, market share, ownership, scarcity of capital, money supply, inflation and size (Sudin, 2004).

1.1.5 Mobile Phone Banking Vs Financial Performance

Although the core business of commercial banks were to offer traditional financial services like accepting deposits, custody, cash remittances, banks have today innovatively veered off this path in the name of diversification into offering services like, Mobile phone payments, Mobile Phone banking and most recently Mobile phone health in a view to reach more customers and increase their market share at a relatively low cost. Notable impact however has been in banking services which has literary transformed conventional banking in Kenya and beyond. The first level of mobile phone banking was M payments, where the subscribers transacted financial services between mobile phones only. This form of banking, also known as transformational banking, targeted persons that do not hold a bank account with commercial banks. This was mainly spearheaded by Safaricom's M pesa (although all four other provides have since joined the fray) and was largely ignored by commercial banks. (Porteous, 2006). However, with increasing competition and the realization by the banks and other financial institutions that M pesa was a force to reckon with and will be around in the foreseeable future, banks started innovative products in partnership with the

telecommunication providers to have the banked and unbanked population linked to their bank accounts via cell phones. This gave birth to a new form of M phone banking known as additive banking. According to Porteous, (2006), in additive Mobile phone banking, mobile phones are used as a channel to the bank account that is in operation.

In the 2011/2012 Safaricom's financial results, it was noted that M payments and Mobile phone banking segments contributed 16% of the firms total revenue, while Orange money and Airtel money contributed 1.2% and 0.1% to Orange and Essar Telkom's' total revenues respectively. In the previous year In 2011/2012 financial year M pesa revenue went up by 56% from Kshs 7.556B to Ksh.11.784 billion while the company's revenue grew from 63.501billion to 64.576 billion This trend therefore shows that Mobile phone banking segments provide substantial amounts in the company's revenues and therefore influence the telecommunication providers performance proposed study seeks to impact of the Mobile phone banking from the commercial banks' perspective.

1.2 Research Problem

In an increasingly globalized world economy, competition is intense and technological innovations have huge implications on firms' performance. With frequent and irregular sequences on innovation commercial banks have laid their emphasis on the implementation on mobile banking because with this there will be an achievement of banks performance through reduced costs of doing business, sustainable competitive advantage, creation of greater convenience to users, and service unbanked customers.

As mobile phone usage expands, so many opportunities to bank the unbanked are created. With m-banking, low-income people no longer need to use scarce time and financial resources to travel to distant bank branches. And since M-banking transactions cost far less to process than transactions at an automated teller machine (ATM) or branch, banks can make a profit handling even small money transfers and payments (Booz Allen 2003). Banking through mobile phones has been common in developed countries for years. The adoption of Mobile phone banking is mainly geared to improve on market share by attracting and retaining their customers, improving their financial performance and create variety of services. To this end, it is not clear whether the adoption has led to increase in market share and financial performance. This study is therefore aimed at assessing the impact of adoption of mobile phone banking on the commercial bank's financial performance. How has mobile phone banking impacted on the providers' market share and financial performance? A number of studies have been done in Mobile phone banking and M payments, with particular interest focused on M pesa but none has sought to establish the adoption of Mobile phone banking and its impact on the providers market share and financial performance. For instance Ndungu and Waema(2011) studied the development outcomes of internet and mobile phones use in Kenya and found out that the use of internet and mobile phone have led to negative and positive development outcomes in low income households in Kenya. Wessels and Drennan investigated consumer acceptance of M baking in regard to the key motivators and inhibitors and found out that perceived usefulness, risk cost and compatibility affect consumer acceptance of Mobile phone banking.

Anderson (2010), studied Mobile phone banking in developing markets its' competitive and regulatory implications and found out that Mobile phone banking has a potential to bring basic banking and electronic transactions services to unbanked consumers in developing markets. He further pointed out that regulators need to question if there are adequate elements in place for Mobile phone banking networks to tip toward a single platform in markets with dominating players that hold significant market share. Salieh (2011) assessed e banking readiness in Jordan and established that e banking has a degree of strategic and operational importance among bank managers and those customers are positive in embracing new banking channels.

Birch and Young (1997) analyzed the consumer side for e-banking and the results showed that consumers basically seek for transactional efficiency, choice for core and non-core banking products and access to competitive prices and returns. Onay et al (2008) in their research on Turkish banks established that M-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. Kleijnen, et al., (2004) carried a study which added perceived financial cost, system quality and social influence to the original TAM constructs and found them to be positively associated with consumer intentions to use mobile banking services. Curwen and Whalley (2011) analyzed the recent restructuring of commercial banks in the wake of Mobile phone banking and how Mobile phone banking support economic developments. Wessels and Drennan(2010) investigated consumer acceptance of Mobile phone banking in Australia and found out that Perceived usefulness, perceived risk, cost and compatibility affect consumer acceptance of M-banking. The results also indicated that attitude transfers the effects of the consumers' perceptions to their intention to use Mobile banking.

Despite the relevance of the Mobile phone banking in the commercial banks gaining competitiveness and enhancing financial performance, there has been limited research conducted locally specifically on the effect of Mobile phone banking on commercial banks financial performance. Most of the studies reviewed were done abroad and according to Aosa (1992), it's not right to import the wholesome results of a research without taking into account the contextual differences and hence the needs to carry out local research in order to understand better the problem. This study intends to be guided by counsels of previous researches undertaken abroad in an effort to find out the impact of Mobile phone banking adoption and financial performance of the commercial banks in Kenya?

1.3 Objectives of the Study

To establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya

1.4 Significance of the Study

The findings of this study will be useful to the following groups: The study findings will help the government to know the extent to which Kenyan people have embraced mobile banking more relevantly customers and enable them to come up with necessary policies and legislation in relation to mobile banking services. The findings of this study will help other financial institutions to understand the effects of mobile phone banking on commercial banks performance and enable them to make necessary strategies to improve on the number of customers adopting the services.

