

**THE EFFECT OF ALTERNATIVE BANKING CHANNELS ON FINANCIAL
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

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DECLARATION

This research project is my own original work and has not been copied or presented by any other researcher for the award of a degree in any other university.

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This research project has been carried out and submitted for examination purpose with my approval as the university supervisor.

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DEDICATION

This research project is dedicated to my family members, my supervisor and all other people that were supporting me in the doing this project. Thank you all and God bless you.

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ACRONYMS AND ABBREVIATIONS

ABC	Alternative Banking Channels
ATM	Automated Teller Machines
CBS	Core banking Solution
CBK	Central Bank of Kenya
EBT	Earning before Tax
GPM	Gross Profit Margin
ICT	Information Communication Technology
IVR	Interactive Voice Response
ROA	Return on Asset
RBV	Resource-Based View
ROE	Return on equity
SPSS	Statistical package for social sciences
TCT	Transaction cost theory

ABSTRACT

The objective of this research was to examine the effects of alternative banking channels on the financial performance of commercial banks in Kenya. This research was a census where all the commercial banks were considered. The study used six year (2011-2015) data for analysis. Analysis was done with the help of statistical package for social sciences (SPSS) version 21 and Microsoft excel 2016. Means and standard deviations were the descriptive statistics used to analyze the trend of mobile banking, ATM_s banking, agency banking and internet banking. Regression analysis was used find out the effect of alternative banking channels on the financial performance of commercial banks in Kenya. Analysis of variance (ANOVA) was used to test the goodness of fit of the regression model to the data collected. The study indicated that there is a strong relationship between alternative banking channels and financial performance of commercial banks in Kenya. This study also established that 14.1% of the total variance in the financial performance of commercial banks in Kenya can be attributed to alternative banking channels. The remaining 85.9 % of the variance in financial performance can be attributed to other determinants of financial performance which were not the subject of this study. ANOVA statistics revealed that the regression model was ideal since it had a significance level of 0.0%. The study further established that mobile banking, ATMs banking, agency banking and internet banking affects financial performance of the commercial banks positively and in a statistically significant way. The findings were in line with the findings of Kumbhar (2011), Munyoki (2013), Saluja and Wadhe (2015), Ndungu (2015) and Kambua (2015) suggest that alternative banking channels affects the banks performance positively. The study established that mobile banking, ATMS banking, agency banking and internet banking affects financial performance of commercial banks positively. As a results, the study wishes to make the following recommendations for policy change: that commercial banks in Kenya should invest heavily in alternative banking channels such as mobile banking, ATMS banking, agency banking and internet banking as this will lead to improvement in the financial performance of the commercial and that the Kenyan Government through the Central bank should come up with policies that create a conducive environment for commercial banks to operate in since it will translate to economic growth of the country.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Times are changing and thus account holders no longer do all their transactions in a physical bank branch. Currently, virtually all account holders use other means available to get information on products, do account opening, use those accounts and manage their accounts (Morous, 2013). Account holders are also able to interact with their financial institutions via a variety of channels than before and these channels have a significant impact on whether customers are satisfied and revenue generation. Hans and Kamath (2013) suggested that with the availability of a variety of alternatives, account holders can now perform their banking transaction for instance, opening deposit accounts, fund transfers, paying utility bills, ordering cheque books and demand drafts, applying for loans, and getting account statements without visiting a branch.

This study will be informed by three theories. These include the Financial Intermediation theory, Resource Based View Theory and the Transaction Cost Theory. Financial Intermediation theory was developed by Mises (1912) who suggests that financial institutions play a critical where they gather deposits and lend them out to get interest thus for them to boost their performance, they have to enhance customer deposits through developing channels that would enable the customers to transact easily and conveniently. Resource Based View Theory was developed by Wernerfelt (1984) who suggests that resources enables the firm to achieve competitiveness through enhancing innovations thus firms need to focus on how they can identify and use resources to develop a sustained competitive advantage which will enhance their performance. The Transaction Cost Theory on the other hand was

developed by Coase (1937) who suggested that transaction costs drives the governance structure which may affect the firm decision making process which also affects the decisions to adopt technology and improve infrastructure.

Many banks are now expanding to alternative channels on banking. The banks are strengthening the channels to ensure any time secure banking services to their customers through the use of platforms such as ATMs, m-banking and internet banking. Alternative channels would enable banks grow stronger and reach as many of its customers as possible (Virendra, 2012). Although many of today's bank account holders still visit their local branches, recent trends show a big percentage decrease in transactional traditionally conducted in branches (American Bankers Association, 2012). The future generations will certainly utilize mobile banking as a preferred means of transacting because of the ease of and convenience, seeing significantly less value in visiting the bank's branch in person. The use of smart phones and tablets are scraping out traditional transactions out of the financial institutions just like emailing has taken traditional mail out of service (Hertel, 2016).

1.1.1 Alternative Banking Channels

Banking channels can be categorized into direct and indirect. Direct channels refer to those that are owned by the bank thus it has control over them while indirect channels refer to the channels that the bank does not wholly control. The two types of direct channels are location-based direct channels (those that occupy a physical space such as branches, roaming vans, kiosks and business units) and remotely-based channels (those that don't occupy physical space such as internet, Interactive Voice Response (IVR) and call centers (Saxena, 2009). Indirect channels include; using a mobile

phone to transact, issuing a MasterCard prepaid card, joining a national switch and deploying ATMs, or using banking agent.

