

THE EFFECT OF AGENCY BANKING ON FINANCIAL
PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY:

NDIRANGU, DUNCAN KABIRA

D61/63290/2011

RESEARCH PROJECT PRESENTED IN FULLFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF DEGREE IN
MASTER OF BUSINESS ADMINSTRATION SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI.

2013

DECLARATION

This research Report is my original work and has not been submitted for a degree in any other university or institution of higher learning.

Signature: _____ Date _____

Ndirangu Duncan Kabira

D61/63290/2011

This Research report has been submitted for examination with my approval as University Supervisor.

Signature: _____ Date _____

Mrs. W. Nyamute

Lecturer,

DFA

SOB

UON

AKNOWLEDGMENT

I would like to express my special thanks of gratitude to my Supervisor who gave me the much needed guidance in every step of this project .The Chairman and entire Department of finance who gave me the golden opportunity to do this wonderful project which also helped me in doing a lot of Research and enhancing my research skills.

Secondly i would like to thank my Wife, parents and friends who gave me the encouragement and much needed support that helped me a lot in finishing this project within the limited time. The financial support as well as encouragement gave me the strength to complete.

Finally I want to thank the Central bank staff under the Bank supervision department who guided me to getting the data necessary to complete this paper as well as commercial banks under my research that spared there times to answer my many questions. I am really thankful to them and God bless you all.

DEDICATION

This Research paper is dedicated to my Wife Florence Njeri and New born son Curtis Ndirangu who are an inspiration to me and braved the many days alone while I was away from home working on my project.

ABSTRACT

The study was informed by introduction of agency banking into the banking industry and the upsurge of agent outlets in this industry. The main issue was that there had been a dramatic rise in customer numbers and value of transactions carried out by the new service. The profitability of the banking sector has also been on the rise. So, the empirical problem was whether there exists a relationship between Agent activities in terms of the value transacted and banks profitability. Most studies made have looked at the adoption of agency banking also referred to as branchless banking and its contribution to financial inclusion. This study was meant to close the huge gap on studies looking at the financial aspect of banks in terms of loans repayments, deposits, liquidity, withdrawals, and number of customers, operating costs, coverage, and operational risks among others. Questions still remain unanswered on agency banking and why commercial banks are venturing into the new model of business, what are the advantages and disadvantages. The purpose of the study was to determine the effect of agency banking on financial performance of commercial banks in Kenya.

The research design took the form of a census that covered 100% of the banks that are licensed to operate agency banking as at December 31st 2012 .The Population of the study was 44 banks licensed to operate in Kenya while the sample contained 10 banks operating agency banking as at the time of the research time frame. The study carried out used regression analysis to find the relationship between agency banking in terms of number of agents and the volume of deposit, withdrawals and loan repayment transactions undertaken through agents and the financial performance of banks as measured by return on equity. Regression analysis was carried to distinguish the relationship between the parameters to be measured and the dependent variable using statistical package for social sciences (SPSS) version 20.

The study carried out shed light on the fact that the number of agents operated by a commercial banks and the resultant volume of transactions (Deposits and withdrawals) are not directly correlated with the banks financial performance as measured by the return on equity. This is further supported by the fact that the R Square for both 2011 and 2012 are considerably low indicating a weak correlation between the predictors and the independent variables as highlighted in the regression analysis models. Predictor variables are said to be correlated if their coefficient of correlations is greater than 0.5. As shown in the final tables above for both 2011 and 2012 there coefficients are not more than 0.5 standing at 0.518 and 0.915 respectively .This attributes that other factors not put in the scope of the study highly contribute the financial performance of commercial banks operating agency banking. Key recommendations were to have greater supervision in the new service segment, banks to allow agents to perform core activities to efficiently utilize their capabilities and enhance security for the agents to ensure they can handle even greater volumes of cash and penetrate deep into the society.

TABLE OF CONTENTS

DECLARATION.....	i
ACKNOWLEDGMENT	ii
DEDICATION	iii
ABSTRACT	iv
ABBREVIATIONS	vii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study	1
1.1.1 Financial performance	2
1.1.2 The Concept of Agent banking	3
1.1.3 Agency Relationship and Finance.....	4
1.1.4 Commercial Banks in Kenya	4
1.2 Research Problem.....	4
1.3 Objective of the Study	5
1.4 Value of the Study.....	6
CHAPTER TWO: LITERATURE REVIEW.....	7
2.1 Introduction.....	7
2.2 Theoretical Framework.....	7
2.2.1 Agency Theory.....	7
2.2.2 Financial Intermediation Theory.....	10
2.2.3 Bank Led Theory.....	11
2.2.4 Non-bank Lead Theory.....	12
2.3 Empirical Review	13
2.4 Summary	17
CHAPTER THREE: RESEARCH METHODOLOGY	18
3.1 Introduction.....	18
3.2 Research Design.....	18
3.3 Population	18
3.4 Sample	19

3.5	Data Collected.....	19
3.6	Data analysis	19
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION.....		22
4.1	Introduction.....	22
4.2	Agents and Transactions.....	22
4.3	Multiple Regression 2011 and 2012.....	25
4.4	Findings and interpretation	30
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS.....		33
5.1	Introduction.....	33
5.2	Summary.....	33
5.3	Conclusions.....	35
5.4	Limitations of the study.....	36
5.5	Recommendations	37
5.5.1	Policy Recommendations.....	37
5.5.2	Recommend areas of study.....	38
REFERENCES.....		39
APPENDICES.....		i
Appendix I: Table of Transactions on agency banking for 2011 and 2012		i
Appendix II: Number of agents and banks operating agency banking		i
Appendix III: List of Commercial Banks in Kenya.....		ii
Appendix IV: List of Commercial Banks operating Agency Banking in Kenya		iii
Appendix V: Questionnaire.....		iv

ABBREVIATIONS

CBK	Central Bank of Kenya
CGAP	Consultative Group to Assist the Poor
ICT	Information and Communication Technology
ID	Identification Document.
PIN	Personal Identification Number
POS	Point of Sale
ROE	Rate of Return on Equity.
SPSS	Statistical Package for Social Science

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Commercial banks play a vital role in the economic resource allocation of countries where they channel funds from depositors to investors continuously with one of the modes of operation been agency banking. World over, agency banking has been adopted and may carry variant names. In Brazil agency banking arrangements refer to bank partnerships with non-banks, typically retail commercial outlets (Kumar et al, 2006). Most of the major banks in Colombia are using bank-based agent banking channels to deliver services and reach new clients. However, the users of these financial services are not the poorest segments of the population and the adoption of the agent model has been slower than in other countries in Latin America, most notably Brazil (CGAP, 2010).

Agent networks in Peru are concentrated in urban areas. The concentration of agents in urban areas provides an indication of how banks tend to use agents in Peru. Their main role is to reduce congestion in bank branches, by moving low-value transactions away from costly branches. Therefore, many agents are located within a block or two of a branch of the same bank (Oxford Policy Management, 2011). Different financial institutions engage in agency banking for variant reasons. The costs of bank service distribution can be reduced, while still effectively controlling banking risks (Ignacio et al, 2008).

Mwangi (2013) in an evaluation of the role of agency banking in the performance of commercial banks in Kenya concluded that infrastructure cost and security influence the performance of commercial banks attributable to agency banking to a very great extent. Agency banking should be given more attention on security measures including risk-based approach and that the banks should find better ways of screening their agents to ensure that the large cash transactions handling is effectively carried out on their behalf. It is also recommended that the banks should explore other services other than money transfer only to improve their performance through agency banking which include: secure

operating systems capable of carrying out real time transactions, generating an audit trail, and protecting data confidentiality and integrity.

The Kenyan business environment has changed and it has been characterized by stiff competition among the players and the banking industry is no exception. Competition amongst the commercial banks as well as entry of mobile phone operators in the money transfer business has pushed banks towards becoming more innovative. The growth of agency banking has opened a new frontier to study the financial benefits or losses to the banks operating agency banking as well as those aspiring to operate this model.

1.1.1 Financial performance

Financial performance is conclusions drawn from financial analysis of a firm. Financial analysis is the selection, evaluation, and interpretation of financial data, along with other pertinent information, to assist in investment and financial decision-making. Financial analysis may be used internally to evaluate issues such as employee performance, the efficiency of operations, and credit policies, and externally to evaluate potential investments and the credit-worthiness of borrowers, among other things (Drake, 2006). Financial performance is a subjective measure of how well a firm uses its assets from its primary mode of business to generate revenue .This term is also a general measure of the firms 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 (Hales, 2005). Some of the key aspect that is looked at in financial performance is Profitability, Liquidity, Solvency, Financial efficiency and Repayment capacity. Further analysis of financial performance has used methodologies such as financial ratio analysis, benchmarking, measuring performance against budget or a combination of these (Barnet et al, 2006)

1.1.2 The Concept of Agent banking

Agent banking refers to the delivery of financial services outside conventional bank branches, often using non-bank retail outlets that rely on technologies such as point-of-sale (POS) devices or mobile phones for real time transaction processing (Modupe,2010) . Globally, retailers and post offices are increasingly utilized as important distribution channels for financial institutions. The points of service range from post offices in the Outback of Australia where clients from all banks can conduct their transactions, to rural France where the bank Credit Agricole uses corner stores to provide financial services, to small lottery outlets in Brazil at which clients can receive their social payments and access their bank accounts (Kumar et al, 2006).

In understanding agency, there are three parties to a transaction: the customer, the agent's employee who operates the POS (Point Of Sale) device and the bank. Each party should authenticate themselves before initiating any transaction, preferably with two factors of security hence; the customer and the authorized employee of the agent each have a personal card plus a secret PIN. To avoid fraudulent POS terminals, a bank could also announce a unique secret key to each of its clients through which the bank identifies itself to its clients before each transaction (Ivatury, 2008).