The findings of this study on other hand will come in handy for scholars. Those wishing to carry out further studies on this topic will use the study findings as the basis for further

research. The findings will also be beneficial to scholars in the field of mobile money transfer service to identify gaps that need to be expounded on. Those who have not embraced this concept will understand more about mobile phone banking services and the benefits that can accrue as a result of this study and enable them make decisions concerning the adoption of mobile phone banking services.

CHAPTER TWO

LITRERATURE REVIEW

2.1 Introduction

This chapter introduces the review of the theoretical literature relating to the adoption of mobile phone banking and financial performance. It begins by reviewing the history of banking then discusses mobile phone banking technology and how it relates with financial performance of the commercial banks. The literature is focused on specific aspects of adoption relevant to this research in terms of how technology has been conceptualized, the factors at play as well as research into the impact of Mobile phone banking adoption on financial performance of the commercial banks in Kenya. The literature will be reviewed using the strings approach.

2.2 Theoretical Review

2.2.1 Financial Performance Theories

Capon, Farley and Hoenig (1990) noted that in determining the factors influencing performance diversity, industrial performance and performance differences among firms can be explained as arising from various characteristics: those which are firm specific and those which are industry specific. Scherer (1980) and Porter (1981) point out that industry effects (i.e. concentration levels, industry growth) using the structure-conduct-performance model as the main factor determining firm profitability. On the other hand the resource-based view suggests that the existence of more or less profitable firms within the same industry must be found in the internal factors of each company (market share, firm size, skill level etc). Amato

& Wilder, 1990 indicate that that the firm-effect factors favors the achievement and maintenance of competitive advantages of each firm leading to different profitability levels among firms belonging to the same industry. In the field of finance, financial performance is viewed from the perspective of shareholders value. The value of the firm is given by the present value of all expected future cash flows arising from the use of firm's assets and the market stock price.

2.2.2 Agency Theory

The relationship between ownership structure and financial performance can be contextualized under the agency relationship. Jensen and Meckling (1976) define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent.

Jensen and Meckling (1976) and Shleifer & Vishny, (1997) argued that separation of ownership and control for a corporate firm creates an agency problem that results in conflicts between shareholders and managers. They argue that the issues associated with the "separation of ownership and control" in the modern diffuse ownership corporation are intimately associated with the general problem of agency. The interest of other investors are generally protected through contractual arrangements between the company and concerned stakeholders, leaving shareholders as the residual claimants whose interest can be adequately be protected only through institutions of corporate governance (Shleifer & Vishny, 1997). Fama (1980) holds that separation of security ownership and control can be explained as a result of efficient form of economic organization within the set of contracts perspectives.

Demsetz and Lehn (1985) note that large publicly traded corporations are frequently characterized as having highly diffuse ownership structures that effectively separate ownership of residual claims from control of corporate decisions. Vaninsky and Lauterbach (1999) observe that over the last century, a new form of business organization flourished as non-concentrated ownership structure emerged and that the modern diverse ownership corporation has broken the link between the ownership and active management of the firm.

2.2.3 Social Construction Theory

Another theory relevant for the analyzing M banking and perhaps the most relevant is Trevor Pinch and Wiebe Bijker's social construction of technology theory. This theory argues that technology does not determine how people receive and use mobile technology but that people determine how and in what ways technology is used. The theory posits that the use of a technology cannot be understood without understanding how it is socially integrated within society. Within different social contexts, technology can take different meanings and adoption depends on how society views the technology. Under this theory, the adoption of a technology is not only due to its technical superiority but due to social factors as well. In the context of this study, mobile phone technology and specifically mobile phone financial services having been driven by both business factors and social networks related to business and family. The decomposition theories of planned behavior not only keep the theory of planned behavior principles but also add important value of the original theory, as it adds a bigger number of beliefs and constructs to the models (Vankatesh, Davis and Morris , 2007).

2.3 Evolution of Mobile Phone Banking

The word mobile comes from the Latin word *mobilis* which means to “move” or “able to move freely or easily” or” able or willing to move freely or easily between occupations, places of residencies and social classes”. Device, state of being, industry(oxford English dictionary)The word mobile device can be described as mobile, wireless or cellular phone- a portable, hand held communications device connected to a wireless network that allows users to make local voice calls, send text messages and run applications (Mido,2006).

Receiving or sending money for payment of salaries, settlement of business transactions, payment of school fees or for family support is common both for business and individuals. It requires efficient, reliable and affordable money transfer services, whereby money can be deposited in one location and withdrawn in another in both rural and urban areas. According to Kamau, (2003), structural weakness in the financial industry in Kenya limit the access of money transfer services, especially in rural areas and for low income people. This is because banks are mainly concentrated in urban centers and have much restrictive condition that constitutes barriers to their use of their services. Also contributing to this is the cancellation of services such as telegraphic money transfers by the Kenya postal Corporation (POSTA), by semi-formal providers’ e.g. commercial banks. And by informal services or means e.g. by bus or friends. Generally commercial banks were major players in the money transfer systems in Kenya servicing mainly large users and to a smaller extent, low income users. Among the commercial bank instruments, telegraphic money transfer, electronic funds transfers and bank drafts were typically used by large users as they offered the cheapest service for large amounts. In addition, bank cheques were the preferred option and often required means of payment for school fees. Western union and other similar services in

Kenya, most of which operate through commercial banks, are used almost exclusively to receive money rather than send it. For smaller amounts, entrepreneurs and other individuals typically use informal means or post office services, the latter especially if it's a domestic transfer (Ndungu and Waema, 2011).

The study also goes ahead to show that users can be classified by transfer volumes. The large scale users are government departments, farm produce, marketing agencies, NGO's, state corporations, and cooperatives who use the formal banking systems for transfer of large amounts to meet payment of salaries and transfer operational funds. According to Omwansa (2009), mobile phone services have operated as a duopoly with Safaricom and Zain (now known as Airtel), taking the lead since the year 2000. The original intention of the Kenya Communications Act, to liberalize telecommunications in Kenya, has largely been met. Growth was tremendous from 17,000 mobile phone subscribers in 1999 to over 18 million subscribers by December 2009. In December 2009, France Telecom acquired 50% of Telecom Kenya and proceeded to Launch Orange brand in Kenya in sept.2008.Now called Telecom Orange, it has rolled out and aggressively marketed its mobile services which run on GSM (global system for mobile communication) technology. In November 2008, Essar (Yu) was launched bringing to four the total number of operators.