Alternative banking channels are methods or ways of providing the banks services to the customer. These methods are sometimes referred to as branchless banking, which implies that they are used by banks as distributional channels for delivering financial services to the customers without physically visiting the bank branches. Other literature also use terms such as e-banking, online banking, electronic banking, direct banking, virtual banking and high tech-banking to mean alternative banking channels(Kimball & Gregor, 1995).Advancement in ICT has made it possible that bank account holders can transact from any location without physically walking into the financial structure through alternative banking channels. This has been developed in an effort to reach the unbanked population that has no time to make queues in banks to transact.

According to Christopher, Mike, Visit and Amy (2005), alternative banking channels that are commonly used by banks are internet banking, ATMs, bank automation, mobile banking, core banking, credit cards and debit cards. Chebii (2013) on the other hand list agent banking, mobile banking and internet banking as the most commonly used alternative banking channels. Kumbhar (2011)asserts that in India, there are various alternative banking channels such as; ATM, Core banking Solution (CBS),POS Terminals, Credit Cards, Internet Banking, Debit Cards, Mobile Banking among others. Kohali and Sheleg (2011) recognize the use of telebanking, ATMs, online banking, mobile banking and social media banking by banks worldwide.

Banks tend to prefer alternative banking channels for their convenience as compared to branch banking (Howcroft, 1993). Alternative banking channels saves bank account holders time and resources since they don't have to physical walk to the bank branch but transact whenever they are (Kumbhar, 2009). Alternative channels do not only reduce bank and customer costs and improve the banks competitive edge, but also enhances the banks' customer retention ability as well as its ability appeal to new bank account holders (Kimball & Gregor, 1995). A study by Waithanji (2012) on agency banking as a means of financial inclusivity initiative in Kenya found out that a relation could not be established between the two variables of concern. However conclusive inference could not be drawn due to the low number of financial institution that had adopted agency banking. Kithuka's (2012) study on factors influencing growth of agency banking on the other hand found that factors such as ease of access of the transfer of money services, cost implication and security guaranteed all determine uptake and use of agency banking.

1.1.2 Financial Performance

Financial effectiveness or financial performance measures how a firm has achieved its goals thus accomplishing the needs of all stakeholders especially the owners (Bien, 2002). Firm effectiveness financially can be based on numbers achieved, ratios expressing various relationships, and explanations of various relationships among the figures. These tools used to gauge a firm performance can either be accounting based (derived from calculations such as profits, earnings per share, return on assets, earnings before tax, earnings after tax and return on equity) or market based (derived from the financial markets). Measures of performance in banks may include level of sales, money spent and the profitability level.

In banks, profitability is accessed by: return enjoyed by equity owners, return on total asset, Gross Profit Margin and earnings before tax. ROE establishes the gains the capital put in by investors has attracted while ROA establishes the gains the assets have acquired (Khrawish, 2011). He further suggested that ROA is used to measure the management's ability to generate income from the resources that the institution has. Liquidity is also another measure; liquidity is used to establish the how capable a banks is to meet its debts which matured within one year or a given reporting period. Liquidity also checks the ability of the financial institution to meet unexpected demand for cash. Bank's solvency measures the financial performance among banks. Solvency measures the banks capacity to service its long-term debt when due and also accesses the long term financial strength of the banks.

1.1.3 Alternative Banking Channels and Financial Performance

Alternative channels have been found to significantly affect firm financial performance, however different scholars use different alternative banking channels. Munyoki (2013) used online banking and its impact on how commercial banks perform financially and found out that online banking has a general weak positive and significant effect on the how the banks fared financially. This is attributed to its ability to cut banks costs, increase commission income, reduce staffing levels and make banking more convenient for customers. Omondi, Maokomba and Musiega (2014) assessed the impact of ABC on profitability Co-operative bank and found that adoption of alternative banking channels enhances the flexibility, ease and speed of access of bank services which enables the bank to attract the unbanked customers. This in turn enhances the bank's profitability.

Ocharo and Muturi (2016) assessed the effect of other means of accessing banks on profitability of commercial banks in Kenya using agency banking, mobile banking, internet banking and automatic teller machines alternative banking channels and found that there was significant correlation of 0.81 between alternative banking and the profitability of financial institutions in Kenya. Mwangi (2013) examined how innovations affected financial performance of financial institutions in Kenya and established that innovations such as mobile banking have significant influence on the banks income, ROA, profitability and customer deposits. Kamau (2013) on the effect of technological advancement on profitability of banks in Kenya and found that mobile way of banking has a significant positive relationship on financial performance. The researcher also established a positive relationship between Electronic Funds Transfer at Point of Sale Terminals and banks financial performance.

A study by Kambua (2015) that assessed the effect of agency banking on return on assets of commercial banks in Kenya found a positive relation between number of agents and the banks financial performance. King'ang'ai, Kigabo, Kihonge and Kibachia (2016) assessed the effect of banking through the agent on the profitability of commercial banks in Rwanda, he found that banking agencies enhanced financial services accessibility thus increasing the banks market share. Bonface and Ambrose (2015) investigated the impact that the mobile on the ROA of commercial banks in Kenya and established that mobile banking had a significant positive effect on how the banks performed in Kenya. This was attributed on its ease of use and the way it enhanced confidence in the banking system hence winning customer trust. Other scholars suggest that alternative banking channels such as internet banking helps the

organization mostly through reducing time used to visit banking halls and not cost reductions as suggested by many researchers (Kombe&Wafula, 2015).

