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

BRIAN MAIKO OMBUI

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DECLARATION

I declare that the contents of this research project is purely my work and has not been presented to any institution for examination/academic credit.

Signed: _____ Date _____

Brian Maiko Ombui

D61/7312/2017

This research project has been submitted for examination with my approval as the University Supervisor.

Signed: _____ Date _____

Dr. Duncan Elly Ochieng' (PhD, CIFA)

Lecturer,

Department of Finance & Accounting,

School of Business,

University of Nairobi

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DEDICATION

I dedicate this project to my family for their unwavering support and love.

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ABBREVIATIONS

AFI:	Alliance for Financial Inclusion
AML:	Anti-Money Laundering
ATM:	Automated Teller Machines
BSD:	Banking Supervision Department
CRB:	Credit Reference Bureau
CBK:	Central Bank of Kenya
CGAP:	Consultative Group to Assist the Poorest
CNBV:	Mexican National Banking and Securities Commission
FSD:	Financial Sector Deepening
MFB:	Microfinance Bank
MRP:	Money Remittance Provider
NBFI:	Non-Bank Financial Institutions
NIM:	Net Interest Margin
POS:	Point of Sale
ROA:	Return on Assets
ROE:	Return on Equity

ABSTRACT

Banks are developing innovative service delivery methods that ultimately lead to growth in revenue streams or decline in operational costs, and eventually increase in profit. Some of the innovative ways include adaptation of alternative delivery channels like agent banking. This research analysed the outcome of agency banking on the financial results of Kenyan banks. To achieve the purpose of the study, a descriptive research design was used. The target population comprised 17 commercial banks of Kenya that had adopted the agency banking model as at December 2017. Secondary data obtained from the CBK Bank Supervision Annual reports and audited financial statements for the commercial banks were used. Yearly publications of the banks were analysed for a 6-year duration, from 2012 to 2017. The data collected was analysed via a statistical package called EViews. The variables used for the study were number of agents and volume of agent transaction (cash withdrawals and deposits), asset quality, capital adequacy and liquidity, and ROA. The interconnection between the explanatory and regressand variables was calculated by multiple linear regression. The study concluded that a positive relation between number of agents and volume of agent transaction (cash withdrawals and deposits) and ROA. A rise in the number of agents and volume of agent transactions led to a corresponding rise in the ROA of commercial banks. The study also found out a positive interrelation between capital adequacy, liquidity and ROA; whereas a negative interrelation was determined between asset quality and ROA. Finally, the research recommended that commercial banks should continue setting up more agents. The regulators were encouraged to broaden the scope of agency banking framework so that agents can be allowed to offer more banking services. The study was only aimed the influence of agent banking on financial results of commercial banks in Kenya. Future investigations can focus on the effect of agent banking on other financial bodies, for example microfinance organizations, as well as the economy in general. Other research can also incorporate more variables like mobile banking, SME banking, E-banking (card and online) to gage the performance and growth of commercial banks and the economy in general.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The world's present macroeconomic climate is very vibrant. Therefore, organizations need to be extremely flexible and competitive to stay afloat. Technological progress is one of the factors responsible for such changes. Organizations have had to redefine their strategies, operations and channels of delivery to achieve a competitive edge. Banks are compelled to continuously scan the environment to identify opportunities for which they can utilize their technologies to gain an edge over their rivals. The elevated concentration of people without reach to officially recognized financial services, generally called unbanked, is one vital opportunity that was identified (Shem et al, 2012). The unbanked consists of families, micro or small medium sized companies, individuals, and other households. Consequently, banking institutions have had to transfer their "analogue" processes to digital systems such as ATMs, Sales Points (POS), mobile banking and digital finance and mobile apps in an attempt to guarantee financial inclusion from the ineffective traditional banking halls. Financial inclusion, according to CBK (2010), can be described as the delivery of a more convenient, inexpensive, flexible and reliable financial facilities that are of a formal nature to the unbanked.

The push for financial inclusion initiatives has been on the rise. As recent as July 2019, there was a partnership between Central Bank of Kenya (CBK) and the Monetary Authority of Singapore (MAS) to host the inaugural Afro-Asia FinTech Festival, whose aim was to provide a platform for exchange of ideas between Africa and Asia with particular interest in the use of Financial Technologies to drive financial inclusion. Consequently, the Global Fintech Hackcelerator @ Kenya (Hackathon) was launched as a platform for start-ups to showcase how they can solve the United Nations Sustainable Development Goals (UNSDG), financial inclusion being one of the goals. Globally, the Alliance for Financial Inclusion (AFI), hosts forums where both developed and emerging countries participate. It

aims to promote financial inclusion in various countries by providing a link between the member states and encourages the sharing of ideas (CBK & FSD, 2013).

The infrastructure necessary for profitable access of financial services to the undeserved populace has proven hard to develop (Ehrbeck & Tarazi, 2011). In emerging markets such as Kenya, traditional banks have a difficult time reaching customers, due to the scattered settlements. Setting up mortar and brick branches are resource intensive, and therefore very expensive. The agency model has come in handy and has enabled banks delve into such areas in a bid to grow their customer bases. Bank-based agent banking channels use various non-bank retail entities for example pharmacies, security firms, supermarkets, courier services, and post offices, which give cash-in-cash-out transactions including other services as well as acting as third party agents through complying with the already laid down guidelines (CBK, 2013).

Agency banking is underpinned in the agency theory where commercial banks are the principals and the corresponding contracted retail entities are the agents, whereby the agents carry out service that maximize the utility of the principals. In this arrangement, the agents interact with the customers in the name of the principal. Transactions, for example, cash withdrawals and deposits will be conducted at the agents' premises but will be reflected in the principals' books. The study looked at the volume of transactions as the main pointer of agency banking. Financial performance is concerned with the extent of an organization's success of its objectives. Bank's financial performance would be assessed though the use of profitability ratios like Return on Assets.

With the rising popularity and progressive uptake of agency banking, the study intends to discern the effect of agency banking on the financial performance of commercial banks in Kenya.

1.1.1 Agency Banking

The term "agency banking" originates from the Agency theory school of thought. Jensen and Meckling (1976) described the fundamental principle of the theorization for principal-agent as a covenant between two parties. One party (principal) involves another party

(agent) in performing an obligation or service. Such a relationship requires that the agent be accorded some decision-making power.

Similar in this regard, agency banking can be defined as the process through which banks provide limited scale real time banking services to the unbanked and underbanked population through engaged agents, who are non-bank institutions, with a legitimate agency contract, instead of a conventional teller. These agents carry out bank transactions on a bank's behalf. Agents may include retail outlets such as boutiques, chemists, lottery kiosks, hardware and butcheries among others.

The CBK published the Prudential Guideline on Agent Banking CBK/PG/15, in May 2010. Following this publication, commercial banks could register third party persons as agents, after obtaining clearance from CBK. Agency banking is an agreement whereby authorised organizations contract third parties to make available, on behalf of the organization, certain bank facilities (Ignacio & Hannah, 2008). Agency banking has become a practical approach for extending conventional financial services to the underserved at a cost proficient way. Kenya is one of the leading countries in terms of taking on the agency-banking model. The CBK has had knowledge exchange partnerships with teams from Tanzania, Uganda and Malaysia who have been in Kenya to study the Agency Banking model (http://bankelele.co.ke/2017/10/agency-banking.html).

Agency banking was measured by obtaining the total of commercial bank agents and volume of dealings, cash deposits and cash withdrawals, executed by commercial banks in Kenya, obtained from 2017 BSD annual report.

1.1.2 Financial Performance

Financial performance in its broadest sense is concerned in establishing the general financial health of an entity over a duration, measured by a number of indicators like liquidity, capital adequacy, and profitability. IAI (2016) described financial performance as the capability of an enterprise to handle and regulate its funds. Profitability ratios are useful in ascertaining financial performance. Ratios commonly used include Return on Equity (ROE) that calculates residual revenue against shareholder's funds, Return on Assets (ROA), which computes the usage of assets/resources in generating profits, and

Liquidity ratio, which gauges the short term and long-term strength of an entity by analysing its ability to pay off maturing obligations. Other common ratios include Net Interest Margin (NIM), which examines how a bank mobilizes deposits and non-deposit funds and converts them into advances and securities, Loans to Assets ratio, which computes the proportion of total loans outstanding as a percentage of gross assets, the quotient of gross bad advances to aggregate advances, increase in customer deposits and capital adequacy ratios.

The study aimed to utilize the profitability ratio ROA, as an indicator of financial performance.