Safaricom Launched M-PESA in 2007. With other partners like Faulu Kenya (a leading microfinance in Kenya), and Commercial bank of Africa (CBA), which provided the traditional banking infrastructure (Hughees and Lonie, 2007). Late in 2007, Celtel (now Airtel) launched Sokotele, supposedly a competitor to M PESA. Airtels' partners in the

development were Packet stream- a public data network operator and K Rep bank, one of the leading microfinance institutions in Kenya. K Rep provides banking expertise while Packet stream provides the vending software and Airtel Kenya's cellular network makes connectivity possible. Over the last couple of years, several banks have also embraced mobile banking technologies enabling customers to access their bank accounts via their mobile phones. Leading microfinance in Kenya, including Jamii Bora, K Rep, and Faulu Kenya have also introduced service based on SMS (short message service) that let their clients view their bank balances, request account statements and transfer money. Other mainstream banks that have joined the fray of Mobile phone banking in Kenya include: Barclays bank of Kenya, Kenya commercial bank, Equity bank, Cooperative bank of Kenya, Commercial bank of Africa, National bank of Kenya, CFC Stanbic, Standard chartered bank etc. (Kramer and Paul, 2006).

According to Omwansa (2009), several factors help explain the phenomenal growth of Mobile phone banking in Kenya. The top three are the impressive adoption of mobile phones, the need for financial services and the low cost of money transfers through mobile phones. Each of these factors and theory is explained in the sections that follow.

2.3.1 Diffusion of Mobile Phones in Kenya

The growth of Kenya's mobile phone subscribers has been tremendous. As of Dec 2008, the number had risen well above 12 million and over 20 million in 2010. Meanwhile, the use of Land lines grew far less quickly over the same period, from 328,358 to 463,122. In the first quarter of 2006, there were 147.4 million mobile phone subscribers in Africa: two years later

the number had more than doubled to 301.7 million, representing a penetration rate of 30.4 % (Rosenberg, 2009).

According to a survey done by ITU, Kenya's penetration rate rose from 2% in 2001 to 39% as of the second quarter of 2008. Kenya was ranked the most developed mobile market in East Africa and its penetration rate is forecast to reach 67.5% in 2012..Four mobile service operators are active in Kenya. Safaricom, with well over 15 million subscribers is the clear market leader with 69% of the total subscriber base. Airtel (formerly known as Zain), follows with just over 3 million subscribers, Telcom's orange and Essar telcoms'YU follow.The fact that Safaricom controls a large percentage of the subscription base has given MPESA the advantage it needed to penetrate quickly (Pickens, 2009).

2.3.2 The Need for Access to Financial Services

According to the national survey conducted in 2007, 38% of Kenyans had no access to bank accounts or any form of financial services. The survey went on to document that only 19% had access to formally regulated financial institutions such as banks. In the entire country, there were only 400 bank branches and slightly over 600 ATMs and over 10 million mobile subscribers (Ndungu, 2009). From the foregoing findings, it's easy to conclude that MPESA took off so rapidly because of low penetration of banking services and the public need for them. Though few studies have been done to establish whether the service mostly benefits the unbanked, there are several indications that it has gone both ways. Features such as convenience, speed, and low transaction fees attract those already using bank accounts (the banked masses). Small businesses are among the greatest beneficiaries in using Mobile phone banking because it lets them go to the bank less often and spend more time running

their businesses. Many unbanked Kenyans can now receive and send money via mobile phones wherever they are in the country.

2.3.3 Low Transaction Costs

According to the 2007 national economic survey, over 70% of Kenyans prefer informal methods to remit funds to their loved ones within the country. Of those interviewed in the research, 55% sent money to friends or family members through travelling friends and relatives, while 22% used public transport. Though such methods are not safe, people prefer them because the transaction fees are lower than those of banks and money transfer services (Ndungu, 2009). Mpesa alone offers a very competitive package with attractive transactions fee. To send KSh.35, 000 (approximately $US500) using money transfer services such as Western union would cost about Ksh.1200 (approximately US$17), whereas to send the same amount would cost less than a third as much. Given the set up and operational costs, banks and money transfer companies cannot offer such low rates (Safaricom financial report, 2009).

2.4 Theoretical Review for Mobile Phone Banking

Banking through mobile phones has been common in developed countries for years. The real potential of mobile banking may be to make basic financial services more accessible to millions of poor people across the world. The advent of mobile phones and the Internet has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer accessibility to their customers twenty-four hours a day seven times a week (Tiwari & Buse, 2007). A number of scholars and academicians have sought to understand the potential of using the cell phones

not only as a tool for communication but also for performing financial transactions and several theories have been employed in that respect (Rogers (1995),). For instance, Suoranta and Mattilla (2004) used the innovation diffusion theory on mobile banking usage.

Others like Luarn and Lin (2005) used the technology acceptance model in an effort to understand customer intention to use mobile banking. Pedersen (2005) favored the use of the decomposed theory of planned behavior in his study on mobile internet usage. He further points out that there exist few studies based on information systems theories applied to mobile services. On the other hand Luarn and Lin (2005) employed the technology acceptance model in his study because he views mobile banking technology as an innovation for organizations.

According to Yan et al (2009), the technology acceptance model (TAM) is a widely used model in information system field and presents a theoretical contribution towards understanding technology acceptance. TAM aims to provide an explanation of the determinants of the technology acceptance that are general, capable of explaining user behavior across a broad range of technologies and user populations while at the same time being both parsimoniously and theoretically justified (Davis et al.,1989).