1.1.4 Commercial Banks in Kenya

They play an essential role in the determining how the resources in the economy are distributed through financial intermediation. This is through channeling funds from depositors (those who don't need it at the moment) to others who need it urgently for investing or spending which contributes to the economic development. The industry is governed by the banking Act, companies Act, the Central bank of Kenya Act and other guidelines that are issued by the Central Bank of Kenya (CBK). This was put into play after the sector was liberalized in 1995 with the CBK as the regulator having the authority to formulate and oversee implementation. As of 2014, the industry had recorded a 12.2 per cent increase in pre-tax profits with both the total net deposits and total net assets held by commercial banks recording growth rates of over 18.4 per cent (CBK, 2014).

The Kenya's banking sector comprises with forty four financial institutions where by 43 are commercial banks and 1 is a mortgage finance company. The sector has also 8 foreign owned financial institutions, nine microfinance banks, two credit reference bureau, thirteen money remittance providers and eighty seven foreign exchange bureaus. Out of these forty four banking institutions, 30 were locally owned banks while 13 are foreign owned (CBK, 2015). The Central Bank of Kenya's responsibility is on- site and off-site surveillance. These involve inspection of institutions business records to determine whether they comply with the set regulations. The recent regulatory and supervisory by the CBK has seen some banks merge, others close their

doors while others are placed in receivership which has made the banking sector to continually grow in terms of efficiency, inclusiveness and stability. This is in the Governments effort to create a vibrant and competitive financial sector by 2030.

Good performance in the sector will ensure commercial bank's the shareholders get a return to their investment which triggers more investment thus increased economic growth. Poor performance on the other hand by banks will lead to failure of financial market which may cause a financial crisis that hinders economic growth. Although there is a general register of good performance among commercial banks in Kenya, several are not doing well financially (Oloo, 2011).The industry's reforms such as agency banking, operationalization of credit reference bureaus, implementation of e-commerce in the payment systems, implementation of the Microfinance Act and the activation of horizontal repos will enhance the sectors growth and development (Adembesa, 2014).

1.2. Research Problem

There is a revolution in the banking sector worldwide; this has seen the banks embrace new technology as well as review of the governing regulations. This has led to banks adopting technology in their operations. Other banks are changing and embracing relationship management and marketing via technologies for instance phones, emails and even social media with the general consensus that this enhances the value of the firm and its clients (Kohali & Sheleg, 2011). The advancement in technology has made some tasks more efficient and cheaper but it also has its fair share of challenges (Aladwani, 2001). This has seen firms in the banking sector use technology to develop alternative banking channels to reduce costs and enhance

efficiency and convenience but still fail (Kombe & Wafula, 2015). This entails a review of the impact alternative banking channels have on performance of banks.

Embracing ABC has ensured a change in the way services is offered in banks directly to its customers to optimize their services and diminish their costs (Mukhongo, Maokomba & Musiega, 2014). Adopting alternative banking channels have revolutionized the way commercial banks operate. Channels that are commonly adopted by commercial banks are, agency banking (Melzer, 2006), mobile banking, internet banking and the use of ATMs which enjoy the highest level of acceptance among many commercial bank account holders (Hans & Kamath, 2013). Although the commercial banks have adopted these new approaches of delivering financial service, what is not clear is the effect of these approaches to their performance financially.

Studies have been reviewed on this area of knowledge. These include; Kumbhar (2011) evaluated alternative banking channels and customers satisfaction among private and government owned banks in India and found that there is a significant relationship between alternative banking as shown by quality of the service, how people perceive the brand and value that customers perceive to get and satisfaction derived by the customers. Ndungu and Okiro (2013) studied the effect of internet and m-banking on financial performance of commercial banks in Kenya and found that the internet banking users were more interested with checking their account balance and the least used service was bill payment. Ndungu (2015) examined the what effect ABC had the way commercial banks performed financially and established that operating expenses, agency banking, mobile banking and customer deposits accounted to 73.4% of commercial banks financial performance.

The study by Ndungu (2015) on ABCs influence on how banks performed financially used other alternative banking means such as agency banking , operating expenses, m-banking and deposits held by the customers while this study will be based on Internet banking, agency banking, mobile banking and ATMs. Many banks have invested a lot of their resources on alternative banking channels such as internet banking, more ATMs, agency banking, mobile banking and others but its impact on the banks performance has not been widely reviewed. It is against this background that this study seeks to answer the concern; what impact does alternative banking channels have on the financial performance of commercial banks in Kenya?

1.3 Research Objectives

To find out what effect does alternative banking channels have in regards to performance of commercial banks in Kenya.

1.4 Value of the Study

The research findings shall be of significance to many parties such as: the government and other regulators and policy makers, the banking sector and researchers and academicians. To the government and other policy makers, the inference drawn from this study is useful in regard to assisting in guiding and formulating policies and guidelines that would help commercial banks and other banks in the sector adopt channels that would enhance their performance which in turn will contribute to the sector performance.

This study will be of significance to the leadership of the financial institutions and the financial sector through informing them on how the alternative banking channels they have adopted affect their banks performance thus enlighten them to focus more on channels that are effective. The study will add to the increasing literature in regards to the banking sector. The study will also form a basis for future studies which will try to establish the influence that alternative banking channels have on the financial performance of commercial banks in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Review of the literature is a look back at what the other researchers have done in regards to the subject matter. The academic materials that are related with the effect of alternative banking will be evaluated with the main aim of identifying literature gaps. Theoretical review will look at the theory that form the basis of this research while empirical studies will look at what other researchers have done in relation to this topic. Empirical literature will be evaluated based on the past studies that other researchers have done followed by the literature summary and at last the research gap will be identified.

2.2 Theoretical Review

This review will be based on several theories which will help show how the banks operate. These include the financial intermediation theory, Resource-Based View and the Transaction Cost Theory.