Customer cash transactions are offset against the agent's bank account. All customer transactions are done against an account the agent has with the bank. This account may be funded with the agent's own money or from a pre-agreed (finite) credit line or overdraft facility granted by the bank. In local terms this amount will be referred to as float. In the case of a cash deposit by a customer, the bank automatically withdraws the equivalent amount from the store's bank account to fund the deposit, and the store keeps the cash in compensation for the amount taken out of its bank account. In the case of a cash withdrawal, the opposite happens: the store provides cash from the till, but is compensated by an equivalent increase in its bank account. This is done in real-time authorization of transactions. Before authorizing a cash transaction, the bank needs to check that there are enough funds in the agent's account (in the case of a deposit) or the

client's account (in the case of a withdrawal). This needs to be done in real time to eliminate credit risks (Kumar et al. 2006).

1.1.3 Agency Relationship and Finance

An agent network is fundamentally a technology play for a bank. It is similar to the millions of existing Visa, MasterCard and debit card merchants, except that in this case the card payments at retail stores would not only be for sale of goods but also for handing out and taking in cash on behalf of banks. (Ignacio et al, 2008). The introduction of agent banking is intended to enable institutions to provide banking services more cost effectively to customers. It is expected that this initiative will enhance financial access for those people who are currently unbanked or under banked (CBK, 2011).

1.1.4 Commercial Banks in Kenya

For the quarter ended March 31st, 2013, the sector comprised 43 commercial banks, 1 mortgage finance company, 8 deposit taking microfinance institutions, 7 representative offices of foreign banks, 108 foreign exchange bureaus and 2 credit reference bureaus .The Banking Sector recorded improved performance as indicated by the growth in the key categories of number of bank customer deposit accounts and bank loan accounts.CBK (2013).

1.2 Research Problem

The Kenyan business environment has changed and it has been characterized by stiff competition among the players and the banking industry is no exception. Competition amongst the commercial banks as well as entry of mobile phone operators in the money transfer business has pushed banks towards becoming more innovative .The government of Kenya through the central Bank of Kenya embarked on Knowledge Exchange for Agent Banking models that could work for Kenya. It was in pursuant of vision 2030 that the financial services sector was identified as key in mobilizing funds to implement the visions 2030 flagship projects. According to 2009 national financial access survey, 32%

of Kenya's bankable populations are totally excluded from the financial services orbit (Njuguna, 2010).

To keep up with global trends on use of agent banking to enhance financial inclusion, the Finance Act (2010) amended the Banking Act to facilitate use of third parties by banks to provide banking services. The Central Bank of Kenya amended the Banking Regulations and issued Agent Banking Regulations (2010) to allow commercial banks contract third party retail agents to provide financial services on their behalf. This decision was also driven by Kenya's blue print for economic developments, Vision 2030, to extend access to financial services for all adult Kenyans by the year 2030 (CBK, 2010).

A good number of studies have been done on various aspects in the banking sector. For instance, Emoru (2012) looked at factors influencing growth of agency banking in the banking industry: case of Equity bank limited Mombasa County. The study found that reduced market share and increased competition had the highest influence on growth of Equity bank agents. Wabwoba(2012)looked at Challenges facing equity agency banking; a case of Pokot County, Kenya . The study found out that mobile phone network failures posted a major challenge to agency banking in the region.

Despite this studies having been conducted in developing countries, the findings may not be applicable in Kenya owing to certain environmental differences (CBK, 2010). Most studies made have looked at the adoption of agency banking also referred to as branchless banking and its contribution to financial inclusion. There remains a huge gap on studies looking at the financial aspect of banks in terms of loans repayments, deposits, liquidity, withdrawals, and number of customers, operating costs, coverage, and operational risks among others. Previous studies have fallen short of explaining the financial impact of agency banking on commercial banks financial performance.

1.3 Objective of the Study

To determine the effect of agency banking on financial performance of commercial banks in Kenya.

1.4 Value of the Study

The finding of this study will be beneficial to;

Commercial Banks and Telecommunication Companies: Players in the financial institution sector and telecommunications industry will find the study useful as they can use the findings to strategize on how they can mutually benefit from this development as opposed to been competitors of the same market segment. Commercial banks will have visibility of benefits from adoption of agency banking in terms of improving the financial performance. The study will also be an eye opener to commercial banks that are yet to embrace technology and engage in agency banking. It is equally significant for bank executives and indeed the policy makers of the banks and financial institutions to be aware of Agency banking as a product with a view to making strategic decisions.

Academics: This study will also contribute to the body of knowledge and become a source of information on the banking industry. The study adds to the existing literature, and is a valuable tool for students, academicians, institutions, corporate managers and individuals who want to learn more about Agency Banking.

Government and Regulators: The government and various regulatory bodies like the Central Bank will benefit from this study since it will open up issues that may require regulation as well as open new channels of revenue generation from increased tax bases from the agents and banks. Rules and regulations will be adjusted according to the existing business environment to further develop agency banking and propel greater growth of financial inclusion.

Agency Owners: The research will assist to know the benefits that are accrued to agents and will assist other people to see the benefits and become agents. Enlightened agents business will result in growth and expansion of agent outlets leading to better financial performance and business growth.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

A major obstacle to financial inclusion is cost of providing service incurred by banks in servicing low value accounts and extending banking infrastructure to underserved low-income areas. Achieving financial inclusion therefore requires innovative business models that dramatically reduce costs for everyone and thus pave the way to profitable extension of financial services to the world's poor. This chapter presents the concept of adoption of innovation and technology, agency theories in banking, the global development of agent banking in different countries and their success factors of agency banking.

2.2 Theoretical Framework

It is just a matter of time before Kenya's agency banking gives mobile cash transfer service a run for its money as adoption and use of the former continues to grow tremendously. A break through to financial inclusion and management of the cost incurred by banks in servicing low value accounts and extending banking infrastructure to underserved, low-income areas, but also the cost incurred by poor customers (in terms of time and expense) in reaching bank branches is taking shape and bringing in a new market segment to the commercial banks .Impact on banks performance is key to the operations of the agency models. Most banks have taken up Agency banking as a way of improving their services and product portfolio to their customers and cutting a niche for themselves in an ever competitive market. This is a relatively new concept that embraces technology in advancing services to the customer at locations more convenient to them.

2.2.1 Agency Theory

Banking agents must fit within the distribution strategies of banks, alongside other channels, such as branches or automatic teller machines (ATMs). Commercial banks are big beneficiaries of the rapid growth of agency outlets, which have helped cut costs on expansion and staffing but it is important that the bank has a clear strategic rationale for

each agent it sets up, to drive decision making, ensure appropriate agent setup and channel support, and permit subsequent performance evaluation against the original strategic intent (Siedek, 2008).

Banking agents help financial institutions to divert existing customers from crowded branches providing a “complementary”, often more convenient channel. Other financial institutions, especially in developing markets, use agents to reach an “additional” client segment or geography. Reaching poor clients in rural areas is often prohibitively expensive for financial institutions since transaction numbers and volumes do not cover the cost of setting up a fully-fledged branch the staffing costs related to that bank and other ancillary costs such as cleaning, security and maintaining an Internet connection. In such environments banking agents that piggy back on existing retail infrastructure and lower set up and running cost play a vital role in offering low-income people their first-time access to a range of financial services. Also, low-income clients often feel more comfortable banking at their local store than walking into a marble branch (Siedek, 2008).

Benefits of Agent Banking are among others bringing banking services closer to the customers for instance customers can apply for lines of credit, credit cards, loans and Mortgages through these agents hence, fewer visits are required to banks for doing banking transactions (Purcell et al, 2003). Rikta (2007) mentioned that in Bangladesh, Customers had to visit on an average of 15 times to their lender for a single loan. Wendel and Williams (2001) mentioned that Agent businesses are more profitable and produce higher revenues, than commercial banks that use only branch networks. Banks can benefit from lower transaction costs as agent banking requires less paper work, less staffs and physical branches (Cheng et al, 2006).

Never the less there are challenges that banks need to address to avoid losing customers and maintaining the Banker- Customer relationship. The customer is still the responsibility of the Banks and the same has not been delegated to the Agency. Some of the challenges that need to be addressed are: Confidentiality; Every year Banks ensure that their staff members sign secrecy forms and maintain confidentiality for all customer

information. This should be looked at as these agency employees are not bank employees. Security; Most of these agencies are in areas that are what would be considered 'high Risk'. The Bank needs to audit the security measures being taken by the agencies to ensure the customer can transact confidently without having to look behind their backs. Service is a huge challenge for the banks as they need to train and retrain the Agents so as to maintain high levels of customer service. Fraudsters target agency staff as they are aware that they will not be able to easily identify fraudulent transactions for example identification of documents for originality (Banker, 2011).

The bank must address the challenges that are posed by having agency banking while at the same time taking advantage of all the benefits of having this channel of banking. Agency Banking may eventually lead to financial inclusion in the countries where it has been adopted (Banker, 2011). Success in branchless banking ultimately depends on offering customers a service proposition that is superior to existing options. To date, branchless channels meet this standard only for some clients (Bankable Frontier Associates 2009).