1.1.3 Agency Banking and Financial Performance

The 2019 Fin-Access Household Report highlighted the remarkable rise in the Kenya's bankable population from the advent of M-Pesa and agency banking. The survey reported that the reach to recognized financial services had risen from 26.7% as at 2006 to 82.9% percent. Despite the significant improvement, there still exists room for which banks can take advantage of to grow their market share and subsequent profitability.

Banks are continuously adapting and coming up with innovative ways to tap into the "unbanked". One way is though the adoption of agency banking. As at December 2012, only ten commercial banks had adopted agency banking. These were; Citibank, Co-op. Bank, Consolidated Bank, SBM Bank (formerly Chase), Equity Bank, Diamond Trust Bank, Family Bank, KCB Bank, Post Bank, and NIC Bank. As at December 2017, however, the number had risen to 18 banks with the number of approved agents increasing by 7,457 to 61,290 when compared to the previous year (CBK, 2015). Agency banking has resulted in ease of accessibility of financial services and improved customer service experience as evidenced by the dramatic reduction of banking hall ques that we had been accustomed. This, coupled with the need to exploit the cost-saving opportunity generated, has boosted the aggressive growth of agency banking.

Several emerging nations have reported unprecedented success arising from the application of the agency-banking model, as illustrated by their booming financial sectors where banks are posting "insane" profits, such as in Brazil. South American countries, such as Peru and

Colombia, and India have also been headliners (Kinyanjui, 2011). In countries such as Australia, agent's operations have expanded to other services, for example, about forty percent of the mortgage supply is produced through agent brokers (Kumar et al, 2006). Kihonge et al. (2016) established that agency banking positively affected the financial profitability of Rwandese commercial banks. A number of local studies have also been performed to this effect. Njoki and Aloko (2015) undertook an examination on the correlation between fintech innovations and financial performance of commercial banks in Kenya and determined that various inventions, including agency banking, had a favourable effect on the banks bottom-line. Another study by Mwando (2013) on the input of agency banking on financial performance of commercial banks and concluded that low transaction cost and access to more customers contributed to improved fiscal performance of banks. Adoption of agency banking model has also not been plain sailing. Banks have to consider other upcoming technologies and do a cost-benefit analysis before implementing it. Other considerations include availability of power, capacity of the agents to handle large amount of cash and Anti-Money Laundering (AML) risks. Due to such, many local banks are yet to adopt the model.

1.1.4 Commercial Banks in Kenya

The 2017 annual report of CBK's Bank Supervision Department (BSD) showed a significant number of institutions under its mandate. These institutions consisted of "3 Credit Reference Bureaus (CRBs), 9 representative offices of foreign banks, 8 non-operating holding companies, 42 commercial banks, 1 mortgage finance company, 13 microfinance banks (MFBs), 73 forex bureaus and 19 money remittance providers (MRPs)". As at December 2017, 18 commercial banks had adopted agency banking. These were; ABC Bank, Citibank, Co-operative Bank, Consolidated Bank, Ecobank, Commercial Bank of Africa, SBM Bank, Equity Bank, Diamond Trust Bank, Family Bank, KCB Bank, Sidian Bank, Bank of Africa, HFC Limited, I&M Bank, Barclays Bank, National Bank and NIC Bank.

The continuous uptake of the agency banking model by commercial banks in Kenya has been anchored by the need to enhance financial inclusion, which would in turn lead to improved financial performance. This is because agency banking allows for a reliable,

convenient, affordable and flexible channel of delivering financial services to the unbanked. For instance, a total of 139,751,189 recorded transactions with a value of Ksh. 1 trillion were carried out through agent banks in 2013.

Regulatory and supervisory reforms have been very supportive of financial innovation initiatives so as to boost a safe and sound financial eco-system. In Kenya, agency banking is controlled and managed by the Prudential Guideline on Agent Banking (CBK/PG/15) and Operations of Third Party Agents by deposit Taking Microfinance Institutions (CBK/DTM/MFG/1) issued by CBK (CBK, 2010). Through agency banking, commercial banks have found a cost efficient way of delivering financial services. This has seen commercial banks record enhanced financial performance over the years, from the launch of agency banking in 2011 to 2017. The result has been growth in customer deposits and pre-tax profits for the banking sector over the years. As at December 2017, customer deposits stood at Ksh. 2.9 trillion and pre-tax profit for the year was Ksh. 133.2 billion (CBK, 2017).

1.2 Research Problem

Ease of reach of established financial services is vital for any thriving economy. Vision 2030 consists of three pillars namely political, economic and social. Under the Economic pillar, vision 2030 aims to ensure that every Kenyan has access to financial services (Cracknell, 2012). Financial services are offered by financial intermediaries, the most important being commercial banks. Various channels of financial inclusion include cyber banking, m-banking, Islamic banking, agency banking and so forth (Buku & Meredith, 2013).

As per the 2019 survey of National Financial Access, 11% of the bankable populace in Kenya is completely removed from the Financial Services circle (CBK & FSD, 2019). This population is mainly in the rural areas. It is due to this need that banks and mobile operators have been in stiff competition to ensure that they access the unbanked. As a result of this, numerous innovative services, facilities and models have been launched into the market. Agency banking is one of the fairly new channels of financial inclusion that has brought more people on board. Other popular delivery channels include m-banking and web

banking. There has been considerable effort by the government to improve livelihoods of the poor and unbanked by coming up with favourable regulations that encourage banking innovations. One of the initiative was the legislature on the agent banking in 2010. This has seen the uptake of the agent-banking framework by commercial banks in Kenya increase from 8 banks in 2010 to 18 banks in 2017.

Over the years, from 2010 to 2017, the financial performance of banks has improved tremendously. Commercial banks have reported lower/reduced operational costs arising from financial innovations like agency banking. There has also been continuous increase in customer deposits due to the unrelenting tapping of the unbanked. Technological advancements are gearing towards improvement of existing frameworks or coming up with totally new concepts. With the improvement of communication networks, like 5G, agency banking may be heading to higher heights. Whether this will ultimately lead to increased financial performance is another matter.

Different studies have been carried out concerning agency-banking and financial performance of commercial banks Kenya. Mwangi (2012) researched on the aspect of agent banking as a tactic that can be used for diversification by various Kenyan banks. The research accentuated that agency banking was really advantageous as a variation strategy among different banks that used agency banking to widen their geographic exposure, at the same time promoting their products and services as they are more time saving and ensures efficiency. In addition to this study, Ndirangu (2011) studied on the effect of agency banking on the final financial results of commercial banks. The study really brought out certain facts associated with the number of agents that were being run by different commercial banks and the given number of transactions, which include both the deposits and withdrawals. Lastly, Muriuki (2011) carried out a research touching on the consequence of technology application of agency banking amongst the Kenyan commercial banks. His research summarized that technology really had a favourable outcome on the state of agency banking in Kenya and it concluded that technology could be used as a complement at the same time as against a standby for brick and mortat branches.

Despite numerous studies on agency banking and financial performance of commercial banks in Kenya, there has been little study on the influence of agency banking on the financial performance of banks, using updated financial ratios. The proposed study focuses on the period between 2012 and 2017. Several studies have included the year 2010 and 2011, in their studies. In 2010 and 2011, agency banking had not been fully embraced thus the data may not be reliable for those years. Additionally, the study used performance of Kenyan banks that have adopted the agency model as well as the relationship between performance and agency banking variables; volume of transactions of deposits and withdrawals, and number of active agents. Lastly, the agency baking model is now more accepted by the customers due to its adoption by most banks.

The interest rate caps, which were introduced in September 2016, and various other innovations in the banking industry, further exemplify the need to examine if agency banking is still profitable and a cost effective way of conducting business in this industry. This is crucial given that other modes like electronic banking and cryptocurrency are also gaining popularity, as the population gets educated about these products. The research thus aimed to tackle the knowledge gap; what is the effect of agency banking on the financial performance of commercial banks in Kenya?

1.3 The Objective of the Study

The objective of this study was to determine the effect of agency banking on the financial performance of commercial banks in Kenya.

1.4 Value of the Study

This study will be beneficial to various parties. First, the study enabled to build up on the present understanding of the subject area of agency banking, which is under the umbrella of financial inclusion. It touched on the trend of existing innovations and products and focused on a fairly new model known as agent banking. Agency banking encourages access to financial services and this access can be measured by examining the transactions that are undertaken through these agents. Therefore, academicians and researchers will be able to use the information to further their studies and develop new strategies for improvement.

Secondly, the study can be used in developing government policies that can be implemented to improve agency banking in commercial institutions. Regulators will use the information to adjust guidelines and regulations in accordance to the existing business environment to spur economic growth.