2.2.1 Financial intermediation theory

This theory was developed by Mises (1912). This theory suggests that financial institutions more so banks play the role of a financial intermediary. Their role is to mobilize deposits from customers who have excess money and lend them out to the deficit spending units in order to get interest. This relationship puts banks in a situation where they take money from customers who have short term maturity and lend it out to customers on long term basis and this enables them to create liquidity (Dewatripont, Rochet, & Tirole, 2010). According to Mises (1912), the banks activity

as negotiators of credit is characterized by borrowing money from lenders in order to lend it.

The role of banks is thus that of financial intermediation or that of creating credit and money. If banks play the role of financial intermediary they would not create money and if they stop, then they would be able to assume the role of money creation (Mises, 1912). The Financial Intermediation Theory is criticized by Allen and Santomero (2001) on the basis that the theory views risk management as only of recent concern to the financial sector and putting central the concept of participation costs. This view is relevant to this research through its concept where banks can determine their performance through enhancing customer deposits by developing channels that would enable the customers to easily and conveniently transact with the bank.

2.2.2 Resource based view theory

This theory was developed from the work of Wernerfelt (1984) who puts emphasis on the importance of resources and its implication on the firm performance. This theory suggests that affirms can achieve competitive advantage by being innovative and giving superior value to their customers. This can only be achieved when firms gather resources and use them optimally to their advantage (Barney, 2011). The Resource Based Theory also suggests that the various assets that a firm has are the inputs to its production process (Crook, 2008). Currie (2009) suggests that an organization is made up of a collection of so many resources which enables it have unique capabilities.

The firm's ability is dependent on the resources that it has. In this time of cut throat competition a firm needs to be evolving its resources in order to be able to achieve higher returns. The performance of firms is thus primarily determined by the capability of the resources that it has (Crook, 2008). The Resource based view is used to explain how business firms gain competitiveness through innovatively delivering superior value to customers, they focus on identifying the unique resources and using them optimally to their advantage. The theory is important to this study because of its idea that firms with more resources will be able to innovate more alternative banking channels to deliver their services to their customers thus be profitable in the long run.

2.2.3 Transaction Cost Theory

This view was developed by Coase (1937) who suggested that transaction cost drives the governance structure. Transaction cost is what a customer incurs as a result of buying goods or services through the market rather than having them being provided by the firm. The transaction cost theory suggests that in a transaction, the cost of transfer of goods or service is the subject of concern. The view suggests that transactions cost normally increases when the transactions being undertaken are uncertain and frequent. This concept was farther elaborated and operationalized by Williamson (1985). According Williamson (1985), the Transaction cost theory's core focuses is on the costs of completing transactions by one institutional mode rather than another.

Coase (1937) further suggests that without taking into consideration transaction costs, it is difficult for the firm managers to clearly understand operations and be able to set operational policy. Many scholar support the Transaction Cost Theory through their

research for instance Aubert Rivard and Patry(2004); Robertson and Gatignon (1998) and Hair, Anderson, Tatham and Black(1998).Bienstock and Mentzer (1999) examined the different governance mechanisms under the different impacts of transaction costs to explain the influences of transaction cost on firm performance. This theory is relevance to this study for its view that firms are developing alternative banking channels just to reduce transactional cost for themselves and their clients thus encourage more transactions and reduce costs to increase profitability hence performance.

2.3 Determinants of Financial Performance

Factors that determine the financial performance of banks is divided into two, internal factors and external factors. The bank specific factors include; alternative banking channel, asset quality, liquidity management, capital adequacy and management efficiency while the external factors include; macroeconomic policy stability, Inflation, Gross Domestic Product (GDP), Political instability and Interest Rate.

2.3.1 Alternative Banking Channels

Scholars have identified a number of alternative banking channels. These study discusses the following alternative banking channels; internet banking, mobile banking, agency banking and ATMs.

2.3.1.1 Internet banking

Internet banking is all about enabling the account holders to access and transact using their bank accounts via the banks website (Essinger, 1999). It involves use of telecommunication devices and networks to provide a wide range of products and

services to customers as well as reach out to potential customers. Munyoki (2013) suggested that internet banking is mostly used to attract and retain customers. Internet banking is also used in tapping into new market as well as improving service quality. This internet banking platform is likely to have a significant effect on the banks performance.

Internet banking has increasingly attracted attention from bankers, financial services sector participants, regulators and policy makers and law makers. This is attributed to the benefits it is assumed to bring about for instance reduction of costs, increase bank revenue and make banking flexible for customers. While some are even interested in internet banking for policy issues. Despite all the attention, there still exists scarce literature concerning internet banking which has left bankers and policy makers using circumstantial evidence and speculations when handling matters concerning internet banking (Karen *et al*, 2010). Banking with the use of internet cuts the bank's costs, reduce staffing levels, increase commission income and make banking more convenient for customers which may in turn contribute to the bank's profitability. The internet banking service offers customers total control and flexibility as compared to other banking services (Essinger, 1999).

2.3.1.2 Mobile Banking

This involves provision of banking services through the use of mobile devices. These services may include transacting with the account or on the stock market or accessing account holders information such as account balances. Porteous (2006) asserts that the institutions that offers mobile banking services allow their customers access their account balance, order cheque book, do funds transfer, receive credit and debits alerts,

receive minimum balance alerts, do bill payments from their phones and check information such as interest rates and exchange rates.