One of the more recent theories, the unified theory of acceptance and use of technology (UTAUT) contains four more determinants of intention and usage, performance expectancy, effort expectancy, social influence and facilitating conditions. Performance expectancy is closely related to perceived usefulness, while effort expectancy reflects the perceived ease of

use. Both and ease of use have been found important factors in explaining technology acceptance. One of the strengths of UTAUT model is that it considers the role of several moderating variables, namely gender, age, experience and voluntaries of use provides a comprehensive framework for technology analysis (Avira, 2007). Based on the issues discussed, this model if proposed because it integrates the diffusion of innovations theory (Rogers, 1983), with decomposed theory with an additional variable like "social and cultural factor". Also in the proposed model, some conditions such as the usage time familiarity of the service, technology usage time, etc based on the UTAUT facilitate the use of Mobile phone banking technology.

2.5 Financial Performance

Financial performance measurement in all sectors of the economy is a growing phenomenon worldwide. Increasingly many questions are being raised in its effectiveness in achieving the objective of improving performance. Performance measurement focuses on the metrics used to determine how an organization is performing. According to Lye, (2004) and Thomas, (2007), the objective of financial performance measurement is performance improvement, learning and change**.** The argument is, if performance measurement results obtained are not used as a tool for positive improvements in performance, then it defeats the purpose of developing measures of performance.

According to Kaplan and Jonson (1987), there is an increased attention to financial performance indicators. They point out that in the past, various financial performance indicators were seen as relevant management information. Today, management needs

additional performance indicators. According to Bednor (1986), Boyer et al., 1997 and Boyer, 1999, profit related financial performance and revenue related (market performance) are the most widely used measures of financial performance. This study will not delve into the traditional performance measures such as time, cost and product flexibility; rather it purposes to investigate the relationship dimensions of Mobile phone banking adoption and financial performance to a broad set of organizations representing the commercial banks in Kenya.

Every investment must have some type of economic justification to provide top management and shareholders with financial information. It enables the managers and investors to know the financial soundness of the investments. A popular economic calculation for the benefits of an investment is Return on Investment (ROI). Alinean (2002) observes that ROI ratio should be greater than zero is necessary for a program to be economically attractive. Calculating the ROI on various options will help to ensure that you select the most cost effective technology Historically, ROI has been applied to large public works projects with societal benefits that are more difficult to quantify than “hard” technology costs. According to Phillips and Stone (2002) ROI is one of the commonly used measurements metric among many business firms especially the small and medium enterprises.

Uniformity with other business measurement metrics, return on investment is also a measure favored by investors when judging how effective management has been in utilizing company assets they have invested in. Concepts of net present value and internal rate of return are best understood within the academic community and seldom conveyed in a company's financial

reports to investors. However, ROI is a tool for making business decisions by companies and for analyzing investment results by investors. No other measures have the advantage and serve the dual purpose as well as return on investment (Phillips and Stone, 2002).

EVA is a technique useful in changing organizational behavior and in driving the decision-making process in a manner that maximizes value to the business (Bharat, 2001). Most businesses want to grow, and grow rapidly, and several scenarios are possible. In a sustainable growth condition, for example, the business is generating sufficient cash to re-invest. Although EVA is extensively used in evaluating performance, it is not also a faultless tool. The method is subject to drawbacks like; EVA is poor in period sizing the returns of a single investment. It underestimates the return in the beginning and overestimates it in the end of the period. Some growth phase companies or business units have a lot of new investments. Such growth phase companies are likely to have currently negative EVA although their true rate of return would be good and so their true long-term shareholder wealth added would be positive (Glasser 1996).

2.6 Benefits of Mobile Phone Banking Adoption

According to Omwansa (2009), Mobile phone banking offers effective partnerships and technical choices thus offering an opportunity to reach poor people with variety of financial services. He also points out that by linking mobile phones with customer's accounts; Mobile phone banking increases cash deposits and general liquidity. It therefore enables the commercial banks and other financial institutions to increase their market share and hence profitability. The other fundamental and perhaps most important benefit, according to Kahura

(2010), is the flexibility and convenience of the banking as customers can transact their banks accounts on their cell phones at the comfort of their homes or work stations.

Mobile phone banking services also provide an opportunity to reduce cost of financial service provision. By putting primarily focusing on the growth, cutting costs is not only about margin: seeking lowest cost position in the market also should deter competitors from engaging in value-destroying price wars, thereby protecting the revenue base. This is fundamentally about replacing more expensive channels and devices with the cheaper mobile solution (technology.cgap.org, 2008).

Adoption of Mobile phone banking offers an opportunity to increase market penetration to unserved market segments. Mobile phone banking significantly reduces the significance of reduces the cost of deploying customer touch points into lower income and remote markets/ regions. Mobile- phones as- ATMs can enable agents to become cash-in cash-out points on the other hand, mobile-as-electronic points of sale serve to substitute cash and electronically capture transactions at the store. Cell phones also allow customers to transact remotely by sending remittances, paying bill etc without having to physically access a service point (Rosenberg, 2008).

Rosenberg (2008) also points out that adoption of Mobile phone banking enables banks to retain of most valuable customers in line with the maxim of Pareto principle by, offering them a quality and breadth of service that will make them less vulnerable to churn. Individual

services are rarely unique to a bank, because they are easily replicable. Rather, the important thing is to embed the non-unique services within a unique customer experience. By having an informational and transactional capability in customers' pockets like cell phones, banks may be able to propose new services to their customers in a much more targeted way.

2.7 Challenges in Mobile Phone Banking Adoption

Despite the quick adoption of Mobile phone banking in Kenya by nearly all sector of the economy, the sector is still dogged by a myriad of challenges. The range from security concerns to Cash floats availability. It is worth noting that, despite these challenges, Mobile phone banking has witnessed unparalleled growth in Kenya. The major challenge is the security challenge (Feinman et al., 2009; Financial Services Security Lab Background, 2009). Customers, telecommunications providers and regulators have had to deal with this challenge. Customers for instance are skeptical in giving their bank account details via mobile for fear of the same being intercepted. Another challenge is that of user authentication. This may be disabled, in default mode, divulging the contents of the device to anyone who possesses it.