Finally, due to the changing climate in the banking industry after regulatory or political influences, banks need to know if this mode of banking is sustainable as well as profitable despite the challenges. Therefore, the study will contribute to the banking practice by enabling them determine whether to further invest in agency banking or to seek other channels of reaching the public with a view of boosting their financial performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This segment analyses pertinent writings applicable to the study, obtained from journal articles, websites and textbooks. Specifically it has theoretical framework, aspects relating to financial performance, the empirical analysis, conceptualization and summary of the literature.

2.2 Theoretical Review

Branchless banking through agencies is guided by agency theory, bank-led theory, financial intermediation theory and porter's theory of competitive advantage.

2.2.1 Agency Theory

Agency theory can be originated from the "body of economics and finance" (Davis et al, 1997). As per Jensen and Meckling (1976), an agency association happens when there is a contractual concession of agreed upon decision-making power from a principal to an agent to carry out a service. Agency theory is focused on the problems and their solutions, which are related to the delegation of tasks merely from principals to agents in issues related to conflicting interests among various parties (Linder & Foss, 2013). Agency theory is referred to as a principal agent theory or an incentive theory. Palia and Porter (2007) cited that agency is the relationship involving two parties, a principal and an agent, in which case the agent is authorized to carry out certain contractual obligations on behalf on the principal.

In the case of agency banking, commercial banks (principals) delegate some of their banking operations to authorized retail outlets (agents). Delegated banking operations include customer withdrawals, deposits, funds transfer and payment of bills among others. The agents therefore carry out the above specified dealings in the best interests of the commercial banks. The fundamental goal of this arrangement is to minimize operational costs for the commercial banks, continue provision of banking services to the customers

through the agents and eventually, yield positive financial performance for the commercial banks. Such arrangements may however create an agency problem where the retail outlets may follow their individual objectives to the disadvantage of the principal. To minimize such problems, the CBK has restrictions to the type of activities that agents can engage in if they are to be granted authorization to functions as agents. So as to ensure safety and integrity of the financial system, there has to be continuous vetting and monitoring of agents (Jayanty, 2012). The commercial banks as well have set revenue sharing agreements aimed at encouraging the agents to pursue mutually benefitting practices. The final goal is to make certain that the financial results of commercial banks in Kenya are strengthened and resilient.

2.2.2 Bank-led Theory

Relationships on agencies can be either through bank led paradigms or through non-bank led paradigms. There are no engagements between customers and banks in the classic non-bank led model of banking where a good example are banks that are supplied by Safaricom (Buku & Meredith, 2013). On the other hand, bank-led model entails authorized financial institutions (commonly banks) conveying financial services through agents, an arrangement representing a fundamental element of the branchless bank-led model. Agents are usually sound retail outlets that have been in successful business operations for a period. Ideally, such outlets should be strategically located with ease of accessibility and huge flow of people such as petrol stations, supermarkets and chemists among others. CBK licenses the use of agent banks and the Agent must be vetted by both the Principal bank and CBK. The agent receives an Agency accreditation certificate from the principal bank and branded with the official principal banks' agent colours. Agent banks usually have a 6-digit code clearly displayed in their premises (Mas & Hannah, 2008). According to (Veniard, 2010), there are different avenues for delivering agency banking. First are POS-enabled bank-managed agents who use payment cards to establish customers. Secondly, there are Mobile phone-enabled agents who use cell phones to establish customers. In addition, there are Mobile wallets, which are virtual wallets backed by bank deposits, managed by a telecom that stores payment card data on a mobile phone and provides a convenient way for customers to send, receive, and store electronic monetary value. Last but not least are

Bank-provided accounts linked to mobile wallets where the bank does not handle the agents but instead charges a deposit and withdrawal fee to the telecom.

2.2.3 Financial Intermediation Theory

A financial system mobilizes resources from savers and allocates these resources to borrowers. Savers earn interest (saving interest rate) while borrowers pay interest (lending interest rate). Financial intermediaries can lower the cost of channelling funds between debtors and moneylenders. These are institutions through which savers avail funds to borrowers indirectly (Rose & Marquis, 2009). There are two categories of financial intermediaries: banks and mutual funds. Pooling of resources from savers and mobilizes them for investment thus, financial intermediaries and markets provide short and long-term finance for investment and economic growth. Financial intermediaries encourage risk sharing through the pooling of funds, provide liquidity, and decrease expenses for data and operation that may result from asymmetry of information, improve capital allocation through screening of projects among other roles (Beck et al, 2006).

The theory of financial intermediation played a vital role in the study due to the role played by agent banks. Agent banks act as middlemen in the financial ecosystem, through their role as agents because they provide a reach to financial services in every corner of the nation i.e. they act as a link for the financial system to the public, through the delegated role taken up by them (Ignacio & Hannah, 2008).

2.2.4 Porter's Theory of Competitive Advantage

Porter (1985) suggested that companies should follow policies and strategies aimed at ensuring production of superior quality output that can fetch higher market prices. The key to ensuring competitive advantage is pegged on optimization of economies of scale, in both goods and services, to generate outstanding returns. Only when organizations develops product or service features that exceed their rivals, is competitive advantage developed. These features include access to highly skilled labour, access to low cost power and access to natural resources (Porter, 1990).

Also, for banking institutions, competitive advantage can be gained in the choice of financial service delivery mode. The modes of financial delivery selected by banks have

different cost-benefit implication. The infrastructure necessary for profitable access of financial services to the undeserved populace has proven hard to develop (Ehrbeck & Tarazi, 2011). Agency banking can be a source of competitive advantage as it has allowed banks to delve into the scattered areas across the country to reach customers. If some banks do not embrace agency banking, other banks who have adopted the model will be better off. Agency banking can also create a brand for a bank, which is also another source of competitive advantage. Branding enables banks to differentiate themselves from rivals (Musau, 2013). Agency banking therefore provides the following competitive advantage; reduced transaction costs, banking convenience to customers, improved brand and overall increased financial performance.

2.3 Determinants of Financial Performance of Commercial Banks

Agency banking is a vital contributor to the profitable performance of banks as it is an economic way of bringing financial services to the common "mwananchi". However, other stimuli/variables also have a bearing on the financial results of a commercial bank for instance liquidity, quality of assets and capital adequacy.

2.3.1 Asset Quality

Different portfolios comprise the balance sheet of a bank. This includes balances due from banking institutions, advances to customers and investment securities among others. The asset portfolio is the main income generator to commercial banks hence has a straight effect on a bank's bottom line. Bad debt loan ratios are great pointers of a bank's performance, with lower ratios being preferred. Low non-performing loans to aggregate loans ratio point out that the banks' performance is healthy (Sangmi and Nazir, 2010).

Bank performance studies in Nigeria showed that bad asset quality presented a threat to bank's end year results and suggested policy implementation that encourages product diversification and minimizes credit risk (Abata, 2014).

2.3.2 Capital Adequacy

Commercial banks size of capital highly affects the banks' financial performance. In Kenya, banks must retain sufficient levels of capital to protect their depositors,

commensurate with their specific risk and enhance public confidence. Banks with larger capital positions are capable of operating more profitably, even in turbulent times (Diamond, 2000). The CBK Prudential Guideline on Capital Adequacy sets out the minimum capital adequacy ratios at 8% and 12%, plus a conservation buffer for capital of 2.5% on top of the aforementioned minimum requirements (CBK, 2014). Recent developments suggest that banks of bigger stature and risks will be required to hold more capital despite the prescribed ratios.

2.3.3 Liquidity

Liquidity determines a bank's performance as it denotes a bank's ability to fulfil its maturing commitments. Banks therefore have to manage its liquidity risk in an optimum way to maximum way to ensure positive financial returns (Ongore & Kusa, 2013). Pradhan and Shrestha (2016) pointed out that a healthy economic performance indicator for commercial banks is a liquidity ratio that determines the percentage or proportion of liquid assets in terms of total assets. Banks facing liquidity risks have been seen to hold low quantities of liquid assets and thus are vulnerable to large withdrawals by the customers.

2.4 Empirical Review

On a study of agency banking in Latin America, (AFI, 2012) it was documented that Brazil, was more like a universal forerunner in the field of agency banking. Brazil's network now covers 99% of the country's towns, and subsequently the Brazilian banks are chalking up healthy profits. Bolivia, Peru, Mexico, Ecuador, Venezuela, Argentina and Columbia also followed suit and adopted the agency model of banking. The study also established a solid positive correlation between the experience in years a nation has in effecting agency banking and the total of agents in the nation (AFI, 2012). Following Brazil and Peru, Kenya ranked third in number of agents per adult in 2010 and due its highly successful mobile banking model, M-Pesa, the initial employment of the agency banking model was leveraged on it (Jayanty, 2012). The agency banking model has also been embraced by additional nations namely South Africa, Pakistan, India and Philippines.