Porteus (2006) suggested that mobile banking is the next big scheme that is emerging so fast in the global banking and financial service sectors. This is attributed to the fact that mobile banking reduces overall operational cost, taps in a larger customer base as well as reduce operational cost. This high rate of demand is being fueled by the increasing adoption of mobile phones and the increased demand for convenience by account holders. A study by Mburu (2013) found that mobile banking offers many benefits to customers as well as the banks. To clients it increases convenience and saves time. To the banks they benefit from the low cost of delivering their services to the customers and eliminating location barriers to customer's access to the banks.

2.3.1.3 Agency Banking

Agency banking involves a partnership by the banks with shops, pharmacies, construction material stores and other non bank retail outlets to provide banks financial services (Kumar *et al.*, 2006). According to Mwangi (2011), these agents are selected based on various aspects such as the network connectivity they have, specific service they will provide, their ability to carry out anti money laundering procedures, particular business strategy and financial projections of the business. The bank's use of retail agents may more convenient and efficient than letting account holders and potential holders to physically walk to a bank branch (Lyman, Ivatury & Staschen, 2006) thus enhancing financial inclusion (market access). This will widen the banks market which may result to increased profits.

Kandie (2013) sought to establish the effect of agency banking on financial inclusion in Kenya. Kandie found out that a strong positive relationship existed between agency banking and financial inclusion. Agency banking enables banks customers to receive services such as cash deposit and withdrawal from the agents. Kithuka (2012) examined the factors that influence agency banking growth in Kenya and found that factors such as; accessibility, amount of charges, technology and support affect how agency banking is used. Waithanji (2012) studied the effect of agency banking on financial inclusivity in Kenya and established that there is no relationship between financial deepening. Kirimi (2011) studied to what extent agency banking has been implemented among commercial banks in Kenya and established that although agency banking has been adopted, there lacks enough training on agency banking.

2.3.1.4 Automated Teller Machines (ATMs)

ATMs also known as automated banking machines (ABMs) are computerized telecommunications devices that provide the banks account holders with access to withdrawal and deposit services without the need for human intervention. This is the oldest of the alternative banking channels mostly in developed countries. Due to this, the ATMs enjoy the highest level of acceptance among bank account holders (Hans & Kamath, 2013). With the use of an ATM card, the customers can access their bank accounts and information and also do transactions. This allows the customers the flexibility and convenience since it does not involve the account holder visiting the bank. ATMs replace labor intensive transaction systems that were paper-based (Ogbuji *et al.*, 2012). In Kenya, this channel was also one of the earliest and widely adopted (Nyangosi *et al.* 2009), although with time, it's usage is being surpassed by mobile banking (CBK, 2008). This attributed to the high number of people who now

have access to mobile phones whose network is available even in remote area as compared to ATM machines.

2.3.2 Capital Adequacy

Capital refers to the funds available to the bank that can be used to support its business. Capital can also be used as a buffer in times of adverse financial situation (Khrawish, 2011). Firm's capital adequacy is its ability to withstand operational and abnormal losses which determine its financial strength. It is also the bank's ability to undertake additional business. Capital adequacy ratio on the other hand shows how capable the bank is to meet its deposits obligation of paying them their deposits and still have the ability to lend in order to grow its asset book.

Banks and financial institutions that have high capital adequacy ratio will earn higher profits as a result of translating the safety advantage into profit (Ayele, 2012). Capital adequacy also determines the bank's profitability through determining the bank's exposure to risk relationship (Ongore & Kusa, 2013).Diamond (2000) supported this by suggesting that banks that have large size of capital have a liquidity position hence they are able to operate even in times of distress.

2.3.3 Liquidity Management

Liquidity refers to how fast an asset can be changed into cash, however in relation to a company it refers to the company's ability to meet its obligations when they fall due (Praya, 2013). Liquidity also refers to the ability of the bank to meet its depositor's obligations. Management of liquidity is an important aspect of in the growth and survival of a firm thus it is a source of concern for financial management. Liquidity

management in most instances is considered from the working capital point of view. According to Dang (2011), firm's liquidity level is positively related with bank profitability.

Firm's liquidity ratio is as a result dividing total customer deposits with total current plus non-current assets or the total loan. The others ratio is cash to deposit ratio (Ongore & Kusa, 2013). Scholars that have examined how financial performance relate with liquidity management include: Olagunju *et al.*(2011) who examined the relation between liquidity and profits made by the banks in Nigeria. The study found out that there was a significant relationship between liquidity and profitability. Agbada and Osuji (2013) in their study also established a positive relationship between liquidity management and banking performance. Olarewaju and Adeyemi (2015) in their study found no casual relationship between profitability of commercial banks and liquidity management in Nigeria. A study by Sushil and Bivab (2013) established that factors such as bank size, capital adequacy and non performing loans all have a negative impact on the banks liquidity.

2.3.4 Management efficiency

Refers to the ability of the management to make decisions that enhance the organization value. It is complex to capture with financial ratios; it is expressed by different financial ratios such as asset growth, loan growth rate, and earnings growth rate. Management efficiency is also captured by operational efficiency in managing the operating expenses. In many instances, the management efficiency is expressed qualitatively. The firm management's capability to utilize resources entrusted to them

optimally, reduce operational costs as well as maximize income is used to measure management efficiency (Ongore & Kusa, 2013).

Management Efficiency may not be easily measured using financial ratios since the effects and processes are mostly qualitative (Ogilo, 2012). The firm's management is tasked with the role of ensuring the smooth operations of day-to-day activities, handling of risks, and firm stewardship. When managing financial institutions, the issue of agency problem manifests itself in the firms. This is where managers put their personal goals first rather than maximizing shareholder value. The shareholders must put in place measures to minimize the chances of agency problem manifestation.