According to Pendersen (2010) other challenges the users are facing when using mobile phone banking include, congestion especially during peak periods. Lot of people tends to carry out banking transactions through the mobile phone at the end of the month thus causing congestion on the network. Another major challenge faced by the users is the inaccessibility to the customer care from the various providers. The Interoperability challenge is also a major concern today that is the technological design of the system and its functionality. Is the

service tied to one mobile network operator or is it network-independent? A user would prefer to transact with anyone across all network (Porteous, 2009).

The deep variations on the various tariff structures among the various players in the industry, as consumers are customers charged account fees or fees per transaction. The user experience of the various mobile systems depends on how the service providers have positioned and priced the various services. Regulatory and compliance challenge also abound the Mobile phone banking technology adoption and usage. There are multiple regulations to comply with from various regulators for example Banking Act, Communications commission of Kenya (CCK) , Anti-money laundering AML tools might be applied only when transactions exceed specific limits in terms of both frequency and amount but what is applied to know your customer KYC. Others Include, Network related issues like inadequate network coverage which affects the use and adoption of the mobile phone banking. And lastly the Cash float unavailability especially in the rural areas is another challenge faced by mobile phone banking agents and hence the users (Celent, 2007).

2.8 Empirical Review of Mobile Banking Adoption

The trend of literature shows a positive impact Mobile phone banking and financial performance especially on the telecommunication providers' side. The findings have enabled the providers to make policies that support their growth and performance. Although many researchers have shown significant interest in Mobile phone banking prompting substantial studies both locally and internationally, none has sought to establish the adoption of Mobile phone banking and its impact on the provider's market share and financial performance in

Kenya. Local studies include: Ndungu and Waema (2011) who studied the development outcomes of internet and mobile phones use in Kenya and found out that the use of internet and mobile phone have led to negative and positive development outcomes in low income households in Kenya.

Kahura (2010) investigated consumer acceptance of M baking in regard to the key motivators and inhibitors and found out that perceived usefulness, risk cost and compatibility affect consumer acceptance of Mobile phone banking. Mutua (2010), studied Mobile phone banking in developing markets its competitive and regulatory implications. Kariuki (2011) studied e banking readiness in Kenya. Kimemia (2009) analyzed the consumer side for e-banking. Orembo (2009) carried a study which added perceived financial cost, system quality and social influence. Tarus (2011) studied the impact of Mobile phone banking on restructuring of commercial banks in Kenya and how mobile phone banking support economic developments. Okongo (2009), explored mobile phone banking in Kenya and focused on Telecommunication providers and their effect in Microfinance and SMEs firms in accessing capital. Muli (2011) studied the role of M payments and mobile phone banking in customer retention among the mobile telecommunications providers in Kenya and established that mobile phone banking and M payments are the single greatest customer retention.

Kiilu (2011) examined the impact of mobile phone banking in Diaspora remittances in Kenya in the 2010/2011 financial year and found out that the introduction of mobile phone banking led to an 26% increase in of Diaspora remittances over the same period. Temba(2011, studied

the competitive and regulatory implications of mobile phone banking in developing markets and pointed out in his findings that M-banking has the potential to bring basic banking and electronic transactions services to unbanked consumers in developing markets. But in enabling two, Mobile banking solutions also provide specific questions for telecommunications industry regulators. He pointed out that regulators need to question if the elements are in place for m-banking networks to tip towards a single platform, especially in markets with dominant operators that hold significant market share.

Kagwe (2009) sought to find out the effect of mobile phone banking on loan repayment at Barcalays bank and indicated in the findings that the introduction of mobile phone banking has significantly improved loan repayment and reduced non-performing loans by 2% Bitutu (2009) studied impact of mobile phone banking in mobilization of savings amongst cooperative societies in Nakuru county and found out that although cooperative societies have embraced mobile phone banking services, their effect on mobilization of savings is yet to be felt and most respondents were either not aware of the products or knew how they stood to benefit if they adopted the service. The foregoing analysis shows there has been significant research interest on mobile phone banking in Kenya. This is evidenced by the number of studies that have been done in the area. However in Kenya no impact study of mobile phone banking adoption on the financial performance of the commercial banks in Kenya has been done. This study will therefore seek to bridge this gap and provide knowledge to various users for decision making or otherwise.

2.9 Conclusion

The literature has shown quite a number of studies have been done in the both locally and internationally on mobile phone banking, However among the studies reviewed none has sought to investigate the effect of mobile phone banking on financial performance of commercial banks in Kenya. Most studies have only concentrated on M Pesa and other forms of M payments. The main shortcoming of these studies has been their inability to aptly come up with an empirical link between the adoption of mobile phone banking and financial performance of the commercial banks and link such performance to the adoption of the mobile phone banking services. This work therefore differs from previous works in terms of its scope. It focuses mainly on the adoption of mobile phone banking, and examine the financial performance of commercial banks in Kenya before and after mobile phone banking a adoption vis-à-vis other determinants of financial performance among commercial banks. This study is therefore unique to that extent and will seek to bridge this gap and provide knowledge to various users for decision making.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages and phases that were followed in completing the study. It involved a blueprint for the collection, measurement and analysis of data. Specifically the following subsections were included; research design, target population, data collection instruments, data collection procedures and finally data analysis.

3.2 Research Design

The causal study design was employed in this research. Causal research aimed to suggest causal linkages between variables by observing existing phenomena and then searching back through available data in order to try to identify plausible causal relationships. It was concerned with determining the cause and effect relationship and to understand which variable is dependent and which is independent (Ross, 2005). This research design is the best in explaining if two variables are related and if they vary together with the help of enough information or data for testing cause and effect relationship. It aimed to explore the relationship between mobile phone banking and financial performance of commercial banks in Kenya and the empirical evidences that help answer the research objective.

3.3 Target Population

According to Ngechu (2004) a study population is a well-defined or specified set of people, group of things, households, firms, services, elements or events which are being investigated. Thus the population should fit a certain specification, which the researcher will be studying

and the population should be homogenous. Keya (1989) states that individuals or things or elements that fit a researcher specification. The population can be divided into sets, population or strata and which are mutually exclusive.