Regionally, there have been similar studies. Kihonge et al. (2016) conducted an evaluation on the consequence of agency banking on financial end-result of commercial banks in

Rwanda. The study observed that the accessibility of financial services and low cost transactions, all driven by agency banking, enhanced the financial performance of commercial banks in Rwanda. A similar study by Mulyungi and Karangwa (2018) concluded that agency banking positively shaped the financial performance of Equity Bank Rwanda Limited, and recommended that banks should strengthen innovation like agency banking to draw deposits and the lowest cost possible.

Other studies were carried out in Kenya, regarding the agency banking. The 2013 FinAcess Survey found that only 12.2% have heard about and used an agent in the past while 34.6% have no knowledge of agency banking. In addition, the survey also found that 53.2% have knowledge about agency banking but never used an agent in the past. From the results of the survey, it can be stated that agency banking has become widely known, however there is still a lot that needs to be done as only 12.2% are using this channel of financial inclusion (CBK & FSD, 2013). Due to various barriers, Kenyan banks have limited infrastructure for reaching out to customers (CGAP, 2010). This study will assist in filling this gap.

Chelagat (2013) researched on the interdependence between agency banking and financial inclusion in Kenya. The research highlighted the existence of a solid favourable link amongst financial inclusion and agency banking. Further, the study indicated that agency banking enabled cost savings by both the customers and commercial banks, which would lead to improved financial performance. The study was however limited in its research since at at the time, agency banking was still new and only six out of forty-four banks had rolled out agency banking.

Emoru (2012) studied on elements influencing the growth of the concept of agency banking whereby the study was narrowed to Equity Bank in Mombasa County. The study took on a descriptive research design and exploited both qualitative and numerical data. It summarized that the factors that had high influence on the growth of Equity Bank agents were increased competition and reduced share of the market. The bank agents' risk profiles were also found to be the least influence on bank agents' development. The study was only concentrated Mombasa County and therefore not conclusive enough for the Kenyan banking sector as a whole.

Njoki and Aloko (2015) performed an investigation on the correlation between financial innovations and fiscal performance of commercial banks in Kenya and determined that various novelties, including agency banking, had a favourable impact on the banks financial performance. An earlier study by Mwangi (2013) also determined that cost effectiveness connected with agency banking beneficially affected financial performance of banks in Kenya. Both studies were carried out in a different macro-environment when agency banking was still fairly new and therefore relied on limited data.

Another study by Gichuki (2013) examined the different aspects that affect agency banking in Kenya, mainly focussing on Nyeri County. According to the study, proximity (convenience), reduction in the cost of transactions (time and money), public awareness of Agency banking, as well as personal factors like customer's sex, age and level of education, affected the execution of the agency model by banks in Nyeri Central District. The study was important as it pointed out that commercial banks taking up agency banking need to consider other factors so as the model can succeed, and improve financial performance. Opening agents is not a guarantee for improved financial performance of commercial banks in Kenya.

Mwando (2013) studied agency banking's impact on the financial performance of Kenyan commercial banks and concluded that low transaction cost and access to more customers contributed to improved financial performance of banks. Finally yet importantly, Aduda et al (2012) carried out a similar research on the link between agency banking and financial performance of commercial banks in Kenya. The research was done using a descriptive design method and encompassed a three-year timeline from 2010 to 2012. According to the study, the size of money streaming through the agents has a favourable outcome on the level of financial performance in Kenyan banks owing to increased profitability. Aggregate of agents and the amount of transactions per agent also indicated noteworthy impact to financial performance. However, the study by Aduda et al (2010) covered the period of 2010 to 2011. In 2010, agency banking had just been authorized in the month of May, thus the study was limited in terms of data. The study also recommended for further research on role of regulators and government in supporting the acceptance and taking up of agency banking. With the implementation of interest rate caps in Kenya, this study will enable a

further look on how this government policy has affected agency banking, and subsequently financial performance of the commercial banks.

Banks are looking for ways to diversify their products and services and also include agents in the process. In countries such as Australia, agent's operations have expanded to other services, for example, about forty percent of the mortgage supply is produced through agent brokers (Kumar et al, 2006). M-banking has also been used as a channel of financial inclusion. According to the recent FinAcess survey (CBK & FSD, 2013), it was found that mobile ownership has gone up tremendously in the past couple of years. In 2006 rural mobile ownership was at 19.2% while urban was at 53%, compared to 2013 where rural mobile ownership rose to 61.5% while that of the urban population rose to 83.8%. This has made banks turn to the telecommunication industry to reach out to more potential customers. Mobile banking has come on board as a way to link people to the banks (Ehrbeck & Tarazi, 2011). Transactions such as deposits and withdrawals can now be done through mobile phones that are linked to the owner's bank account (Buku & Meredith, 2013). With the adoption of various channels of financial inclusion, there have been various issues that have arisen. A major issue is Money laundering, which has caused the government to set up laws to curb the practice.

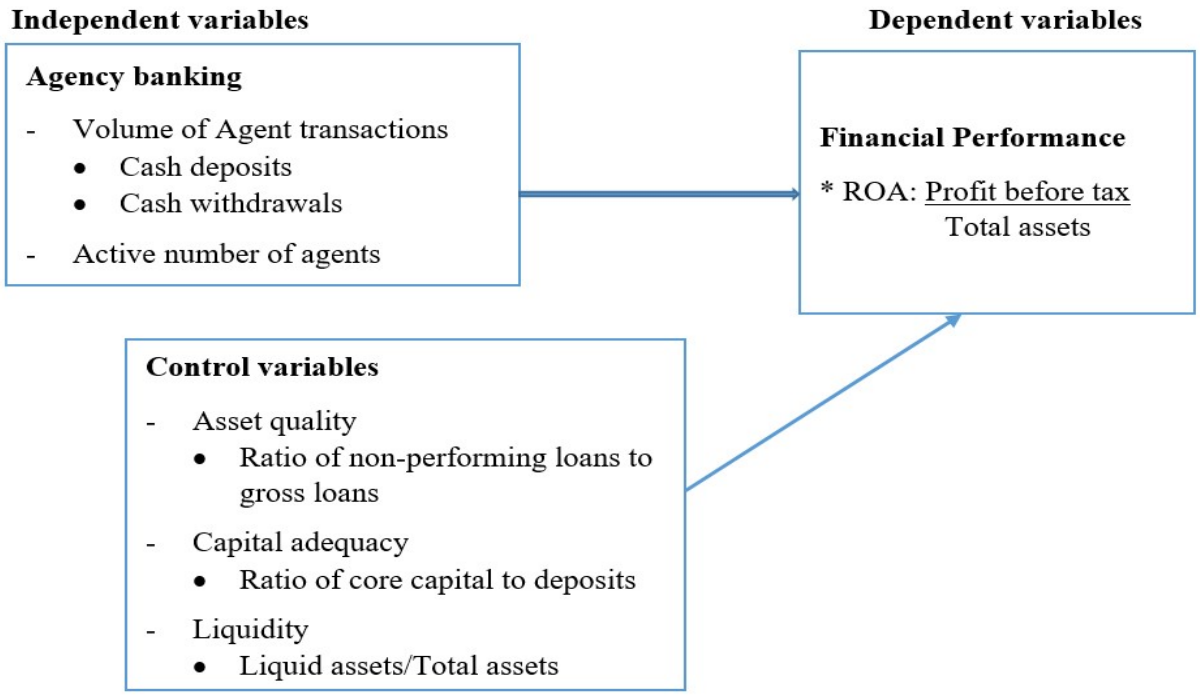
2.5 Summary of the Literature Review

Agency banking has become a pillar on which banks are relying on as the operating costs are on the rise. It is a cost effective way of doing business. Most studies on the impact of agency banking on commercial banks' performance have demonstrated a positive correlation. However, with the coming on of new innovations such as mobile lending apps, FinTechs, peer to peer lending and the rise of cryptocurrency, it is still not clear whether this is still the case. Further, with the introduction of interest rate caps, there is need to determine whether agency banking is still a profitable model. From the above-mentioned backdrop, the study pursued to determine the effect of agency banking on the financial performance of commercial banks in Kenya.

2.6 Conceptual Framework

It is the figurative representation of research variables (Anderson, Sweeney & William, 2006) The study identified the following variables and their relationships as indicated in Figure 2.1.