2.3.5 Asset Quality

Asset quality measures the likelihood that the loan will either be paid or not. According to Ogilo (2012), asset quality is measured through credit risk, which translates as the risk of loss due to non-payment of loans. Since the asset quality is determined by the probability of debtors to pay their loans, failure of a debtor to pay a loan thus reduces its asset quality through enhancing the credit risk of a financial institution. The quality of a bank's assets can also be looked at as a factor of its total nonperforming loans to the total loan book (Kongiri, 2012).

Commercial banks generate income from loans and deposits, the loans are their major assets. The bank's loan asset quality determines its profitability. Loans lent out to government using tools like treasury bills and bonds are considered assets of good quality. The other loans lent to individuals and corporate are considered as low credit score facilities. Asset quality in a commercial bank is given by loan loss reserves to

not interest revenue ratio. Asset quality ratio shows how much of the total portfolio has been provided for but not charged off. The higher the loan loss reserves to the net interest revenue ratio, the poorer the bank's asset quality therefore the higher the risk of the loan portfolio (Li, 2007). The biggest risk of the commercial banks is the loss resulting from bad loans (Dang, 2011).

2.3.6 The External Factors

The bank external factors include country's Gross Domestic Product (GDP), policy stability, Inflation and Interest Rate. The country's GDP trends affect the demand for banks asset. In case the GDP is declining, the demand for bank loans falls which affects the bank's profitability negatively. A positive growth in GDP on the other hand will increase the demand for credit (Athanasoglou *et al.* 2005) due to increased need for more money to invest and transact for assets.

The effect of inflation on the banks performance has remained debatable although money supply has a significant positive relationship with profitability. Political instability negatively affects bank performance because chaos increases the risk of doing business. A study by Ayanda *et al.* (2013) found that Growth Rate of GDP and Inflation Rate had no significant affect the profitability of commercial banks in Nigeria.

2.4 Empirical Review

The empirical review is based on both international and local studies.

Kambua (2015) established the impact that agency banking had profitability of banks in Kenya. Using descriptive research design and a study population of 16 banks that had adopted agency banking. The study data was collected from general business

publications, reports from and by financial institutions and CBK supervision reports. The researcher found out there was a positive relationship between number of agents and financial performance of commercial banks. The researchers also found a positive relationship between factors such as cash deposits, volume of deposits, volume of withdraws and the bank's financial performance.

Kumbhar (2011) evaluated alternative banking channels and customers' satisfaction among government and private sector banks in India. The study focused on the key factors that influence customer satisfaction in alternative banking service provided by public and private sector banks in India. These factors included age, education, and profession of the bank customers, service quality, brand perception and perceived value. The study data was collected using likert scale based questionnaires. Other factors such as quality of service, brand perception and perceived value were found to have a positive relation with overall customer satisfaction. The researcher found that there is a significant relationship between alternative banking and customer satisfaction. The study then concluded that banks should consider facts and enhance service quality of alternative banking services in order to increase customer's satisfaction.

Munyoki (2013) analyzed the effect of online banking on the financial performance of commercial banks in Kenya. A descriptive research design was adopted and a study population of all the 43 commercial banks in Kenya. The primary data was collected through questionnaires while secondary data was from the annual reports issued by CBK. The study established a weak but positive and significant relation between online banking and financial performance of commercial banks in Kenya. The

relationship is attributed to online bank cut costs, increase commission income, reduce staffing levels and make banking more convenient for customers. The researcher then recommended the banks' should address security concerns for the increasing online banking fraud cases.

Ndungu (2015) studied the impact of alternative banking channels on how financial institutions performed financially in Kenya. A descriptive research design was used, data was collected from banks yearly reports and reports issued by CBK. The study found that alternative banking channels such as mobile banking, agency banking, customer deposits and operating expenses causes a variation of 73.4% of the financial performance among commercial banks in Kenya. The research found out that the rate of usage of mobile banking had declined since 2012. The study then recommended that the banks management should adopt more alternative banking channels as well as exploiting more innovation that enhance alternative banking.