The target population composed of Commercial banks in Kenya. Mugenda and Mugenda, (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study.

3.4 Data Collection

Secondary data was collected for the purpose of this study. Secondary data was extracted from Central Bank Website Bank Supervision Department annual reports and from internal reports of commercial banks. This study also analyzed a number of relevant studies and surveys that have been conducted by different researchers that reflect and discuss the prevalent mobile phone banking and other banking innovations.

3.5 Data Analysis

The study intended to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya. The model was expressed as follows;

$PER = \beta_0 + \beta_1 MPB + \beta 2 SIZE$

PER is the financial performance of the commercial banks which was measured by profit before tax of commercial banks.

MPB is the mobile phone banking which was measured by the revenues generated from mobile phone banking by the commercial banks.

SIZE is the size of the bank which was measured by the number of branches each bank has.

Data was checked for uniformity, accuracy, consistency and completeness and then arranged to enable coding and tabulation before statistical analysis. Statistical package for social sciences (SPSS) was used to analyze the data. Test of significance was carried out to determine the extent of relationship among study variables. The result was to present the real situation of the bank's financial performance within the given period, that is, year 2007, 2008, 2009, 2010 and 2011.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the data findings to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya. These data were collected from the Central Bank of Kenya and Commercial banks in Kenya. Regression analysis was done for the periods to determine the relationship between mobile phone banking and financial performance of commercial banks in Kenya. The study covered a period of 5 years from year 2007 to 2011.

4.2 Regression Analysis

Table 4.1: Commercial banks data on profitability, bank size and mobile phone income

Name of the bank	Profitability (000,000) ksh	Mobile phone banking income(000,000) ksh	Size
Barclays Bank	45,752	400.05	146
KCB Bank	39,271	342.45	155
Stan-Chart	30,886	262.46	96
Equity Bank	31,280	281.67	186
Co-Op Bank	19,968	177.94	141
CBA	10,344	90.51	16
Diamond Trust Bank	9,118	80.2	21
National Bank	10,335	90.17	43
Cfc Stanbic	8,517	75.17	15
Consolidated Bank	649	5.84	17
Family Bank	2,142	20.65	67

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.914[a]	.835	.819	.17823

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.819 an indication that there was variation of 81.9% on performance of commercial banks in Kenya due to changes in mobile phone banking and size of the bank at 95% confidence interval . This shows that 81.9 % changes in financial performance of commercial bank could be accounted to changes in mobile phone banking and size of the bank. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.836.

Table 4.3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.232	.567		2.231	.000
	Mobile phone banking	.321	.107	.318	2.411	.031
	Size of the bank	.117	.115	.138	1.029	.048

The established regression equation was for years 2007 to 2011.

$$\mathbf{Y = 1.232 + 0.321\ X_1 + 0.117X_2}$$

From the above regression model, holding mobile phone banking and size of the bank to a constant zero, financial performance of commercial banks would be 1.232, its established that a unit increase in mobile phone banking would cause an increase in financial performance of commercial banks by a factor of 0.321, a unit increase in size of the bank would cause an increase in financial performance of the bank by a factor of 0.117. This clearly shows that there is a positive relationship between financial performance of commercial banks and mobile phone banking and size of the bank. The study further revealed that the P-value were less than 0.05 in all the variables, which shows that all the independent variable were statistically significant and thus in position to make conclusion for the study .

4.3 Summary and Interpretation of Findings

From the findings on the coefficient of determination, the study found that variation in the financial performance of commercial banks in Kenya could be accounted to changes in mobile phone banking and size of the bank at 95% confidence interval . From the findings on the R correlation the study found that there was a strong relationship between financial performance of commercial bank and mobile phone banking and size of the bank. From the coefficient result the study revealed that there is a positive relationship between financial performance of commercial banks and mobile phone banking and size of the bank. The study further revealed that there was a statistically significant relationship between financial performance of commercial banks and size of the banks and mobile phone banking.

The introduction of electronic banking has revolutionized and redefined the ways banks were operating as technology is now considered as the main contribution for the organizations' success and as their core competencies. So the banks, be it domestic or foreign are investing more on providing customers with the new technologies through phone mobile banking among other products. Back in Kenya the scenario is the same. Astonishingly half of the Kenyan populations especially the rural folk do not have a clue on mobile banking. However, the outreach of the mobile banking sector has been found to vary across country.

Laukkanen & Pasanen, (2007) states that bank and other financial institutions which have traditionally relied on physically established branches to provide banking services are now gearing towards the adoption of mobile banking services (MBS) as a form of branchless banking. This has the consequence of lowering cost of banking. Technology has therefore created greater opportunities to service providers to offer great flexibility to the customers. To this end banks are fast developing branchless banking such as ATM, internet and mobile phone banking among others.

Suoranta and Mattila (2004) indicated that mobile banking is among the most recent financial channels today. Several authors have further identified the benefits of mobile phone banking in terms of ubiquity coverage, flexibility, interactivity, and with greater accessibility compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking. In line with this, Laukkanen (2007) reported that mobile phone banking was found faster than non-mobile internet banking with the intensive development of advanced mobile technologies. Although mobile phone banking yields enormous benefits,

numerous scholars found that mobile phone banking adoption still remains at infancy stage. Meanwhile, Kleijnen et al. (2007) further indicated that the usage of mobile phone banking has yet to meet the industrial expectations.

Riquelme et al, (2010) argues that the mobile phone banking service provides convenience and promptness to customers along with cost savings, banks are also interested in expanding their market through mobile services. The most widespread method of conducting banking transactions has been through offline retail banking. Wireless technology, however, is rapidly changing the way personal financial services are designed and delivered. With the increased use of mobile phones in Kenya, the commercial banking sector has introduced and diffused mobile banking systems throughout their operations to improve their operations as well as to reduce costs.