Figure 2.1: Conceptual framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This part shows the details of the research methodology that was used to come to a well-informed conclusion. It covers a detailed outline of the design that was employed for the study, target population, data sources and measurement, data analysis, model specification, limitations and ethical considerations of the study.

3.2 Research Design

A descriptive model of research was applied. This involved the collection of data that described the events, organizing, tabulation, depiction, and description of the data assembled.

3.3 Target population

In Kenya, 17 commercial banks had adopted the agent-banking model as at 2017. These banks were the target population, and have been listed in Annex 1.

3.4 Data Collection

The data collected was quantitative in nature and consisted of secondary time series data. Sources of data included published financial statements and bank supervision reports from CBK. Various techniques were used to work out financial performance. The study applied ROA, which was calculated from the different published financial reports like balance sheets or the statements of profit or loss. The published financial reports/statements were also used to calculate the control variables, that is, asset quality (fraction of bad loans to total loans), capital adequacy (ratio of core capital to deposits) and liquidity (liquid assets as a share of total assets). In addition to this, agency banking variables, number of agents and volume of transactions conducted through agents, were gotten from reports of the bank supervision, CBK.

The reports (published financial statements and bank supervision reports) used for the study spanned 6 years running from 2012, when agency banking started gaining traction, to 2017.

3.5 Data Analysis

For the study and analysis of data, both descriptive and regression analysis were used. Descriptive analysis entailed the use of trend analysis. Regression analysis was focused on establishing the connection between agency banking and financial performance of commercial banks in Kenya as time series data is used. In identification of the relationship between response and predictor variables, a multiple linear regression system was applied.

3.5.1 Model Specifications

Linear Equation form of OLS Model:-

The assumption of the model to ascertain the presence of a linear relationship between the response and predictor variable is as below;

$$\text{“}Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon\text{”}$$

Where;

ε: Error term

Y represents Financial Performance of Commercial Banks, which was measured through ROA (percentage of net profit to total assets)

β_0 representing the regression constant

$\beta_1 - \beta_5$ represent the regression coefficients

X_1 represents number of active agents

X_2 represents volume of agent transactions (cash deposits and withdrawals through agents)

X_3 represents asset quality (measured by ratio of non-performing loans to gross loans)

X_4 represents capital adequacy (measured by ratio of core capital to deposits)

X_5 represents liquidity (measured by ratio of liquid assets to total assets)

3.5.2 Test of Significance of the Model

For multiple linear regressions, a robustness check was used to confirm the strength of the model in determining the existence of linear relationships between response and predictor variables.

3.6 Diagnostic Tests

3.6.1 Test for Multicollinearity

Multicollinearity was tested to determine whether independent factors are connected, through the use of a variance inflation factor (VIF). VIF values in excess of 10 and tolerance value of less than 0.2 was an indicator of the presence of multicollinearity (Thompson et al, 2017).

3.6.2 Normality Testing

The study used the Jarque-Bera Test to test for normality.

3.6.3 Heteroscedasticity Testing

The study ran a heteroscedacity test to determine whether the error term was correlated across the data observed. The test was run using the Breusch-Pagan model where the data recorded from the model was accepted as not suffering from heteroscedasticity of it was greater the 5%.

CHAPTER FOUR

DATA ANALYSYIS, RESULTS AND DISCUSSION

4.1 Introduction

This part presents analysis and results of the study as set forth in the research objective and research methodology. The study aimed to establish the effect of agency banking on the financial performance of commercial banks in Kenya. The study covered all the 17 commercial banks in Kenya that had operationalized the agent banking model and covered a timeframe of 6 years starting 2012 to 2017. The data was compiled from secondary sources, which were audited financial statements of commercial banks and the CBK Bank Supervision annual reports. A summary of descriptive statistics of the data collected, diagnostic tests and inferential correlation results are also presented.

4.2 Descriptive Statistics

This part details a description of ROA of the commercial banks forming the basis of the study, number of agency banking outlets contracted by the commercial banks, volume of transactions conducted by the agents, percentage of non-performing loans to gross loans, proportion of core capital over deposits and liquidity.

The ROA of commercial banks in Kenya was the main measure of financial performance. The table 4.1 as follows shows a summary of the descriptive statistics for the panel data collected.

Table 4.1: Summary Statistics of the data

	Minimum	Maximum	N	Mean	Standard Deviation
ROA	-3.26%	10.4%	48	4.10%	2.73%
Number of Agents	16	28,663	48	4,661	6,732
Volume of Agent transactions	439,995	533,807,234,112	48	65,750,641,293	125,755,695,584

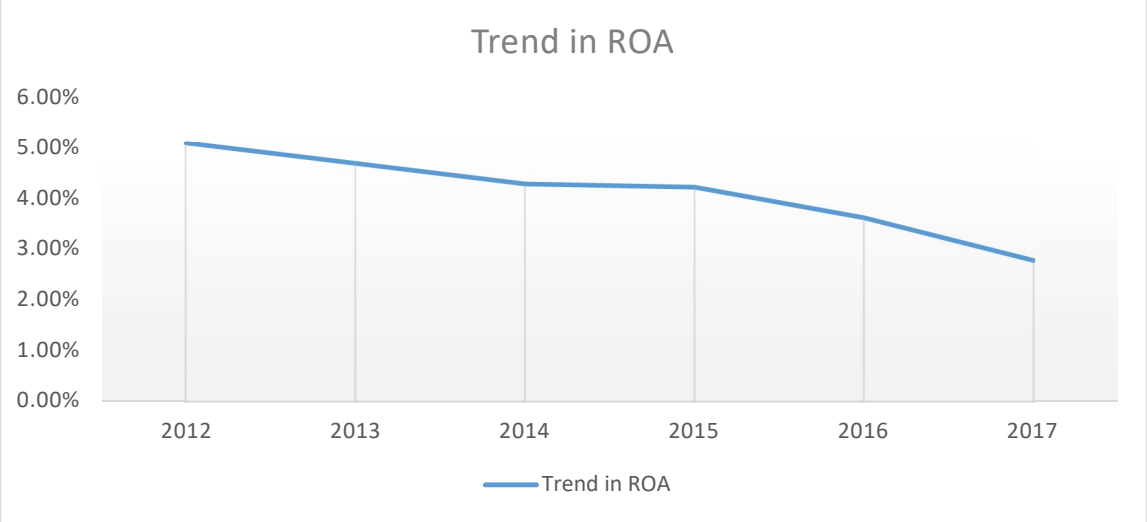
	Minimum	Maximum	N	Mean	Standard Deviation
Asset Quality	1.26%	26.11%	48	7.82%	5.94%
Capital Adequacy	4.00%	38.47%	48	19.69%	6.80%
Liquidity	11.21%	88.75%	48	38.90%	15.55%

From the table 4.1 above, there was a mean of 4.10% for ROA, 4,661 for number of agents, 65.5 billion for volume of agent transactions, 7.82% for asset quality, 19.69% for capital adequacy and 38.9% for liquidity. Volume of agent transactions had the highest standard deviation from the mean, indicating its volatility across the period.

4.3 Trend Analysis

Trend analysis was conducted to find out whether ROA, volume of agent transactions (cash withdrawals and cash deposits) and number of agents were increasing, decreasing or were constant.

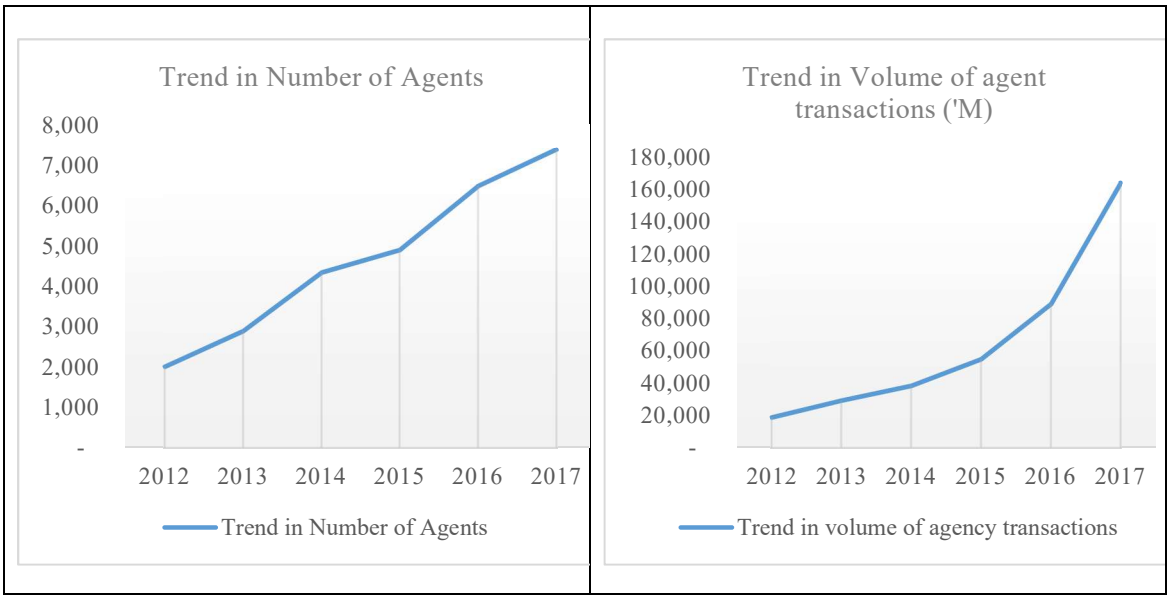
4.3.1 Return on Assets



Generally, there it was noted that there was a decline in the average ROA falling from 5.08% in 2012 to 2.77% in 2017.