Success Factors in Agent Banking include product attributes, competitive capabilities, resources, competencies, market achievements etc. It is very important for the strategists to understand the landscape of industry in order to identify the most important competitive success factors. Due to changes in driving forces and competitive conditions, the key success factors of one industry differ from other. Banking industry is broadly divided into two types of banks i.e. virtual banks and brick and mortar banks .CBK (2009) states that there are many technological and operational challenges in employing a successful agent banking strategy. Technology should be in place to enable banks and their customers to interact remotely in a trusted way through existing local retail outlets. Agent banking requires a generally good infrastructure in terms of road network, communication and information technology. Considerations should be made for areas that are hard to reach due to a poor fixed infrastructure and poor transport system. Key issues to note are technology; competitive rates product innovation, brand image, Size of the company, location and convenience

2.2.2 Financial Intermediation Theory

Financial intermediaries exist because they can reduce information and transaction costs that arise from an information asymmetry between borrowers and lenders leading to efficient functioning of markets. Financial intermediation can reduce the cost of channeling funds between borrowers and lenders, leading to a more efficient allocation of resources. Financial intermediaries are able to transform the risk characteristics of assets because they can overcome a market failure and resolve an information asymmetry problem. Information asymmetry in credit markets arises because borrowers generally know more about their investment projects than lenders do. The information asymmetry can occur “ex ante” or “ex post”. An ex ante information asymmetry arises when lenders cannot differentiate between borrowers with different credit risks before providing loans (Riley et al, 1979)

The problem with imperfect information is that information is a “public good”. If costly privately-produced information can subsequently be used at less cost by other agents, there will be inadequate motivation to invest in the publicly optimal quantity of information (Hirschleifer et al, 1979). Once banks obtain information they must be able to signal their information advantage to lenders without giving away their information advantage. One reason, financial intermediaries can obtain information at a lower cost than individual lenders is that financial intermediation avoids duplication of the production of information. Moreover, there are increasing returns to scale to financial intermediation. Financial intermediaries develop special skills in evaluating prospective borrowers and investment projects. They can also exploit cross-sectional (across customers) information and re-use information over time (Leland, 1977).

Gurley (1955) articulated that financial intermediaries play an important role in credit markets because they reduce the cost of channeling funds between relatively uninformed depositors to uses that are information-intensive and difficult to evaluate, leading to a more efficient allocation of resources. Banks and other intermediaries are “special” where they provide credit to borrowers on terms which those borrowers would not otherwise be

able to obtain. Because of the existence of economies of scale in loan markets, small firms in particular may have difficulties obtaining funding from non-bank sources and so are more reliant on bank lending than are other firms.

2.2.3 Bank Led Theory

This model is composed of a sequence of three main entities; the bank, the retail agent, and the

Customer. This sequence starts when banks develop their financial products and services that are delivered to clients through retail agents that interact directly with clients on behalf of the banks. Basically, the bank is mainly responsible for opening and holding the account (cash in cash out transactions). The retail agent is responsible for verifying customer's ID, performing face to face transactions, processing applications, forming groups, disbursing small values to the bank , collecting loans and small deposits, vending insurance products, and dealing with small remittances (Chowdhury, 2010).

Customers are able to access the mix of financial and non-financial service available. To enable retail agents to facilitate the communication between the customer and the bank, the bank is responsible for installing electronic technology such as mobile phones or POS devices for the retail agent. But in some countries like Brazil the bank license management companies on its behalf to carry out its responsibilities such as outfitting retail agents with technology and monitoring their performances, albeit the bank is still accountable to the customer in the case of retail agent's fraud or negligence (Lyman, 2006).

The model is also used in Pakistan, South Africa and India where Indian branchless regulating policy obliges the retail agent to show all transactions on the banks' books within 24 hours (RBI's circular ,2006). The bank led model has been credited for facilitating the interaction between financial institutions and customers living in distant places who can access financial and non-financial services by visiting the retail agent. Common risks associated with this model may mainly be related to lack of training to the

retail agent staff, and the actual security of the system, which is not far too different from risks associated with conventional branch based banking.

2.2.4 Non-bank Lead Theory

The sequence of this model is composed of the mobile Network operator (Nonbank), the Bank who holds a reserve of the equivalent E-value, the retail agent who acts as the third entity in this chain and deals with the customer. Banks are not a main player on this practice and the Nonbank manages customer e-money accounts. The retail agent checks customer's ID and transact on behalf of the nonbank using either mobile phone or smart card reader. Whereas the customer request financial services using again either the cell phone or the smart card. Customers can use their e-money to buy products or services, save or exchange their balance for cash at the retail agent. The uniqueness about this model is that customers can enjoy a mix of financial services without having a typical traditional bank account. They can exchange their cash for a value stored on a card or their mobile phone (Anyasi, 2009).

The mobile phone network operator has already a pre-established relationship with both the retail agent and customers through its mobile phone services. One of the most successful applications of the nonbank model is the Safaricom's M-Pesa model in Kenya. The model is also been adopted around the world for example in Tanzania, Afghanistan, South Africa, Philippines, Sudan among others. M-Pesa is a mobile payments solution that enables customers to keep money in a virtual 'stored value' account maintained in a server by the telecoms provider and operated by users through their mobile phone. Customers can interact with M-Pesa agent to deposit or withdraw cash their stored value can be used to buy airtime or send money to relatives or friends or even just to store money in their e-money accounts. In Kenya, subscribers have the option of paying bills and premiums to a network of nearly 100 utilities companies, insurance brokers, corporations, NGOs, microfinance institutions (MFIs) and others (Jack etal,2010).

Another successful example of nonbank application is evident in the Philippines, where the two mobile network operators Smart communications and Globe Telecoms has

managed to provide their customers with various financial services through Smart Money and G-Cash their customers are estimated around 8 million (Bantug, 2006). Common risks associated with this model may be mainly related to e-money risks. For example, unlicensed and/or unsupervised nonbank establishments will collect repayable funds from the public in exchange for e-money without being subject to prudential regulation and supervision.

2.3 Empirical Review

On agency banking various researches has been done looking into the agency problem and adoption of the same. In many developing countries, consistent economic growth over the past decade has brought new wealth and demand for financial services while liberalization has led to increased competition in retail financial services in many places. As a result, the reach and coverage of the formal financial sector has grown. Technology has played a role in this expansion, though we should not overstate its role to date. Information technology has primarily helped to enable expansion through more conventional banking channels, such as branch and ATM. For example, in growing from 0 to 8 million deposit customers in five years, Mexico's Banco Azteca used a robust electronic banking system to connect a large network of mini-branches in stores of its parent Elektra, a large seller of consumer durables, and other retail chains (Rhyne, 2009).

In An evaluation of the role of Agency Banking in the performance of commercial banks in Kenya Mwangi concluded that some of the effects of regulations on the performance of commercial banks attributable to agency banking were influenced by board of directors and executive management, accountability and quality control. The study concluded that infrastructure cost and security influence the performance of commercial banks attributable to agency banking to a very great extent. The study recommended that Agency banking should be given more attention on security measures including risk-based approach and that the banks should find better ways of screening their agents to ensure that the large cash transactions handling is effectively carried out on their behalf. It is also recommended that the banks should explore other services other than money

transfer only to improve their performance through agency banking which include: secure operating systems capable of carrying out real time transactions, generating an audit trail, and protecting data confidentiality and integrity, (Mwangi,2013).

Analysts have confirmed that in addition to making it easier to collect deposits, agents are reducing costs for commercial banks. The development may arise from the fact that many of the available outlets have already been snagged by mobile phone companies, who have relied on their agents to fast-track uptake of mobile money solutions such as M-Pesa, Yu-Cash, Orange Money and Airtel Money. Currently, over 30,000 outlets around the country are enrolled as mobile money transfer agents, leaving banks with a smaller pool of businesses from which they can pick the cash-rich operations they need to roll out agency banking model. Some banks, like Co-operative, have instead opted to partner with cash-rich Sacco's in order to get around this issue. The development could force some banks to consider deeper partnerships with mobile firms, a solution that the government has increasingly been advocating for. The CBK encourages banks to share infrastructure to gain economies of scale; and to reduce overheads through increased use of ICT, agency, and mobile banking. We will extend credit referencing to sharing of positive information by banks (CBK, 2009).

Branchless banking schemes to date largely have been built around payments and domestic remittance services. More than half of M-PESA customers use the service primarily for remote person-to-person payments; payments to businesses make up three quarters of transactions at Brazilian correspondents. However, services beyond payments are already on offer and are used by low-income customers. In less than five years, Banco Azteca had opened 8.1 million deposit accounts and 8.3 million loan accounts and has sold 11 million insurance policies, largely to lower income Mexicans (Rhyne, 2009). Mas and Siediek (2008) are of the view that a bank without a large network of branches faces a challenge of failure to bank with another bank due to associated charges. Ultimately, scale and ubiquity are best achieved by tapping into shared or interoperable networks of

agents that serve multiple banks; much like a POS enabled store today can accept cards from Visa or MasterCard issued by any bank in their respective associations.

Ivatury and Mas (2008) describe a system whereby the agent has a contract with at least one bank but may service customers of other banks with which it does not have a direct contract as long as the agent transactions for these other issuing banks are governed by the contract between the agent and its own acquiring bank and a separate agreement between the issuing bank and acquiring banks. In comparison to the other countries, a relatively large proportion of the Brazilian population is 'banked' (43%). This can partly be attributed to the fact that Brazil has the largest agent network in the world and is widely cited as a country where banking agents have been successfully used to expand financial access. An extra 13 million unbanked people have been reached (AFI, 2011) and more than 160,000 retail outlets turned into correspondents since 1999. These agents can be found in all municipalities in Brazil. Most agents are commercial establishments, such as grocery stores, post offices, notaries and lottery outlets. More than 47,000 of these outlets are authorized to handle deposits and open accounts (CGAP, 2010).