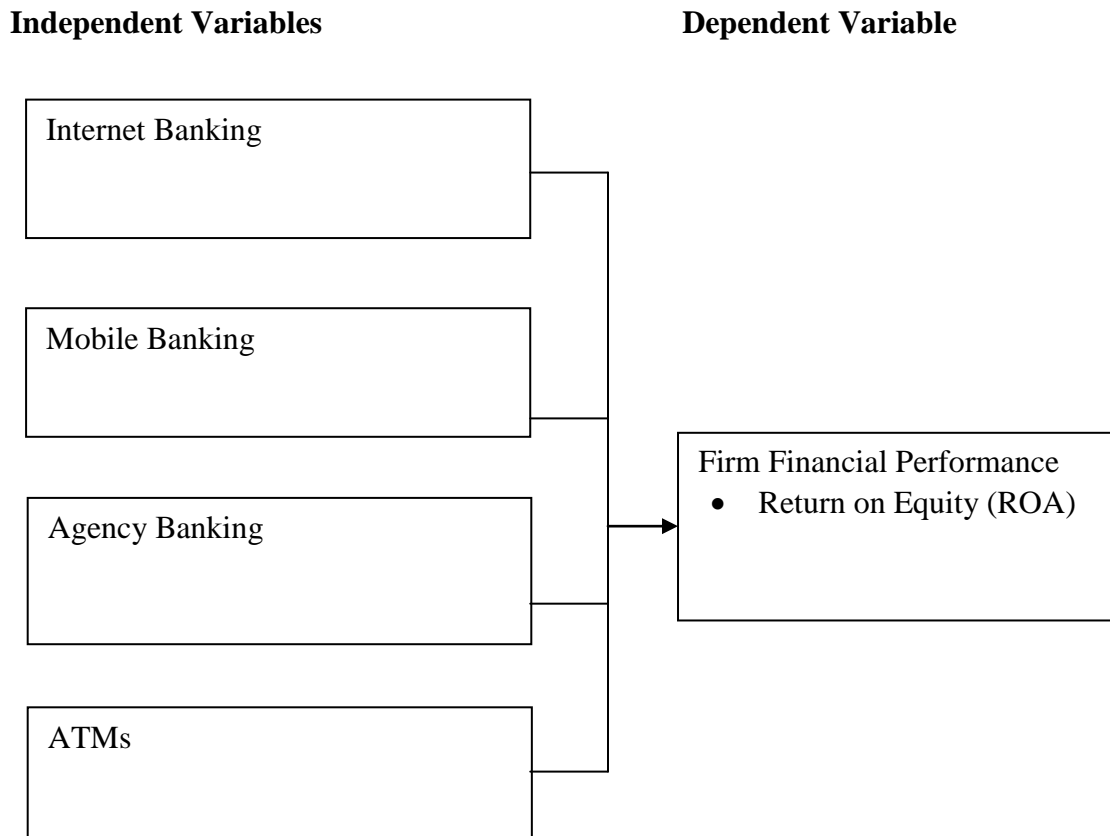
Ocharo and Muturi (2016) evaluated the relationship between alternative banking methods and profitability of the banks within Kisii County using the alternative channels such as agency banking, mobile banking, internet banking and automatic teller machine. The study adopted a descriptive research design. The study population comprised of 187 respondents of which 17 were managers and 170 employees of banks within Kisii County. The researchers found a significant correlation between alternative banking and the financial performance of the banking industry.

Saluja and Wadhe (2015) examined the impact of E-banking on profitability of Indian commercial banks the period 2006 – 2014. The study sample consisted of 31 banks under four major bank groups of commercial banks in India. The study employed multiple regression analysis to test the effect of E-banking services on the profitability of commercial banks. The researcher established a positive effect between e-banking and profitability of both national and private sector commercial banks. The study also established an increase in profitability with the increase in number of ATMs. The study though established an insignificant relationship between number of branches and profitability of banks.

2.5 Conceptual Framework

It includes the predictor and dependent variables. The predictor variables include alternative banking channels such as ATMs, m-banking, agency and internet banking. The dependent variable on the other hand is the firm performance as measured Return on Equity (ROA).

Figure 2.1: Conceptual Framework



Source: Researcher (2016).

2.6 Literature Summary and Research Gap

This study reviewed three theories that try to explain the relationship between alternative banking channels and the firm financial performance. The intermediation theory is of the view that banks just like other non-bank financial intermediaries collect deposits and then lend them out thus they should collect and lend out money effectively and at low cost to be profitable. Resource-Based View theory suggests that firm's availability of resources will determine the effectiveness of the adopted approaches to marketing to and transacting with their customers which in turn will determine their profitability and performance. Transaction Cost Theory on the other

hand suggests that when firms reduce the cost they incur when delivering services they become profitable which enhances performance.

The reviewed empirical literature has conflicting results. Majority of the scholars such as Kumbhar (2011); Munyoki (2013); Saluja and Wadhe (2015); Ndungu (2015) and Kambua (2015) suggest that alternative banking channels affects the banks performance positively. On the other hand, Kombe and Wafula (2015) suggest that alternative banking channels only achieve time reductions and quality improvements, rather than cost reductions. The reviewed studies did not investigate the impact of alternative banking channels on financial performance of commercial banks in Kenya conclusively using alternative channels. Additionally, some studies focused on specific alternative banking channels such as agency banking, mobile banking or internet banking.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the methods, styles and techniques that are used to gather data process and analyze data. This chapter is composed of the following subsections; design of the research, target population, sample design, data collection methods and data analysis.

3.2 Research Design

Dul and Hak (2008) described research design as the step by step format followed when collecting and analyzing data with an aim of achieving the set objectives for the study. Mugenda (2003) postulates that the research design is the layout that is to be followed when seeking answers to the research questions. This study employed descriptive research design as well as correlation research designs. According to Kothari (2004), this method is appropriate for establishing relationship between two or more variables. Descriptive research design method helped in gathering information about the existing status of alternative banking channels among commercial banks in Kenya.

3.3 Target Population

Refers to the total number of individuals in a group or the number of groups that the researchers are intending to work with (Cooper & Schindler, 2001). Kothari (2004) describes a target population as the all the respondents in the environment of interest to the researcher. The target population is all the commercial banks that were operating in as at the end of 31st December 2015. According to the Kenya Bankers Association (2016), as at 31st December 2015 there were 46 commercial banks with

operations in Kenya as shown in Appendix I. Because of the small size of the population the study was a census. This means that all members of the population were considered.

3.4 Data Collection

Collection of data is paramount as it gives the researcher accurate information from which inferences can be drawn (Kombo& Tromp, 2006). This research relied on secondary data extracted from the CBK database, audited financial statements of commercial banks in Kenya, publications, industry analysis and trend analysis. The data was also be sourced from scholarly articles such as academic journals. Secondary data on internet banking, mobile banking, automated teller machines and agency banking were downloaded from the Central Bank's website while data on the financial performance of commercial banks was extracted from audited financial statements of the commercial banks. The research considered a five year period from 2011-2015.