4.3.2 Agency Banking

The research also observed the pattern in the number of agent banking outlets operationalized by commercial banks in Kenya, and the transaction volumes conducted through agency outlets.



There has been a continuous significant upsurge in the number of agency banking outlets over the time. The average number of agency banking outlets stood at 2,006 in 2012 compared to the average agency banking outlets at 7,377 in 2017. Similarly, the commercial banks recorded significant increases in the volume of transactions carried out through agency banking outlets. The lowest average volume of transactions was recorded in 2012 at Ksh.18.85 billion compared to the highest volume recorded in 2017 at Ksh.163.99 billion.

4.4 Correlation Analysis

Correlation comparison was performed to identify the direction and the strength of the connection between independent variables and the dependent variable. The co-efficient in a matrix falls between number 1 and -1, where 1 represents a perfect positive linear relationship while -1 shows a perfect negative relationship. Where there's no relationship

between the variables, the coefficient is zero. Table 4.2 as appearing below indicates the coefficient relationship generated from the data.

Table 4.2: Correlation coefficients

	ROA	Asset Quality	Capital Adequacy	Liquidity	Volume of transactions	Number of agents
ROA	1					
Asset Quality	-0.835907	1				
Capital Adequacy	0.657224	-0.548211	1			
Liquidity	0.451295	-0.277391	0.645238	1		
Volume of transactions	0.308877	-0.189759	0.004195	-0.011470	1	
Number of agents	0.340341	-0.257454	-0.036501	-0.115461	0.882081	1

Table 4.2 above showed a variety of dependent variables having a positive correlation with the ROA of commercial banks. The independent variables, volume of agent transactions and number of agents had positive correlation with dependent variable, ROA, of 0.3088 and 0.3403 respectively. The control variables, capital adequacy and liquidity had a positive correlation with ROA of 0.6572 and 0.4512. On the other hand, control variable, asset quality, had a negative correlation with ROA of -0.8359.

Therefore, for all the independent variables except asset quality, an increase in independent variable leads to an increase on the dependent variable.

4.5 Diagnostic tests

4.5.1 Multicollinearity

In the analysis, multicollinearity was evaluated by means of the variance inflation factors (VIF). As established by Thompson, Kim, Aloe and Becker (2017), VIF values above 10 and tolerance value below 0.2 are representative of the existence of multicollinearity. The dataset used in the analysis was less than 10, hence there was no collinearity among the variables.

4.6 Regression Analysis

4.6.1 Hausman Test

Prior to running a regression test, the data was subjected to the Hausman Test where fixed/random effects tests were carried out. The null proposition was that the random effects of the model was appurtenant while the alternative postulation was that the fixed effects of the model are appurtenant. The decision rule was to dismiss the null hypothesis when the p-value was below 5% and consider it when the p-value exceeded 5%.

Table 4.3: Hausman test summary

Correlated Random Effects - Hausman Test Results

Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.481901	5	0.0426

Cross-section Random Effects Test Comparisons

Variable	Fixed	Random	Var(Diff)	Prob.
Asset quality	-0.270526	-0.294572	0.000479	0.2718
Capital adequacy	0.035471	0.058233	0.001085	0.4896
Liquidity	0.036415	0.031251	0.000122	0.6408
Volume of agent transaction	0.000000	0.000000	0.000000	0.2663
Number of active agents	0.000002	0.000001	0.000000	0.0021

The p-value of the Hausman Test was 4.2%, which was below 5%. For that reason, the null proposition was dismissed. Accordingly, fixed effects model was considered appropriate for the study.

4.6.2 Fixed Effect Regression Analysis

As discussed above, the study employed the fixed effects model to analyse the relationship and the effect of predictor variables on the response variable. The fixed effects model allows for independence among the variables (the commercial banks) by letting each of them to have its own intercept value. The intercept value may differ across the commercial banks but they remain constant over time.

The R generated by the model, as shown below, represents the equation "$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$" as follows:

ROA = 0.045287 + 1.56E-06*Number of Agents + 3.17E-14*Volume of agent transactions – 0.270526*Asset Quality + 0.035471*Capital Adequacy + 0.036415*Liquidity

Table 4.4: Fixed effect regression summary

Dependent Variable: ROA
Method: Panel Least Squares
Date: 11/07/2019 Time: 13:22
Sample: 2012 2017
Periods included: 6
Cross-sections included: 8
Total panel observations: 48

	Coefficient	Standard Error	t-stat	Prob.
C	0.045287	0.014055	3.222101	0.0028
Number of Agents	1.56E-06	6.5E-07	2.402750	0.0217
Volume of agent transactions	3.17E-14	2.70E-14	1.176057	0.2475
Asset Quality	-0.270526	0.045371	-5.962469	0.0000
Capital Adequacy	0.035471	0.053054	0.668583	0.5081
Liquidity	0.036415	0.019088	1.907679	0.0647

R-Squared	0.913621	Mean dependent var	0.041013
Adjusted R- Squared	0.884005	S.D dependent var	0.027270
S.E of regression	0.009288	Akaike info criterion	-6.294447
Sum of squared resid	0.003019	Schwarz criterion	-5.787663
Log likelihood	164.0667	Hannan-Quinn criter.	-6.102933
F-statistic	30.84911	Durbin-Wartson stat	1.656254
Prob(F-statistic)	0.000000		

The results from Table 4.4 above indicated that the independent variables significantly explained the variability in the ROA since the p-value is 0.000 which is less than 5%, showing the model strongly fitted. There is a firm interrelation between the predictor and dependent variables as indicated by the R^2 value of 0.913621. Adjusted R^2 was 0.884005 showing that ROA varied by 88% due to changes in the predictor variables. As per the regression equation generated, a rise in the number of agents, volume of agency transactions, capital adequacy and liquidity would lead to a rise in the ROA ratios of commercial banks in Kenya. On the other hand, a decline in asset quality would lead to an increase in ROA.

4.7 Robustness check

The robustness check shows how effectively the research model explained the variations in the dependent variable, by using the modified R-square.

Table 4.5: Robustness check summary

R-square	Adjusted R-square	Std error of estimate	F-statistics
0.913621	0.884005	0.009288	30.84911

In line with Table 4.5 above, R^2 is 91.4%, indicating that 91.4% of the change in ROA was clarified by the variations in the predictor variables. Other aspects not included in the model were responsible for the remaining 8.6%.

4.8 Interpretation of findings

The intention of the study was to get to know the effect of agency banking on the financial performance of commercial banks in Kenya. ROA formed the gauge of financial performance.

Trend analysis showed that ROA for commercial banks has been on the decline over the years. This may be attributable to the tough economic environment, heightened by the interest rate capping in 2016. On the other hand, the number of agents and volume of agent transactions have been on the increase, signalling banks continued investment into the agency banking model.

Correlation analysis found that there were positive correlation coefficients between ROA and volume of agent transactions, number of agents, capital adequacy and liquidity by correlation factors of 0.3088, 0.3403, 0.6572 and 0.4513. In contrast, ROA had an inverse interrelation with asset quality. This means that if a bank wanted to increase its financial performance measured by ROA by 1, the bank would have to; increase its number of agents by 0.3404, increase its volume of agent transactions by 0.3088, increase its capital adequacy ratio by 0.6572, increase its liquid assets ratio by 0.4513 and decrease its asset quality ratio by -0.8359.