In Peru, agents are mainly pharmacies, grocery stores and other retail establishments. These tend to be small retail establishments, although there are some larger agents, such as La Curacao, a large retail chain. Roughly 8% of districts, accounting for 16% of the population, now have access to bank services exclusively through agents. These agents facilitated approximately 3.8 million transactions per month (45 million transactions in the year). However, 3 times this amount of transactions per month were performed at ATMs, and the total value through ATMs was at least 2 times larger than agent transactions. In 2010, less than 50% of the total financial system transactions were conducted inside traditional bank branches and ATMs; POS terminals accounted for 36% of total transactions (SBS & CGAP, 2010).

A 2007 study conducted in Kenya by Synovate, covering 69 districts in Kenya showed that small retail; informal outlets (kiosks) are the most reliable credit issuers to many

people. The study showed that the ubiquitous shopkeepers found in every estate, village and even footpath are the most frequent sources of soft loans as well as goods on credit and that the Majority of Kenyans turns to them frequently. This study revealed 74% of those that had loans obtained credit from their local shopkeeper, whose Main strength is the proximity to the customer and the fact that they are normally liquid. The study indicated that banks, though for long believed to be the main source of credit to Kenyans, ranked third with saving and credit societies (Sacco's) coming second. The realization made policy makers to brainstorm on how to bring more inclusion in the prejudice that banking was a preserve of big banks with no place for customers wearing gumboots and carrying crumpled notes.

Kamotho (2009) carried a study on mobile phone banking. The study covered the two main dominant mobile banking service providers- Safaricom and zain. From inception the mobile phone subscribers have a total of 8000 outlets agents. This number tripled compared to 876 branches and 1424 ATM for commercial banks (CBK, 2008). The survey was informed by a quantitative survey on m-banking services and demand. Data on usage and exploration patterns were gathered through reliable cluster sampling techniques using comprehensive questionnaires. It was observed that competition triggers innovation and creativity. Continuous innovation not only yield new products but rather promotes efficiency in the performance of activities. Hence lowering the transaction cost. This finding is also confirmed by (Tufano, 1989).

Contrary to popular wisdom that mobile phone money services are meant for transfer and remittance, his findings concluded that 96% of the respondents used the M-banking services as form of funds storage. It is from this that commercial bank management tapped to get these deposits to boost the banks liquidity in these changing times of the economy. Agency banking is seen to assist customers offload the extra funds that they have to agents at minimal fees and avoid risks of money loss.

2.4 Summary

Technology has played a major role in stimulating innovation of new products for the banking industry and has spurred the growth of this industry. From the past studies conducted, it has also come out clearly that performance of banks was greatly affected by security and infrastructure costs. Agency banking models have come in and greatly reduced the costs of operations for commercial banks. Agent banking improves the bank's geographical coverage and competitiveness so that existing and potential customers can benefit from a greater level of convenience in accessing banking services. Small retail informal outlets (kiosks) are the most reliable credit issuers to many people and form the bulk of agency outlets that partner with the banks.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter looked at the research methodology, research design, population, data collection and the data analysis techniques. It gives a detailed outline of how the investigation took place, how data was collected and compiled, what instruments were employed to manipulate and analyzing data collected to end up with substantial information. They were carefully chosen to ensure accuracy, reliability and give a true picture of the findings on the study.

3.2 Research Design

The research design took the form of a census that covered 100% of the banks that were licensed to operate agency banking as at December 31st 2012. The research design was adopted from the works of Kamau (2012), “The relationship between agency banking and financial performance of commercial banks in Kenya”. The study carried out used regression analysis to find the relationship between agency banking (in terms of number of agents and number of deposit and withdrawals transactions undertaken through agents) and the financial performance of banks as measured by return on equity.

The study looked at the number of transactions as well as the relationship between the volumes of transactions carried out by the agents in terms of deposits and withdrawals. I also looked at the effect of loan repayments facilitated by the agency outlets and the overall effect on the financial performance on the Banks. Regression analysis was carried to distinguish the relationship between the parameters to be measured and the dependent variable.

3.3 Population

Population of the study was the 44 banks licensed to operate in Kenya As at 31st March 2013 (CBK, 2013).

3.4 Sample

The target study sample comprised of the 10 commercial banks operating agency banking as at 31st March 2013 (CBK, 2013).

3.5 Data Collected

Relevant data for the study was number of agents been operated by the banks, volume of cash deposits handled directly by the agents on behalf of the commercial banks, volume of cash withdrawals transactions done by agents and volume of loan repayments facilitated by the agency outlets which forms the variables to be used in analysis. Data collected was volume of Cash Deposits performed by contracted agents, the data collected was obtained from the bank supervision report for the years 2010, 2011 and 2012. Volume of Cash Withdrawals via contracted agents the data collected was obtained from the bank supervision report for the years 2010, 2011 and 2012. Total Number of transactions for deposits and the withdrawals the data collected was obtained from the bank supervision report for the years 2010, 2011 and 2012. Number of agents and percentage of transaction done via agency banking data collected was obtained from the annual financial reports of the respective sampled banks as well as the bank supervision report for the years 2010, 2011 and 2012. Financial performance as measured by return on equity for each financial institution under the study. The data collected was obtained from the bank supervision report for the years 2010, 2011 and 2012. The technique employed was data mining from secondary data and questionnaires.

3.6 Data analysis

The methodology used entailed use of inferential statistics using statistical package for social sciences (SPSS) package and was adopted from the research of Kamau, (2012) “The relationship between agency banking and financial performance of commercial banks in Kenya” Inferential statistics was based on Pearson correlation analysis and a multiple regression model. Multiple regression model was used for it allowed simultaneous investigation of the effect of two or more variables .The model established the relationship between agency banking and the performance of the affected Banks financial performance using various key performance indicators.

The equation that represented the algebraic expression of the analytic model applied was follows.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where Y=Financial performance measure.

α =Regression constant

β_1 to β_4 =Regression coefficients

X_1 =Number of Agents

X_2 =Volume of cash deposits

X_3 = Volume of cash withdrawals transactions done by agents

X_4 =Volume of loan repayments via Agency.

ϵ = coefficient of error.

The performance measure adopted was ROE. The ROE is an important measure and indicator of the bank's profitability since it gives an overall picture of how well the Bank is doing. Multiple regressions are an extension of simple linear regression. This was used to predict the value of a variable based on the value of two or more other variables. The variable to be predicted was called the dependent variable. The variables used to predict the value of the dependent variable were called the independent variables. To come up with the regression model the dependent and independent variables was determined from the data collected.

Hypothesis Tests were used to give confidence on the model and this assumed that the random error terms, ϵ were normally and independently distributed with a mean of zero and variance of the square of the standard deviation. The T test was used to check the significance of individual regression coefficients while Test for significance of regression was used to check the significance of the whole regression model.

T test; the hypothesis statements to test the significance of a particular regression coefficient, β_j , are:

$$H_0: \beta_j = 0$$

$H_0: \beta_j \neq 0$

The test statistic for this test is based on the t distribution

$$T_0 = \frac{\hat{\beta}_j}{se(\hat{\beta}_j)}$$

Where the standard error, $se(\hat{\beta}_j)$, is obtained. The conclusion would be failing to reject the null hypothesis if the test statistic lies in the acceptance region as shown by the expression $-t_{\alpha/2, n-2} < T_0 < t_{\alpha/2, n-2}$

This test measures the contribution of a variable while the remaining variables are included in the model. For the model $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$, if the test is carried out for β_1 , then the test will check the significance of including the variable X_1 in the model that contains X_2 , X_3 and X_4 (i.e., the model $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$)

Test for significance of regression on the overall Model: The test for significance of regression in the case of multiple linear regression analysis is carried out using the analysis of variance. The test is used to check if a linear statistical relationship exists between the dependent variable and at least one of the predictor variables.

The statements for the hypotheses are: $H_0: \beta_1 = \beta_2 = \beta_3 = \dots \beta_k = 0$

$H_0: \beta_j \neq 0$ for at least one j

The test for H_0 is carried out using the following statistic:

$$F_0 = \frac{MS_R}{MS_E} \quad MS_E = \frac{SS_E}{dof(SS_E)}$$

Where MS_R the regression is mean square and MS_E is the error mean square. If the null hypothesis, H_0 , is true then the statistic F_0 follows the F distribution with k degrees of freedom in the numerator and $n - (k + 1)$ degrees of freedom in the denominator. The null hypothesis, H_0 , is rejected if the calculated statistic, F_0 , is such that: $F_0 > f_{\alpha, k, n-(k+1)}$

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

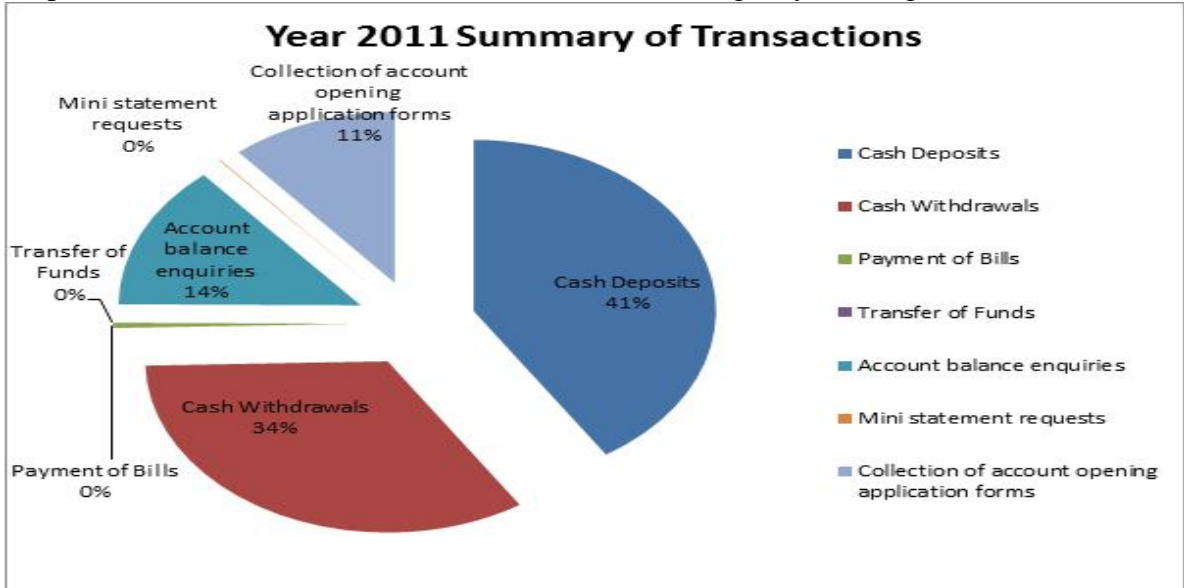
This chapter contains the data collected and analysis of the data to the effect of agency banking on financial performance of commercial banks in Kenya .It gives information that is useful in fulfilling the objective of the study. The collected Data was compiled and the researcher made use of regression analysis, tables, graphs and charts to present the data. Regression analysis was used to test the null hypothesis that there is no effect of agency banking on financial performance of commercial banks in Kenya.