Kleijnen *et al.,* (2004) found that the advancement of mobile technologies has provided an opportunity for financial providers in introducing new financial innovations. One of the emerging financial innovations introduced by financial providers is mobile phone banking. The rapid development of information technology has affected the banking industry globally. An impact of information technology in the banking sector is the introduction of mobile phone banking. Earlier studies have shown the usefulness of mobile phone banking in facilitating the financial transactions between banks and their customers. Kleijnen et al., (2004) found perceived usefulness to be less significant in explaining the adoption of mobile financial services. Luarn and Lin (2005) concluded that perceived usefulness to be a

significant factor in mobile phone banking. Mattila (2003) found risk to be a very significant factor in adopting mobile phone banking.

Mallat, (2006) argues that mobile payments are defined as the use of a mobile device to conduct a payment transaction in which money or funds are transferred from a payer to a receiver via an intermediary, or directly without an intermediary. Another definition of mobile phone banking is that it is a form of banking transaction carried out via a mobile phone. Mobile phone banking allows bank customers to check their account balances, perform credit card transaction as well as provide information on the latest transaction made by customers. It is a fact that mobile phone banking is still in its infancy and relatively alien to Kenyans.

Donner & Tellez, (2008) found that the terms mobile phone banking and mobile payments describe distinct but in some cases overlapping sets of products. Some m-banking platforms provide services, such as money transfers, that are considered forms of mobile payment, while some m-payments products are so closely linked to bank accounts as the source of funds that they assume m-banking functions. Porteous (2006) distinguishes two aspects of mobile banking: Additive and transformational characteristics. Additive aspects are those in which the mobile phone is merely another channel to an existing bank account. Mobile phone banking is additive when it merely adds to the range of choices or enhances the convenience of existing customers of mainstream financial institutions.

Sarker and Wells (2003) assert that the only single access requirement or barrier to the resultant mobile phone banking will be the mobile phone. However, worldwide market penetration of affordable cellular devices and growing network service diffusion makes this intricacy almost fully resolved hence setting a firm pedestal for mobile phone banking escalation. Porteous (2006) asserts that mobile phone banking has the potential to be transformational owing to various facts.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Major Findings

The study objective was to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya. These data were collected from the Central Bank of Kenya and Commercial banks. Regression analysis was done for the period to determine the relationship between mobile phone banking and financial performance of commercial banks in Kenya. The study covered a period of 5 years from year 2007 to 2011. The findings on the coefficient of determination, the study found that major changes in the financial performance of commercial banks in Kenya could be accounted to changes in mobile phone banking and size of the bank at 95% confidence interval other variables being held constant. From the findings on the R correlation the study found that there was a strong relationship between financial performance of commercial banks and mobile phone banking and size of the bank. From the coefficient result the study revealed that there is a positive relationship between financial performance of commercial banks and mobile phone banking and size of the bank. The study further revealed that there was a statistically significant relationship between financial performance of commercial banks and size of the banks and mobile phone banking.

Banks and other financial institutions which have traditionally relied on physically established branches to provide banking services are now gearing towards the adoption of mobile banking services (MBS) as a form of branchless banking. This has the consequence of lowering cost of banking. Technology has therefore created greater opportunities to

service providers to offer great flexibility to the customers. To this end banks are fast developing branchless banking such as ATM, internet and mobile banking among others. Mobile banking is among the most recent financial channels today. Several authors have further identified the benefits of mobile phone banking in terms of ubiquity coverage, flexibility, interactivity, and with greater accessibility compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking. Mobile phone banking service provides convenience and promptness to customers along with cost savings, banks are also interested in expanding their market through mobile services. Traditionally, the most widespread method of conducting banking transactions has been through offline retail banking. Wireless technology, however, is rapidly changing the way personal financial services are designed and delivered. With the increased use of mobile phones in Kenya, the commercial banking sector has introduced and diffused mobile banking systems throughout their operations to improve their operations as well as to reduce costs.

5.2 Conclusion

The stduy concludes that there was a strong positive relationship between financial perfomance of commercial banks and size of the banks and mobile phone banking. This is because the study found out that there was a strong relationship between financial perfromance of commercial banks and mobile phone banking. Size of of the bank was also found to positively influence the financial perfomance of commercial banks in kenya.

Mobile phone banking has helped the commercial banks to lower their cost of banking, through technology mobile phone banking has created greater opportunities to the banks to offer great flexibility to the customers, this has enabled commercial banks to be very fast in adopting mobile banking which has enabled commercial bank to be ubiquity in coverage,

flexibility, interactivity, and with greater accessibility compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking which influence the financial performance of the bank. Mobile phone banking service provides convenience and promptness to customers along with cost savings, banks are also interested in expanding their market through mobile services.

Mobile banking provides a ray of hope for the unbanked. The rapid uptake has systematically ensured that the critical mass required as a threshold for sustainable expansion is reached. With the potential outburst of M- banking showing signs of reaching the wider population segment, the mobile banking divide (gap between those with access and those without enhanced banking services) can be expected to gradually diminish.

5.3 Policy implication

From the finding there is need for various players in the banking sectors to adopt mobile phone banking service as this will enable them have a ubiquity in coverage, flexibility, interactivity, and greater accessibility compared to conventional banking. There is need for commercial banks to heavily invest in technology as this will highly encourage the adoption of mobile phone banking technologies and this will influence the financial performance of commercial banks. There is also need for commercial banks in Kenya to increase their size as this will positively influence their financial performance.

In summary the demands of vibrant M-banking implementations revolve around improved network coverage, quality connections besides reduced costs to ensure affordability to all prospective partakers. Service providers might be better of availing the service at lower costs

to net more users rather than insisting on high levies which frighten off some possible participants. By so doing they will be able to boost their revenue streams by promoting the volume of transactions.

5.4 Limitation of the Study

The study was limited to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya; where size of the bank was used as the control variable, other aspects that influence performance of commercial banks were not considered in this study. Other factors include; other products offered by the bank for example the different types of accounts, loans and advances, investments for example in government securities, foreign exchange transactions, insurance and brokerage services offered among others.

The study was also limited to the degree of precision of the data obtained from the secondary source. While the data was verifiable since it came from the Central Banks website and from the commercial banks, the data could still have some shortcomings as to precision. The study was limited by the availability of data relating to revenue generated from mobile phone banking. These data is not reported as a line item in the financial statements of commercial Banks and was thus difficult to get.