The regression model found that a 91.4% change in ROA was due to changes in number of agents, volume of agency transactions, asset quality, capital adequacy and liquidity at 95% confidence interval. 8.6% of change in ROA can be accounted for by other variables not considered by the researcher. The result of the regression equation was that number of agents, volume of agency transactions, capital adequacy and liquidity affected ROA positively. However, asset quality had a negative effect on ROA. Volume of agency banking transactions, cash deposits and cash withdrawals, had the strongest effect on ROA as compared to the other variables.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section summarizes the major findings of the study in addition to conclusions and recommendations for future studies.

5.2 Summary of the Findings

From the descriptive analysis, the study found there was a mean of 4.10% for ROA, 4,661 for number of agents, 65.7 billion for volume of agency transactions, 7.82% for asset quality, 19.68% for capital adequacy and 38.9% for liquidity. The study further found that volume of agency transactions had the highest standard deviation meaning that it had the highest volatility or variability in determination of financial performance.

Trend analysis revealed a declining average ROA ratio for commercial banks in Kenya over the years, starting 2012 to 2017. On the other hand, a significant growth in the number of agency banking outlets and the volume of agent transactions conducted over the years was recorded. The average number of agency banking outlets jumped from 2,006 in 2012 to 7,377 in 2017. The average volume of transactions conducted by agents spiked from Ksh.18.85 billion to Ksh.163.99 billion in 2017.

Correlation analysis found that there were positive correlation coefficients between ROA and volume of agent transactions, number of agents, capital adequacy and liquidity by correlation factors of 0.3088, 0.3403, 0.6572 and 0.4513. In contrast, ROA had a negative correlation with asset quality. Capital adequacy had the highest correlation coefficient at 0.6572.

Regression analysis revealed that a 91.4% change in ROA was due to changes in number of agents, volume of agency transactions, asset quality, capital adequacy and liquidity at 95% confidence interval. 8.6% of change in ROA can be accounted for by other variables not considered by the researcher.

The regression model had a p-value of 0.000, which was less than 5% indicating it strongly fitted to perform the relation analysis. The robustness check also supported the strong effect of the regressor variables on the response variables. The F statistic of 30.84 indicated that the predictor variables; number of agents, volume of agency transactions, asset quality, capital adequacy and liquidity were good predictors of ROA.

The result of the regression equation was that number of agents, volume of agency transactions, capital adequacy and liquidity affected ROA positively. However, asset quality had a negative effect on ROA. Volume of agency banking transactions, cash deposits and cash withdrawals, had the strongest effect on ROA as compared to the other variables.

5.3 Conclusions

On the basis of the research findings, the study concluded that volume of agent transactions have positive and major effect on bank performance. This could be explained by the ease of access of agent banks by clients allowing them to make more deposits that increase banks liquidity. Agent banks attract a wide range of customer who deposit at their own convenience thus increasing commercial banks liquidity, which translates to increasing lending that, earns interest to the bank. Also, customer withdrawals attract a transaction cost. The more the number and amount of customer withdrawals the higher the transaction cost. Transaction cost generates income to the commercial banks.

The research concluded that number of active agents have positive and noteworthy effect on bank performance. Agent banks are set in places where a bank has no enough resources to set up banking halls. Customers who would otherwise not access banking halls are able to make transactions such as withdrawals, deposits and loan application through the agents. The comfort and effortlessness of access to banking services and the prolonged hours that the agencies work have been the most desirable features to the customers. This therefore leads to increased transactions, which translate to increased financial performance of banks.

Asset quality had an adverse effect on the financial performance of commercial banks. This can be explained by high gross non-performing loans, which translates to a high asset

quality ratio. Increases in non-performing loans means that banks lose out on interest income, thus leading to low ROA.

Capital adequacy and liquidity have a positive relation to the ROA. Commercial banks having strong capital and high liquidity means that they are able to lend more and generate assets which lead to increased income and consequently higher ROA.

5.4 Recommendations

On the basis of the study conclusion, this study makes the following recommendations.

Commercial banks are recommended to set up more agent outlets particularly in remote regions where they lack banking halls. This will lead to expediency in accessing of banking services by customers. Banks are also recommended to lower the transaction costs associated with agency banking, which will attract more customers to agency banking. Further, banks are recommended to enhance on the efficacy and ease of agency banking by customers through enhanced technology.

The government through the CBK is recommended to come up with a policy that allows commercial banks to engage agent banks to offer more and advanced banking services in their interest. In this regard, the policy implementers have to establish the extent of effect that agency banking variables pose on the commercial bank financial performance before making any decisions. There is need for precise analysis of the independent variables to bank financial performance behaviour and their effects before makings appropriate decisions for the banking industry and the economy.

It is also of great importance for policymaking organs, as this will aid them to have a clear understanding of how agency banking and other associated variables affect the financial performance of commercial banks and the entire economic system. The empirical findings of the study will help the policy makers to construct sound macroeconomic policies that will be of fundamental success to the Kenyan economy. Their contribution will be of benefit to the banking industry and the economy in the investment potentials and influx of capital flow from local investors and savings potentiality due to the availability of the banking services to the customers.

5.5 Limitations of the Study

The study was not flawless. There were limitations in the process of meeting the objective of the study. The study solely relied on secondary data collected for the commercial banks annual reports and CBK bank supervision annual reports. Secondary data may not always be reliable since they may be produced for the achievement of various purposes that are not congruent to the study. There was also difficulty in obtaining agency transaction data due to the sensitivity of the information.

Another limitation was that the study only relied on quantitative data in determining the effect of agency banking on the financial performance of commercial banks. It ignored other qualitative aspects that are key to ensuring financial performance such as quality of the agency services and location of the agents premises among others.

5.6 Areas for Further Research

The present study aimed at establishing the effect of agency banking on commercial bank's financial performance. Future studies could conduct the same study to other financial institutions such as microfinance institutions. Future studies could also determine the effect of other financial services such as bills payments, loan application and on financial performance.

This study concentrated more on the effect of agency banking variables, number agents, cash withdrawals and deposits, in determining commercial bank's financial performance in terms of ROA. Other agency transactions such as account opening, account balance enquiries and transfer of funds can be used as variables in determining financial performance. Other more advanced research can improve on this study by adding variables like for instance mobile banking, SME banking, E- banking (card and online) to determine the performance and growth of commercial banks and the economy in general.

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APPENDIX

Appendix I: List of Commercial Banks operating Agency Banking in Kenya as at December 2017

1. ABC Bank
2. Citibank
3. Co-operative Bank
4. Consolidated Bank
5. Ecobank
6. Commercial Bank of Africa
7. SBM Bank
8. Equity Bank
9. Diamond Trust Bank
10. Family Bank
11. KCB Bank
12. Sidian Bank
13. Bank of Africa
14. HFC Limited
15. I&M Bank
16. Barclays Bank
17. National Bank
18. NIC Bank

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix II: Commercial Banks' ROA from 2012 to 2017

Commercial Banks in Kenya	ROA					
	2012	2013	2014	2015	2016	2017
KCB Bank	5.20%	5.50%	5.93%	5.05%	5.64%	4.94%
Equity Bank	7.40%	7.70%	7.26%	6.56%	6.00%	5.68%
Co-operative Bank	4.80%	4.70%	4.43%	4.14%	5.15%	4.31%
Barclays Bank	7.00%	5.80%	5.44%	5.01%	4.02%	3.68%
Transnational Bank Ltd	2.84%	2.05%	1.66%	2.17%	1.38%	0.42%
Diamond Trust Bank	4.90%	4.70%	4.47%	3.69%	3.64%	3.05%
I&M Bank	5.20%	5.50%	5.64%	5.66%	5.27%	4.09%
First Community Bank Ltd	2.98%	1.54%	0.68%	0.07%	-0.25%	1.11%
Citibank	10.40%	7.00%	5.22%	6.33%	5.84%	6.49%
NIC Bank	4.20%	4.60%	4.44%	3.99%	3.66%	2.94%
National Bank	1.70%	1.90%	1.90%	-1.34%	0.14%	0.67%
ABC Bank	2.90%	2.90%	1.49%	1.61%	0.99%	0.82%
Consolidated Bank	1.00%	-0.80%	-1.80%	0.35%	-1.99%	-3.26%
Sidian Bank Limited	3.20%	4.20%	4.61%	2.72%	0.30%	-3.28%
Family Bank	2.70%	4.00%	4.24%	3.55%	0.91%	-1.99%
Ecobank	-4.80%	-3.30%	-1.09%	0.18%	-6.13%	-2.68%
Chase Bank*	2.70%	2.90%	3.08%	-	-	-
*The bank was placed in receivership						

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix III: Commercial Banks' Asset Quality from 2012 to 2017