4.2 Agents and Transactions

CBK issued guidelines on Agent Banking in May, 2010 and as at December 2010, five institutions had been granted approval to engage agents. The agent banking model was mainly designed to assist banks in providing banking services in a cost effective manner and at the same time enhancing financial services outreach and promoting financial inclusion of the unbanked Kenyan population. Out of the five, two institutions had appointed a total of 8,809 specific agents, comprising of telecoms related agents and individual specific agents, all spread across the country (CBK, 2010)

As at December 2011, there were 8 commercial banks that had contracted 9,748 active agents facilitating over 8 million transactions valued at Ksh.43.6 billion. This represented 3 percent of the total deposit base in the banking industry (CBK, 2011). As at December 2012, there were 10 commercial banks that had contracted 16,333 active agents facilitating over 38million transactions valued at Ksh.195.8 billion (CBK ,2012).The breakdown and summary of the type, number and values of transactions through agent banking for the respective years is summarized in Appendix I and II.

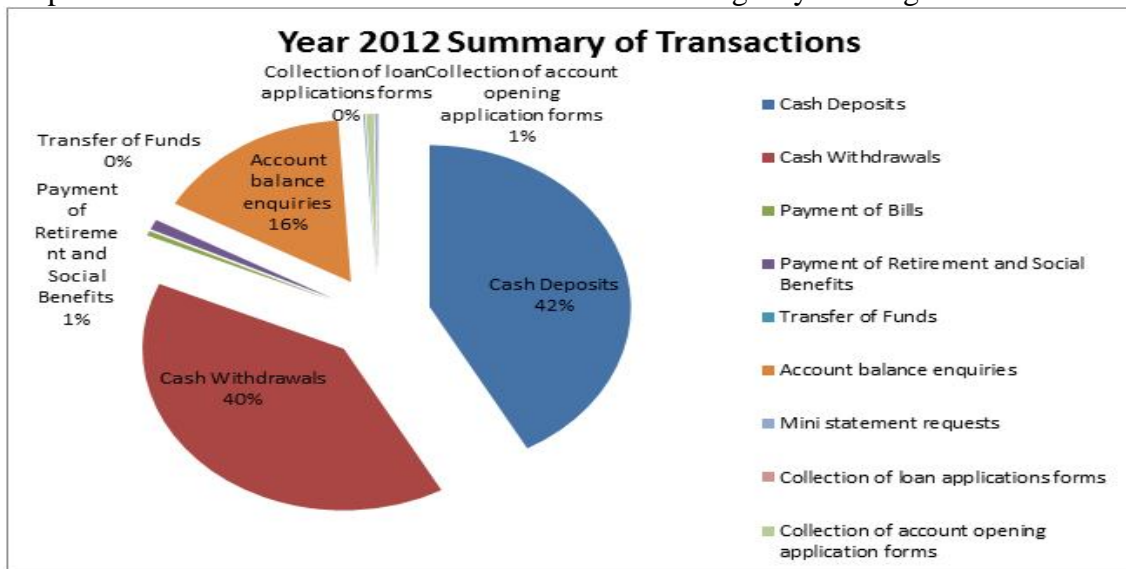
Figure 4.1
Proportion of various services that were undertaken via agency banking 2011



SOURCE: Bank supervision Report 2011

In 2011, the most popular transaction performed by the agents was cash deposits taking up 41 % of the total transactions for the year. This was followed closely with cash withdrawals at 34 %, account balance queries at 14 % and collection of account opening forms at 11 %. Other services available via agents were not so popular and accounted for less than 1 % of the transaction carried out for the year 2011.

Figure 4.2
Proportion of various services that were undertaken via agency banking 2012

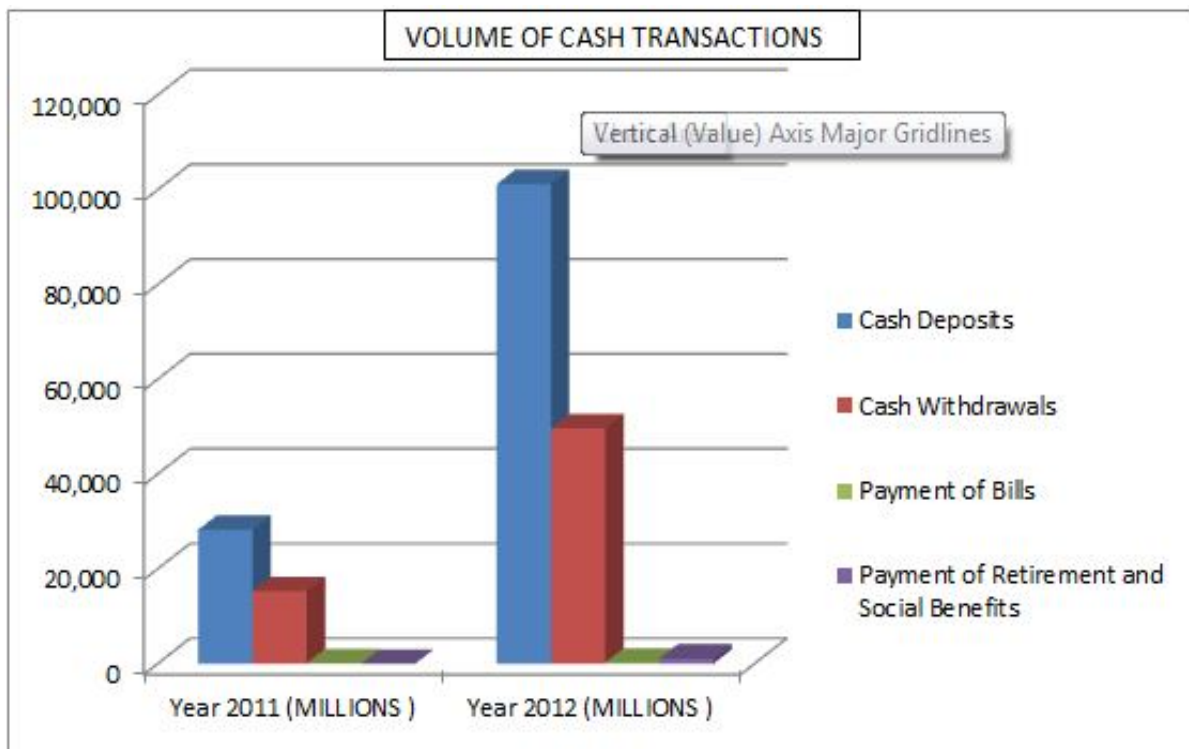


SOURCE: Bank supervision Report 2011&, 2012

In 2012, the most popular transaction performed by the agents was cash deposits taking up 42 % of the total transactions for the year which was a growth of 1 % from the previous year. This was followed closely with cash withdrawals at 40 % that presented a growth of 6 % from the previous year. Account balance queries stood at 16 % which represented a growth of 2 % .Other services like collection of account opening forms, funds transfer payment of retirement benefits were not so popular and accounted for less than 2 % of the transaction carried out for the year 2012.

Figure4.3

COMPARISON OF GROWTH IN VOLUME OF CASH TRANSACTIONS



SOURCE: Bank supervision Report 2011 &2012

In 2011 the most popular transactions that agents were engaged in were Cash withdrawals, cash deposits, Account balance enquiries and collection of account opening forms with percentages of 41 %, 34 %, 14 % and 11% respectively as shown on figure 1. In 2012 the most popular transactions that agents were engaged in were Cash withdrawals at 42 %, cash deposits at 40 %, and Account balance enquiries with 16 % as

shown on figure 2. There was a tremendous growth in the volumes of cash deposited and withdrawn in the year 2011 and 2012 as highlighted on figure4.3. From the data collected, no banks used Agents in advancing of loans or repayment of any advanced loans. Of the most popular transactions, cash withdrawal and cash deposits accounted for over 75 % of the transactions and as a result are most suitable to be included in the regression model.

4.3 Multiple Regression 2011 and 2012

This covers the outcome of the multiple regressions done for the data collected for 2011 and 2012.

Figure 4.4 Model Summary for 2011

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564a	.318	-1.728	11.66163

a. Predictors: (Constant), Deposits, Agents, Withdrawals

Predictors: (Constant), refers to the volume of cash deposits, number of agents and volume of cash withdrawals. Dependent Variable: Banks financial performance as measured by return on equity. The regression results on the model summary can be summarized as follows. **Model** SPSS gives room to specify multiple models in a single **regression** command. This gives the number of the model being reported.