The study was also limited to 11 Commercial banks that data was available as opposed to the thirteen commercial banks that had adopted mobile phone banking by year 2011; the finding of this study will be generalized to the entire banking industry. The study was based on 5 years period from year 2007 to year 2011. A longer duration of the study would have

captured periods of various economic significances such as booms and recessions but MBS is a fairly new concept thus the short period.

The size of the bank has been held constant across the period. Revenue generated from mobile phone banking has been projected backwards for the banks which had not adopted mobile phone banking by year 2007. By year 2011 thirteen banks had partnered with mobile phone service providers to provide MBP service according to the 2011 bank supervision department annual report. The study did not cover all banks which had adopted MBS since revenue generated from MBS was not available.

5.5 Areas of Further Research

The study sought to establish the relationship between mobile phone banking and financial performance of commercial banks in Kenya. There is need for a study to be conducted to determine the relationship between internet banking and financial performance of commercial banks in Kenya.

There are various factors that influence financial institutions to adopt technology in the banking sector; there is need for a study to be done to determine factors influencing adoption of mobile phone banking by commercial banks in Kenya. From the findings the study recommends that an in-depth study should be conducted on the effects of mobile phone banking on the market share of commercial banks in Kenya. A study should also be conducted on the impact of MBS on commercial banks performance compared to other determinants of commercial banks performance that is to show the extent income from MBS affects overall commercial banks income. There is also need for a study to be conducted on the impact of legislation on adoption of mobile banking among commercial banks in Kenya.

There is a gap in the reporting of income generated from mobile phone banking. Central Bank should consider introduction of a way that the income from the recent innovative products for example mobile phone banking should be reported.

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APPENDICES

Appendix I: Data on Commercial Banks

Data 2007

	Profitability	Mobile phone banking income	Size
Barclays Bank	7,079	69.37	146
KCB Bank	3,863	37.86	155
Stan-Chart	4,897	47.99	96
Equity Bank	2,364	23.17	186
Co-Op Bank	2,288	22.42	141
CBA	1,402	13.74	16
Diamond Trust Bank	869	8.52	21
National Bank	1,610	15.78	43
Cfc Stanbic	921	9.03	15
Consolidated Bank	26	0.25	17
Family Bank	268	2.63	67

Data 2008

	Profitability	Mobile phone banking income	Size
Barclays Bank	8,016	78.56	146
KCB Bank	5,394	52.86	155
Stan-Chart	4,709	46.15	96
Equity Bank	4757	46.62	186
Co-Op Bank	3,337	32.70	141
CBA	1,694	16.60	16
Diamond Trust Bank	1,305	12.79	21
National Bank	1,797	17.61	43
Cfc Stanbic	1,313	12.87	15
Consolidated Bank	85	0.83	17
Family Bank	531	5.20	67

Data 2009

	Profitability	Mobile phone banking income	Size
Barclays Bank	8,807	70.28	146
Kcb Bank	5,926	47.29	155
Stan-Chart	5,174	41.29	96
Equity Bank	5,227	41.71	186
Co-Op Bank	3,666	29.25	141
CBA	1,861	14.85	16
Diamond Trust Bank	1,434	11.44	21
National Bank	1,974	15.75	43
Cfc Stanbic	1,443	11.52	15
Consolidated Bank	93	0.74	17
Family Bank	583	4.65	67

Data 2010

	Profitability	Mobile phone banking income	Size
Barclays Bank	10,775	85.98	146
Kcb Bank	1 1,538	92.07	155
Stan-Chart	7 ,668	61.19	96
Equity Bank	9,312	74.31	186
Co-Op Bank	5 ,559	44.36	141
CBA	2 ,695	21.51	16
Diamond Trust Bank	2 ,698	21.53	21
National Bank	2,698	21.53	43
Cfc Stanbic	2,104	16.79	15
Consolidated Bank	258	2.06	17
Family Bank	5 01	4.00	67

Data 2011

	Profitability	Mobile Phone Banking Income	Size
Barclays Bank	12,012	95.86	146
Kcb Bank	14,081	112.37	155
Stan-Chart	8,250	65.84	96
Equity Bank	12,013	95.86	186
Co-Op Bank	6,167	49.21	141
CBA	2,984	23.81	16
Diamond Trust Bank	3,248	25.92	21
National Bank	2,443	19.50	43
Cfc Stanbic	3,128	24.96	15
Consolidated Bank	246	1.96	17
Family Bank	522	4.17	67

Appendix II: List Of Commercial Banks In Kenya

1. African Banking corporation limited
2. Bank of Africa limited
3. Bank of Baroda(k) limited
4. Bank of India
5. Barclays Bank of Kenya limited
6. CFC Stanbic limited
7. Chase Bank
8. Citibank N. A kenya
9. City Finance bank
10. Cooperative Bank of Kenya
11. Commercial Bank of Africa
12. Consolidated Bank of Kenya
13. Credit Bank
14. Development Bank of Kenya
15. Diamond Trust
16. Dubai Bank
17. Ecobank
18. Equatorial Commercial Bank
19. Equity Bank
20. Fidelity Commercial Bank
21. Family Bank
22. Fina Bank
23. First Community Bank
24. Guardian Bank.
25. Giro Commercial Bank
26. Gulf African Bank
27. Habib bank A G Zurich
28. Habib Bank Limited
29. Imperial Bank Limited
30. Investment and Mortgage Bank Limited
31. Islamic Bank
32. K-REP Bank
33. Kenya Commercial Bank Limited
34. Middle East Bank (k) Limited
35. National bank of kenya Limited
36. NIC Bank limited
37. Oriental Commercial Bank Limited
38. Paramount Universal Bank Limited
39. Prime Bank Limited
40. Southern Credit Banking Corporation Limited
41. Standard Chartered Bank(k) Limited
42. Victoria Commercial Bank
43. Transnational Bank Limited

Source, CBK (2011)