Commercial Banks in Kenya	Asset Quality (NPL/GL)					
	2012	2013	2014	2015	2016	2017
KCB Bank	6.19%	7.40%	5.19%	5.95%	7.60%	8.30%
Equity Bank	4.70%	5.20%	3.87%	2.98%	6.99%	6.66%
Co-operative Bank	5.00%	4.18%	4.40%	3.85%	4.67%	7.22%
Barclays Bank	3.50%	2.95%	3.55%	3.58%	6.51%	7.12%
Transnational Bank Ltd	10.99%	11.85%	8.00%	9.99%	12.14%	20.69%
Diamond Trust Bank	1.50%	1.36%	1.26%	2.85%	3.90%	7.59%
I&M Bank	1.34%	1.41%	2.10%	4.86%	4.86%	13.91%
First Community Bank Ltd	13.40%	7.28%	15.04%	23.86%	31.97%	39.71%
Citibank	1.82%	1.77%	3.59%	6.39%	2.85%	4.53%
NIC Bank	4.69%	6.36%	6.09%	11.86%	11.24%	11.20%
National Bank	7.32%	10.37%	10.63%	16.15%	43.70%	40.58%
ABC Bank	4.22%	5.59%	6.55%	17.23%	18.91%	21.59%
Consolidated Bank	12.39%	13.98%	26.11%	19.28%	19.75%	25.11%
Sidian Bank Limited	11.49%	9.34%	6.92%	12.07%	16.97%	21.05%
Family Bank	13.15%	7.85%	7.17%	6.06%	13.12%	20.20%
Ecobank	12.08%	13.85%	10.20%	7.91%	19.56%	38.62%
Chase Bank*	3.20%	4.88%	5.72%	-	-	-
*- The bank was placed in receivership hence excluded						

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix IV: Commercial Banks' Capital Adequacy ratios from 2012 to 2017

Commercial Banks in Kenya	Capital Adequacy (Core capital/deposits)					
	2012	2013	2014	2015	2016	2017
KCB Bank	18.85%	21.46%	20.89%	16.14%	18.78%	16.16%
Equity Bank	21.05%	21.93%	20.12%	20.14%	18.48%	19.82%
Co-operative Bank	18.13%	18.38%	17.33%	16.41%	20.01%	20.58%
Barclays Bank	20.54%	21.04%	23.05%	21.42%	21.08%	20.48%
Transnational Bank Ltd	25.30%	25.16%	23.66%	25.39%	25.39%	22.53%
Diamond Trust Bank	16.59%	18.32%	21.90%	20.14%	17.52%	16.89%
I&M Bank	18.07%	19.73%	22.08%	22.71%	23.79%	22.19%
First Community Bank Ltd	10.22%	11.62%	10.67%	12.30%	11.56%	9.52%
Citibank	38.47%	35.26%	34.39%	29.74%	29.57%	29.08%
NIC Bank	16.23%	16.75%	20.25%	20.47%	24.37%	19.47%
National Bank	17.43%	13.22%	9.88%	8.84%	10.35%	3.50%
ABC Bank	10.78%	11.15%	12.01%	13.83%	14.73%	12.38%
Consolidated Bank	8.79%	7.20%	10.22%	10.86%	7.86%	4.00%
Sidian Bank Limited	21.34%	19.84%	19.37%	28.07%	27.66%	23.51%
Family Bank	18.75%	16.27%	21.58%	18.06%	28.89%	22.74%
Ecobank	20.37%	20.03%	15.67%	26.34%	21.59%	12.58%
Chase Bank*	12.74%	12.70%	12.15%	-	-	-

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix V: Commercial Banks' Liquidity ratios from 2012 to 2017

Commercial Banks in Kenya	Liquidity ratio					
	2012	2013	2014	2015	2016	2017
KCB Bank	34.70%	33.90%	31.60%	29.07%	34.45%	28.03%
Equity Bank	46.10%	33.20%	28.50%	30.20%	47.49%	54.79%
Co-operative Bank	34.60%	32.30%	32.50%	36.12%	35.12%	35.65%
Barclays Bank	46.40%	40.80%	43.20%	34.10%	29.42%	35.39%
Transnational Bank Ltd	58.40%	49.80%	38.60%	33.55%	37.22%	32.62%
Diamond Trust Bank	38.10%	31.30%	35.40%	35.42%	48.82%	50.09%
I&M Bank	36.20%	31.40%	33.10%	35.16%	38.10%	34.90%
First Community Bank Ltd	40.00%	27.20%	25.20%	19.80%	23.33%	37.77%
Citibank	79.40%	65.10%	78.80%	73.40%	88.75%	63.18%
NIC Bank	35.10%	29.90%	28.10%	31.11%	38.51%	45.84%
National Bank	30.40%	36.10%	26.10%	26.05%	25.63%	35.76%
ABC Bank	44.10%	37.40%	32.40%	18.45%	24.54%	34.71%
Consolidated Bank	47.90%	27.90%	34.00%	27.30%	25.98%	23.01%
Sidian Bank Limited	28.30%	30.50%	34.00%	26.34%	22.31%	19.22%
Family Bank	38.90%	34.20%	38.60%	31.00%	11.21%	33.89%
Ecobank	32.10%	29.30%	45.20%	28.97%	34.10%	64.16%
Chase Bank*	35.80%	36.40%	41.50%	32.20%	6.27%	13.08%

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix VI: Commercial Banks' Volume of agent transaction from 2012 to 2017

Commercial Banks in Kenya	Volume of Agent transactions (Cash withdrawals and deposits)					
	2012	2013	2014	2015	2016	2017
KCB Bank	4,484,964,530	8,235,038,370	15,129,582,634	27,973,951,099	74,723,276,082	391,665,057,491
Equity Bank	122,654,147,713	187,130,593,251	235,462,329,197	318,226,395,589	379,591,062,028	533,807,234,112
Co-operative Bank	15,146,293,555	23,570,170,003	40,143,040,664	73,188,499,534	219,485,821,545	309,249,321,809
Barclays Bank	-	-	-	-	17,449,808	34,126,028
Transnational Bank Ltd	-	-	13,826,729	46,414,154	1,006,305	-
Diamond Trust Bank	7,759,756	33,134,268	26,944,574	26,569,368	154,960,207	1,375,240,917
I&M Bank	-	-	-	39,744,447	52,087,703	181,964,114
First Community Bank Ltd	-	3,377,408	2,062,236	65,768,488	74,415,713	15,341,503
Citibank	8,069,153,415	13,862,984,973	12,805,902,513	12,659,272,791	23,358,590,554	19,779,982,350
NIC Bank	278,921,846	1,032,462,428	1,445,452,481	1,390,765,985	1,268,727,775	26,352,158,248
National Bank	-	-	160,530,841	274,426,413	209,245,468	122,019,057
ABC Bank	-	-	14,431,411	35,452,072	35,082,015	7,923,225
Consolidated Bank	439,995	2,937,413	1,893,152	2,870,563	1,138,445	7,035,428
Sidian Bank Limited	-	-	3,121,587	159,736	26,721,361	110,999,758
Family Bank	137,591,854	770,530,954	2,136,295,883	5,541,592,641	13,930,371,090	29,702,320,980
Ecobank	-	558,221	467,995	-	2,200	-
Chase Bank*	837,336	14,051,458	121,689,603	398,739,224	542,799,509	3,535,927,262

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)

Appendix VII: Commercial Banks' Number of Agents from 2012 to 2017

Commercial Banks in Kenya	Number of Active agents					
	2012	2013	2014	2015	2016	2017
KCB Bank	4,629	6,410	9,745	11,948	12,883	14,466
Equity Bank	6,524	8,149	13,767	16,734	25,428	28,663
Co-operative Bank	4,099	7,099	8,765	8,335	8,856	11,207
Barclays Bank	-	-	-	-	181	181
Transnational Bank Ltd	-	3	11	8	5	5
Diamond Trust Bank	243	460	304	317	671	1,167
I&M Bank	-	-	-	257	257	257
First Community Bank Ltd	6	73	315	315	120	45
Citibank	120	144	144	123	123	123
NIC Bank	99	99	98	102	102	102
National Bank	-	-	410	410	410	410
ABC Bank	-	-	79	79	79	79
Consolidated Bank	29	28	16	16	16	16
Sidian Bank Limited	-	-	8	68	91	157
Family Bank	301	705	1,833	1,536	3,690	3,275
Ecobank	-	11	11	11	11	11
Chase Bank*	283	295	241	233	1,091	1,126

Source: Central Bank of Kenya BSD Annual Reports (2012-2017)