R =0.564 R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. **R-Square** =0.318 R-Square is the proportion of variance in the dependent variable ROE which can be predicted from the independent variables volume of deposits, withdrawals and number of agents. This value indicates that 31.8% of the variance in science scores can be predicted from the variables volume of deposits, withdrawals and number of agents. Note that this is an overall measure of the strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable. R-Square is also called the coefficient of determination.

Adjusted R-square=-1.728 as predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. One could

continue to add predictors to the model which would continue to improve the ability of the predictors to explain the dependent variable, although some of this increase in R-square would be simply due to chance variation in that particular sample. The adjusted R-square attempts to yield a more honest value to estimate the R-squared for the population. The value of R-square was .489, while the value of Adjusted R-square was .318. Adjusted R-squared is computed using the formula $1 - ((1 - R^2)(N - 1) / (N - k - 1))$. From this formula, you can see that when the number of observations is small and the number of predictors is large, there will be a much greater difference between R-square and adjusted R-square (because the ratio of $(N - 1) / (N - k - 1)$ will be much greater than 1). By contrast, when the number of observations is very large compared to the number of predictors, the value of R-square and adjusted R-square will be much closer because the ratio of $(N - 1) / (N - k - 1)$ will approach 1. This in a nut shell means the ROE can be more accurately measured if more independent variables are introduced. **Std. Error of the Estimate** - The standard error of the estimate, also called the root mean square error, is the standard deviation of the error term, and is the square root of the Mean Square Residual

Figure 4.5 ANOVAa 2011

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.410	3	21.137	.155	.915b
	Residual	135.994	1	135.994		
	Total	199.404	4			

a. Dependent Variable: performance

b. Predictors: (Constant), Deposits, Agents, Withdrawals

Significance test for the Model is represented in the ANOVA table under columns F and **Sig** columns. The F-value is the Mean Square Regression divided by the Mean Square Residual. These values were used to determine if the independent variables reliably predict the dependent variable and thus the suitability of the model. From the table the p-value of 0.915 when compared to alpha level of 0.05 this value is larger

hence we can conclude that the independent variables do not reliably predict the dependent variable.

Figure 4.6 Coefficients a 2011

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	26.458	9.020		2.933	.209	-88.152	141.069
Agents	-.004	.025	-.947	-.164	.896	-.327	.318
Withdrawals	.009	.028	3.842	.332	.796	-.342	.360
Deposits	-.003	.008	-2.636	-.398	.759	-.103	.096

Predictors: (Constant), refers to the volume of cash deposits, number of agents and volume of cash withdrawals.

Dependent Variable: Banks financial performance as measured by return on equity.

From the table of coefficients above, the following regression equation for year 2011 was established.

$$Y = 26.458 - 0.004 X_1 + 0.009 X_2 - 0.003 X_3$$

Tests results for significance are calculated by the SPSS and this is represented by two columns under **t** and **Sig.** These columns provide the t-value and 2 tailed p-value used in testing the null hypothesis that the coefficient $H_0: \beta_j = 0$ $H_a: \beta_j \neq 0$. Using a 2 tailed test to compare each p-value to a preselected value of alpha at 0.05. Coefficients having p-values less than alpha are statistically significant and will reject the null hypothesis. The coefficient for **Agents** (-0.004) is not statistically significantly different from 0 using alpha of 0.05 because its p-value is 0.896, which definitely larger than 0.05. The coefficient for **Withdrawal** (0.009) is not statistically significantly different from 0 using alpha of 0.05 because its p-value is 0.796, which definitely larger than 0.05. The coefficient for **Deposits** (-0.003) is not statistically significantly different from 0 because its p-value 0.759 is definitely larger than 0.05.

Figure 4.7 Model Summary for 2012

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.633a	.401	-.048	8.35989

a. Predictors: (Constant), Deposits, Agents, Withdrawals
 Predictors: (Constant), refers to the volume of cash deposits, number of agents and volume of cash withdrawals. Dependent Variable: Banks financial performance as measured by return on equity. The regression results on the model summary can be summarized as follows; **Model** - SPSS allows you to specify multiple models in a single regression command. This tells you the number of the model being reported.

R=0.633 R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. **R-Square**=0.401 R Square is the proportion of variance in the dependent variable ROE which can be predicted from the independent variables volume of deposits, withdrawals and number of agents. This value indicates that 40.1% of the variance in science scores can be predicted from the variables **volume of deposits, withdrawals and number of agents**. Note that this is an overall measure of the strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable. R-Square is also called the coefficient of determination.

Adjusted R-square = -0.048 as predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. One could continue to add predictors to the model which would continue to improve the ability of the predictors to explain the dependent variable, although some of this increase in R-square would be simply due to chance variation in that particular sample. The adjusted R-square attempts to yield a more honest value to estimate the R-squared for the population. The value of R-square was .401, while the value of Adjusted R-square was 0.048 Adjusted R-squared is computed using the formula $1 - ((1 - Sq.)(N - 1) / (N - k - 1))$. From this formula, you can see that when the number of observations is small and the number of predictors is large, there will be a much greater difference between R-square and adjusted R-square (because the ratio of $(N - 1) / (N - k - 1)$ will be much greater than 1). By contrast, when the number of observations is very large compared to the number

of predictors, the value of R-square and adjusted R-square will be much closer because the ratio of $(N - 1)/(N - k - 1)$ will approach 1. This in a nut shell means the ROE can be more accurately measured if more independent variables are introduced. **Std. Error of the Estimate**- The standard error of the estimate, also called the root mean square error, is the standard deviation of the error term, and is the square root of the Mean Square Residual

Figure 4.8
ANOVA a 2012

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	187.329	3	62.443	.893	.518b
	Residual	279.551	4	69.888		
	Total	466.880	7			

- a. Dependent Variable: performance
b. Predictors: (Constant), Deposits, Agents, Withdrawals

Significance test for the Model is represented in the ANOVA table under **F** and **Sig** columns .The F-value is the Mean Square Regression divided by the Mean Square Residual. These values are used determine if the independent variables reliably predict the dependent variable and thus the suitability of the model. The p-value of 0.518 is compared to alpha level of 0.05 and from the table this value is larger hence we can conclude that the independent variables do not reliably predict the dependent variable.

Figure 4.9 Coefficients a 2012

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	19.803	3.843		5.152	.007	9.132	30.474
Agents	.003	.006	1.086	.510	.637	-.015	.021
Withdrawals	.005	.008	5.040	.613	.573	-.016	.026
Deposits	-.003	.003	-5.641	-.767	.486	-.012	.007

- a. Dependent Variable: performance

Predictors: (Constant), refers to the volume of cash deposits, number of agents and volume of cash withdrawals.

Dependent Variable: Banks financial performance as measured by return on equity.

From the table of coefficients above, the following regression equation for year 2011 was established.

$$Y = 19.803 + 0.003X_1 + 0.005X_2 - 0.003X_3$$

T Test: Tests results for significance are calculated by the SPSS and this is represented by two columns under **t** and **Sig.** These columns provide the t-value and 2 tailed p-value used in testing the null hypothesis that the coefficient $H_0: \beta_j = 0$ $H_a: \beta_j \neq 0$. Using a 2 tailed test to compare each p-value to a preselected value of alpha at 0.05. Coefficients having p-values less than alpha are statistically significant and will reject the null hypothesis. The coefficient for **Agents** (0.005) is not statistically significantly different from 0 using alpha of 0.05 because its p-value is 0.637, which definitely larger than 0.05. The coefficient for **Withdrawal** (0.005) is not statistically significantly different from 0 using alpha of 0.05 because its p-value is 0.573, which definitely larger than 0.05. The coefficient for **Deposits** (-0.003) is not statistically significantly different from 0 because its p-value 0.486 is definitely larger than 0.05.

4.4 Findings and interpretation

For the year 2011 the model yielded the equation $Y = 26.458 - 0.004 X_1 + 0.009 X_2 - 0.003 X_3$ Where;

Y = Financial performance measured by return on equity

26.458 = Regression constant α which shows that in the absence of any agent activity the financial performance as measured by the return on equity would be 26.458%

$\beta_1 = -0.004$ indicates that a unit change in number of agents results in a 0.004 decrease in return on equity

$\beta_2 = 0.009$ indicates that a unit change in volume of cash withdrawals results in 0.009 increase in return on equity

$\beta_3 = -0.003$ indicates that a unit change in volume of cash deposits results in 0.003 decrease in return on equity

From the variance determined in the model summary the significance value stands at 0.915 which is more than the set threshold of 0.05 for rejecting the null hypothesis hence we cannot reject this hypothesis at 95 % confidence level. ANOVA findings and the significance test conducted showed that there is no correlation between the predictor variables and the dependent variable since significance is more than 0.05. In conclusion the 2011 model does not satisfy the statistical threshold of predicting the effect of agency banking on financial performance of commercial banks and the output may be merely a chance occurrence. The independent variables selected to measure the effect on the performance on return in equity represented a fraction of other various factors that may have an impact on the ROE.

For the year 2012 the model yielded the equation $Y = 19.803 + 0.003X_1 + 0.005X_2 - 0.003X_3$ Where;

Y= Financial performance measured by return on equity

19.803=Regression constant α which shows that in the absence of any agent activity the financial performance as measured by the return on equity would be 19.803%

$\beta_1 = 0.003$ indicates that a unit change in number of agents results in a 0.003 increase in return on equity

$\beta_2 = 0.005$ indicates that a unit change in volume of cash withdrawals results in 0.005 increase in return on equity

$\beta_3 = 0.003$ indicates that a unit change in volume of cash deposits results in 0.003 decrease in return on equity

From the variance table above, the significance value standing at 0.518 which is more than the set threshold of 0.05 for rejecting the null hypothesis hence we cannot reject this

hypothesis at 95 % confidence level set. ANOVA findings and the significance test conducted showed that there is no correlation between the predictor variables and the dependent variable since significance is more than 0.05. In conclusion the 2012 model does not satisfy the statistical threshold of predicting the effect of agency banking on financial performance of commercial banks and the output may be merely a chance occurrence.

Predictor variables are said to be correlated if their coefficient of correlations is greater than 0.5. As shown in the calculations for both 2011 and 2012 there coefficients are not more than 0.5. We can conclude that low correlation between the dependent ROE and the predictor variables, the number of agents, volume of cash deposits and withdrawals do not necessarily contribute to the financial performance of commercial banks as measured by return on Equity for both 2011 and 2012.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section gives an overview of the research project in form of a brief summary of the findings arrived at after the modeling. The conclusion drawn from these findings and the recommendations on different fields that will assist in future studies that seeks to dig deeper into the agency model of banking.

5.2 Summary

Technology has transformed most of the industries and the banking sector is no exception with an ever increasing of more complex services that need to be delivered to the consumer. Policymakers and regulators created a conducive environment when the government amended the Banking Act through the Finance Act, 2009, to permit institutions to contract third parties to provide certain banking services on their behalf in the manner prescribed by the central bank, CBK (2009). Pursuant to this development the regulations for agent banking were published by the CBK in May 2010, CBK (2010).

The study shed light on the nature of business the agents are most involved with on behalf of the banks as cash deposits, cash withdrawals, balance enquiry and account opening leading the pack in 2011 while in 2012 there was a slight shift of the activities with account opening having drastically reduced. This is attributed to the onetime events of opening an account in the customer life cycle. A customer can open the account only once but other transactions can be done as many times as the customers' needs.

It is also evident in the summary of the volume of transactions that the growth in this sector more than doubled. This is a sign that the customers are taking this model positively and it has greater benefits to the customer in comparison to the bank. The customer has the banking services at their door step and this translates to less time spent on the road to the banks, convenience in deposits or withdrawals, less waiting time in queues among other benefits.

The study revealed key findings For the year 2011 From the variance determined in the model summary the significance value stands at 0.915 which is more than the set threshold of 0.05 for rejecting the null hypothesis hence we cannot reject this hypothesis at 95 % confidence level. ANOVA findings and the significance test conducted showed that there is no correlation between the predictor variables and the dependent variable since significance is more than 0.05. In conclusion the 2011 model does not satisfy the statistical threshold of predicting the effect of agency banking on financial performance of commercial banks and the output may be merely a chance occurrence. The independent variables selected to measure the effect on the performance on return in equity represented a fraction of other various factors that may have an impact on the ROE.

For the year 2012, the significance value stands at 0.518 which is more than the set threshold of 0.05 for rejecting the null hypothesis hence we cannot reject this hypothesis at 95 % confidence level. ANOVA findings and the significance test conducted showed that there is no correlation between the predictor variables and the dependent variable since significance is more than 0.05. In conclusion the 2012 model does not satisfy the statistical threshold of predicting the effect of agency banking on financial performance of commercial banks and the output may be merely a chance occurrence. The independent variables selected to measure the effect on the performance on return in equity represented a fraction of other various factors that may have an impact on the ROE.

The regression analysis was carried out to find the relationship between the number of agents and the volumes of cash withdrawals and deposits carried out via agents on the financial performance measured by return on equity of the banks in question. From the findings the chosen independent variables were found to have either negative or weak correlation to the dependent variable for both years 2011 and 2012. The study concluded that banks engaging in agency banking do not directly result in improved financial performance or increased profitability. The trend is a clear indicator that more banks will be taking up agency banking so as to reap from other benefits of agency banking like

enhanced customer outreach and reduction in the numbers at the floors of the banking halls as opposed to better financial performance.

5.3 Conclusions

As at June 30, 2012, 10 commercial banks had contracted 12,067 agents facilitating over 20.4 million transactions valued at Ksh. 104.4 billion. This represented an increase over the 6 banks that had contracted 6,513 agents facilitating over 5 million. Transactions valued at Ksh. 16.7 billion by June 2011. The introduction of agent banking was intended to enable institutions to provide banking services more cost effectively to customers. This initiative was expected to enhance financial access for those people who are currently unbanked or under banked (CBK, 2011). Agency banking has experienced tremendous growth and complexity of the transactions been handled. However this new services have not fully taken shape and account for a very small percentage of all agent activities at less than 5percent.

Agency banking requires commercial banks to rely to on the existing infrastructure in terms of supermarkets, credit unions, hotels and petrol stations reach out to customers. Based on the ongoing announcements of financial results by commercial banks, input of agency banking into the profits is minimal though the financial institutions are vowing to intensify recruitment of more third parties to assist in expanding their market share and foot print . Kenyan financial institutions have embarked on an aggressive entry into the agency Banking segment but many are finding that agents lack capacity to handle large transactions of cash and under-spend on security measures. The concentration of most agents is also on the so called lower end market areas where most individuals operate informal business and deal with small values of money. This may contribute the huge number of transactions but does not necessarily translate to greater value.

The nature of transactions also revealed that most of the agents are not knowledgeable of other operations that the banks can offer. This is evident by the kind of transactions the CBK has allowed banks to engage agents in and what the agents are doing. No agents are allowed to process bank loans on behalf of the agents. This leaves a huge gap in that the much needed services require the customer to go to the branches. Loans are a key

revenue earner for commercial bank and the absence of this in the portfolio of the agents means they miss out on influencing the banks financial performance.

From the study the constants obtained for the year 2011 and 2012 from the resulting equations are 26.458 and 19.803 meaning with zero agent activity the banking sector would still record an impressive Return on Equity? The study carried out shed light on the fact that the number of agents operated by a commercial banks and the resultant volume of transactions (Deposits and withdrawals) are not directly correlated with the banks financial performance as measured by the return on equity. This is further supported by the fact that the R Square for both 2011 and 2012 are considerably low indicating a weak correlation between the predictors and the independent variables as highlighted in the regression analysis models. This is supported by the outcome on the resulting equation where the coefficients of the predictor variables are considerably low. In closing the study successfully showed that the agency banking model has insignificant effect on the banks financial performance. This attributes that other factors not put in the scope of the study highly contribute the financial performance of commercial banks operating agency banking.

5.4 Limitations of the study

The study posed various challenges while been carried most which were overcome but key among this were in a critical position to affect the outcome of the study and are mentioned herein under. The duration in which agency banking has been in operations is rather short since the inception of agency banking. The service was launched in 2010 and there is not much activity that has been seen on agency banking over the years to form a trend.

The data available for the study was limited to the number of years this model has been in operation and in 2012 there is tremendous growth indicating a boom in this sector. Longer historical performance and data will set a good base for a more concrete research and this will give more conclusive results.

The other key limitation was the number of banks operating agency banking as compared to the total number of banks licensed to operate agency banking which is 10 banks from the population of 44 banks as at 2012. The bank supervision report did disclose in-depth financial data for banks operating agency banking, but summarized reports.

The dependent variable of return on equity was used as the measure of financial performance but other indicative measures like Return on assets or return on capital would have generated a different outcome of the study.

The study had a draw back from most financial institutions which lacked proper reports that showed records of the benefits directly accrued from operation of agency banking. Most banks were also not ready to disclose some of their financial statements that they deemed internal and not for public consumption which could highlight the profits or revenues directly attributed to agency banking or the formula used compensate there agents .

Mobile phone operators have ventured into mobile money hindering the growth of agency banking to its full potential. As a result the outcome is affected by dual agency by virtue of providing competing services from one point.

5.5 Recommendations

5.5.1 Policy Recommendations

The study engaged in looking at banks given the green light to operate agency banking out of the 44 banks licensed to operate in Kenya. It is important to know why the majority of the banks are yet to take up agency banking and it is recommended that the remaining banks should endeavor to get the license to operate agency banking. This will give a holistic view on the performance of the banking industry that is attributed to agency banking. Given that this is a new concept it is recommended that the regulator should have grater supervision on the activities carried out by the agency to be able to

seal any loophole which may arise of for cases not covered by the guidelines published for banks to operate under.

Over the period agency banking has been in operation, the kind of service offered by the agents has been limited to simple transactions and supportive functions like deposits, withdrawals issue of credit card forms, account opening forms, disbursement of retirement benefits and collection of credit cards. A more interesting perspective will be when banks allow agents to perform core activities like vetting loan applications and collecting loan repayment, it is recommended that the banks transfer the basic knowledge to the agents to enable them perform these extra activities. The banks also need to advertise the other kinds of service that can be done via agency banking to ensure an uptake of all services offered by agents who will be more efficient and cost effective.

Measures to secure the agents should also be taken by the banks to empower the agents transact greater volumes and value. The risk to the agent is too high and most will shy away from been key dealers due to insecurity. The banks should assist agents overcome this challenge to ensure greater penetration in areas that would otherwise be deemed insecure to operate from.

5.5.2 Recommend areas of study

The following areas are recommended for further study;

Agency banking has been adopted by some Deposit taking microfinance institutions and a study should be conducted to cover these institutions since they compete for the same clientele.

A study also needs to be done to determine why there is a slow uptake of agency banking by the financial institution which from inception less than 30 % of the institutions have rolled out this service.

A study also needs to be undertaken to determine the challenges that the agents face in carrying out the agency functions and ways or areas of improvement that the regulator, banks and agents have to ensure greater penetration and greater financial inclusion.

REFERENCES

- Anyasi, F.I. and Otubu, P.A. (2009), Mobile Phone Technology in Banking System: Its Economic Effect. *Research Journal of Information Technology 1(1): 1-5, 2009*
- Bankable Frontier Associates. (2009), The Mzansi Bank Account Initiative in South Africa. Johannesburg: *FinMark Trust*.
- Banker. (2011) Banker in channels for Banking in Kenya. Nairobi, Kenya. Retrieved from <http://bankinginkenya.com/233/agency-banking-kenya>.
- Banker.(2011) Agency Banking in Kenya. Nairobi, Kenya. Retrieved from <http://bankinginkenya.com/233/agency-banking-kenya>.
- Central Bank of Kenya (2010), *Agent Banking Knowledge Exchange*. Nairobi, Kenya. Retrieved from <http://www.afilobal.org/sites/>
- Central Bank of Kenya (2010), *Guideline on Agent Banking - CBK/PG/15*, Nairobi.
- Central Bank of Kenya (2012), *Annual Report* CBK/PG/48, Nairobi.
- CGAP. 2008. Regulating Transformational Branchless Banking: Mobile Phones and Other Technology to Increase Access to Finance. *Focus Note No. 43* Washington DC.
- CGAP.2010. Understanding Branchless Banking Business Models International Experiences. *Focus Note No. 43* Washington D.C.
- CGAP.2007. Banking Agents. PowerPoint presentation Retrieved from <http://www.cgap.org/p/site/c /template.rc/1.11.1029>.
- CGAP. 2008. United Nations Development Program Annual Report. Washington, D.C.
- CGAP. 2009: Measuring Financial Inclusion around the World. *Financial Access 2009* Washington, D.C.

- Cheng, T. C. E., et al. 2006, Adoption of internet banking: An empirical study in Hong-Kong Decision Support Systems.
- Cheung, M.T. and Liao, Z, Challenges to Internet E-Banking, *Communications of the ACM, Vol. 46, No.12: 248-250, 2003.*
- Emoru, R.O (2012), Factors Influencing Growth of Agency Banking in the Banking Industry: Case Of Equity bank limited Mombasa County. *Unpublished MBA project, University of Nairobi.*
- FSD Kenya. (2009), The Performance and Impact of M-PESA: Preliminary Evidence from a Household Survey. *Mobile Money Summit.*
- Gurley, J and Shaw, E. (1955), Financial Aspects Of Economic Development, *The American Economic Review 45, 515-538.*
- Hernandez-Coss, R. (2009), Banking Agents in Mexico: Promoting access to finance. Asian Development Bank.
- Hirschleifer, J. and Riley, J. G. (1979). The analytics of uncertainty and information: an Expository survey. *Journal of Economic Literature 17, 1375- 1421.*
- Ivatury, G. and Ignacio Mas. (2008).The Early Experience with Branchless Banking.
- Jack, W. and Suri, T. (2010).The Economics of M-PESA. *Unpublished paper on M-PESA Georgetown University.*
- Kamau, J. N (2012). The relationship between agency banking and financial performance of commercial banks in Kenya *Unpublished MBA project, University of Nairobi.*
- Kumar, A. Nair, A. Parsons, and Urdapilleta E. (2006). Expanding Bank Outreach Through Retail Partnerships: Correspondent Banking in Brazil.
- Leland, H. E. and Pyle, D. H. (1977), informational asymmetries, financial structure, and Financial intermediation, *The Journal of Finance 32, 371-387.*

- Lyman, M., Timothy, A., Ivatury, G. and Stefan, S. (2006). Use of Agents in Branchless Banking for the Poor; Rewards, Risks, and Regulation. *Focus Note 38. Washington, D.C.*
- Mas, Ignacio. Siediek, Hannah (2008), Banking through Networks of Retail Agents. *CGAP Focus Note No. 47, Washington, D.C.*
- Modupe, L. (2010), Enhancing Financial innovation and Access. Agent Banking Innovation Forum Nigeria
- Mwangi, R.W (2013). An evaluation of the role of agency banking in the performance of commercial banks in Kenya. *Unpublished MBA project, Kenyatta University.*
- Njuguna N. (2010) Central bank Workshop Power point presentation on agent banking. Retrieve from <http://cbk.co.ke>
- RBI's circular dated 25 January 2006 Reserve Bank of India circular dated 25 January 2006
- Rhyne E. (2009), *Mainstreaming Microfinance. How Lending to the Poor Began, Grew and Came of Age in Bolivia.*
- Rikta, N.N (2007). Intuitional Lending and Financing Policy for SMEs in Bangladesh. *Policy Note Series: PN 0804. Bangladesh Bank, Dhaka, Bangladesh.*
- Rogers, E.M. (2003), Diffusion of Innovations, *5th Edition, Free Press: New York. Systems Survey. Washington, D.C.*
- Siedek, H. (2008), Extending Financial Services with Banking Agents, Financial Markets and investment.
- Wabwoba, T.B (2012) Challenges facing equity agency banking; a case of Pokot County, Kenya. *Unpublished MBA project, University of Nairobi.*

APPENDICES

Appendix I: Table of Transactions on agency banking for 2011 and 2012

Table 4.1 Data for 2011 and 2012 on Activities of agency Banking

Type of Transactions	Number of Transactions		Value of Transactions(Ksh.M)	
	Year 2011	Year 2012	Year 2011	Year 2012
Cash Deposits	3,575,502	12,554,299	28,293	101,170.60
Cash Withdrawals	2,960,692	11,862,412	15,319	49,609.50
Payment of Bills	43,398	142,046	113	238.7
Payment of Retirement and Social Benefits	0	303,455	0	1,064.40
Transfer of Funds	5	944	0.00032	14.2
Account balance enquiries	1,197,164	4,770,829	0	0
Mini statement requests	6,413	43,376	0	0
Collection of loan applications forms	0	27	0	0
Collection of account opening application forms	978,529	176,218	0	0
Collection of debit and credit card application forms	0	52,212	0	0
Collection of debit and credit cards	0	31,321	0	0
Total	8,761,703	29,937,139	43,725	152,097.40

SOURCE: Bank supervision Report 2011, 2012

Appendix II: Number of agents and banks operating agency banking

Table 4.2

Year	2010	2011	2012
Number of Banks	5	8	10
Number of agents	8,809	9,748	16,333

SOURCE: Bank supervision Report 2011, 2012

Appendix III: List of Commercial Banks in Kenya

- 1) Bank of Africa (K) Ltd.
- 2) Bank of India
- 3) Citibank N.A. Kenya
- 4) Bank of Baroda (K) Ltd.
- 5) Barclays Bank of Kenya Ltd.
- 6) Consolidated Bank of Kenya Ltd.
- 7) City Finance Bank Ltd.
- 8) Commercial Bank of Africa Ltd.
- 9) Co-operative Bank of Kenya Ltd.
- 10) Credit Bank Ltd.
- 11) Charterhouse Bank Ltd.
- 12) Chase Bank (K) Ltd.
- 13) Diamond Trust Bank Kenya Ltd.
- 14) Development Bank of Kenya Ltd.
- 15) Ecobank Ltd
- 16) First Community Bank
- 17) K-Rep Bank Ltd.
- 18) Standard Chartered Bank (K) Ltd.
- 19) Gulf Africa Bank (K) Ltd
- 20) Prime Bank Ltd.
- 21) Habib Bank A.G. Zurich
- 22) Habib Bank Ltd.
- 23) Kenya Commercial Bank Ltd.
- 24) National Bank of Kenya Ltd.
- 25) Jamii Bora Bank Ltd.
- 26) CFC Stanbic Bank Ltd.
- 27) African Banking Corporation Ltd.
- 28) Dubai Bank Kenya Ltd
- 29) Equatorial Commercial Bank Ltd.
- 30)
- 31) Equity Bank Ltd.
- 32) Family Bank Ltd.
- 33) Fidelity Commercial Bank Ltd.
- 34) Fina Bank Ltd.
- 35) Giro Commercial Bank Ltd.
- 36) Guardian Bank Ltd.
- 37) Imperial Bank Ltd.
- 38) Middle East Bank (K) Ltd.
- 39) NIC Bank Ltd.
- 40) Oriental Commercial Bank Ltd.
- 41) Paramount Universal Bank Ltd.
- 42) UBA Kenya Bank Ltd.
- 43) Trans-National Bank Ltd.
- 44) Victoria Commercial Bank Ltd.
- 45) Housing finance ltd (Mortgage financial institution).

Appendix IV: List of Commercial Banks operating Agency Banking in Kenya

- 1) Kenya Commercial Bank Ltd.
- 2) Co-operative Bank of Kenya Ltd
- 3) Chase Bank (K) Ltd.
- 4) Diamond Trust Bank Kenya Ltd
- 5) Equity Bank Ltd.
- 6) Family Bank Ltd.
- 7) NIC Bank Ltd
- 8) Post Bank Ltd
- 9) Citi Bank Ltd
- 10) Consolidated Bank

Appendix V: Questionnaire
Part One

1 .Details of your Bank

Name of Bank

Agent name operated by your bank

2. How long have you worked in the bank

Number of Years	
0-5	
6-10	
11-15	
15 and above	

3. How long has the bank been in operation as a commercial bank?

Number of Years	
0-5	
6-10	
11-15	
15 and above	

6 How many Agency outlets does the bank have?

Number of employees	
Up to 500	
507-1000	
1001-1500	
1500-2000	
2000 and above	

Part two

1. What is the average number of loans advanced in the years as per table below?

2010	
2011	
2012	

2. What is the Volume of loans in Shillings advanced in the years as per table below?

2010	
2011	
2012	

3. What is the Value of loans repaid in the years as per table below?

2010	
2011	
2012	

4. What is the Value of loans repaid via Agents in the years as per table below?

2010	
2011	
2012	

5. In relation to the market and competition, where would you rate the level of agency for your bank?

Market leaders

Market Challengers

Market Followers

Market niche