3.5 Data Analysis

The data collected went through a cleaning process to ensure it is complete and consistent before doing analysis. Cleaned data was then fed into the statistical package for social sciences (SPSS version 21)for analysis. Descriptive statistics for example standard were used to analyze data. The research findings were then presented in charts and tables for ease of understanding.

3.5.1 Analytical Model

In this study multiple regression model was employed to analyze the relationship between alternative banking channels and financial performance of commercial banks in Kenya. The following regression model shall be used.

$$Y_{it} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Y_{it} = Financial performance (ROA)

X_1 = Mobile Banking

X_2 = ATMs Banking

X_3 = Agency Banking

X_4 = Internet Banking

β_0 = The constant term of the model

$\beta_1 - \beta_4$ = co-efficient of the model

ε =stochastic error term

Table 3.1: Measurement of the Variables

	Variable	Measurement
Y	Return on Asset	$\frac{\text{Net income (Profit After Tax)}}{\text{Total Asset}}$
X ₁	Mobile Banking	Measured as the total amount of money transferred through
X ₂	ATMs Banking	Measured as the total amount of money transferred through
X ₃	Agency Banking	Measured as the total amount of money transferred through
X ₄	Internet Banking	Measured as the total amount of money transferred over

Source: Researcher (2016)

3.5.2 Test of significance

Significance of the relationship between alternative banking channels and financial performance was tested; calculations were calculated at 95% confidence level where p value of less than .05 was considered adequate for statistically significant correlation. To test how good and fit the regression model was an analysis of variance (ANOVA) was done using F statics of 5% significance level as well as using the coefficients of determination.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

Chapter four deals with the presentation of the findings as well as analysis and interpretation of the same. Analysis of the secondary data gathered from the CBK and audited financial statements of the commercial banks operating in Kenya for the study period 2011-2014. Although the study looked at the entire population of banks it only managed to gather data from 28 commercial banks. Analysis was done with the help of statistical package for social science (SPSS) version 21 and Microsoft's excel (2016). Standard deviation which is a descriptive statistics was used to analyze the banks usage of alternative banking channels as well as their performance. The effect of alternative banking channels on the financial performance of commercial banks was investigated using regression analysis and correlation analysis. To test the goodness of fit and the reliability of the regression model an analysis of variance was used.

4.2 Descriptive Statistics

Descriptive statistics summarizes a given data set, which can be either representative of the entire population or a sample of it. Descriptive statistics helps describe data in describe, show or summarize data in a meaningful way.

4.2.1 Financial Performance (ROA)

The study set to establish the performance of commercial banks in Kenya from 2011-2015. Return on Asset was calculated as a measure of financial performance. The findings are presented below in table 4.1.

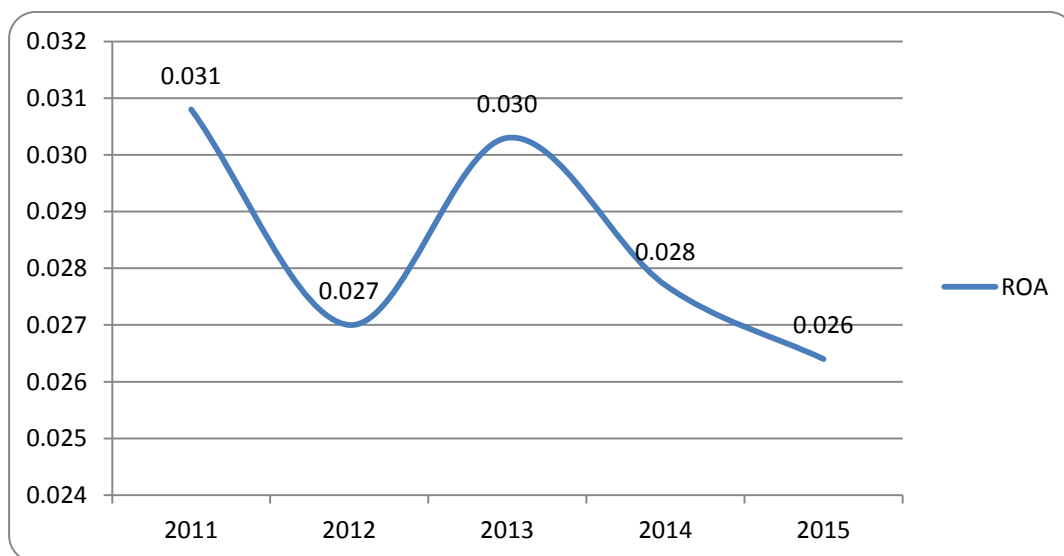
Table 4.1: Return on Asset (ROA)

Year	2011	2012	2013	2014	2015
ROA Mean	0.0308	0.0270	0.0303	0.0277	0.0264
Standard Deviation	0.0246	0.0412	0.0309	0.0300	0.0380

Source: Research Data (2016)

The study established that there is fluctuation of the financial performance of commercial banks over the study period. This can be ascertained by a look at the standard deviation arrived at. The commercial banks recorded the highest performance in 2011 with an ROA of 0.031 while the lowest performance was recorded in the year 2012 with a ROA of 0.027. Figure 4.1 indicates the trend of financial performance among commercial banks.

Figure 4.1: Financial Performance (ROA)



Source: Research Data (2016)

4.2.2 Mobile Banking (KShs. Billions)

The study further sought to find out the volume of money that was transacted through the mobile banking between the years 2011 and 2015. The study results are as shown in Table 4.2.

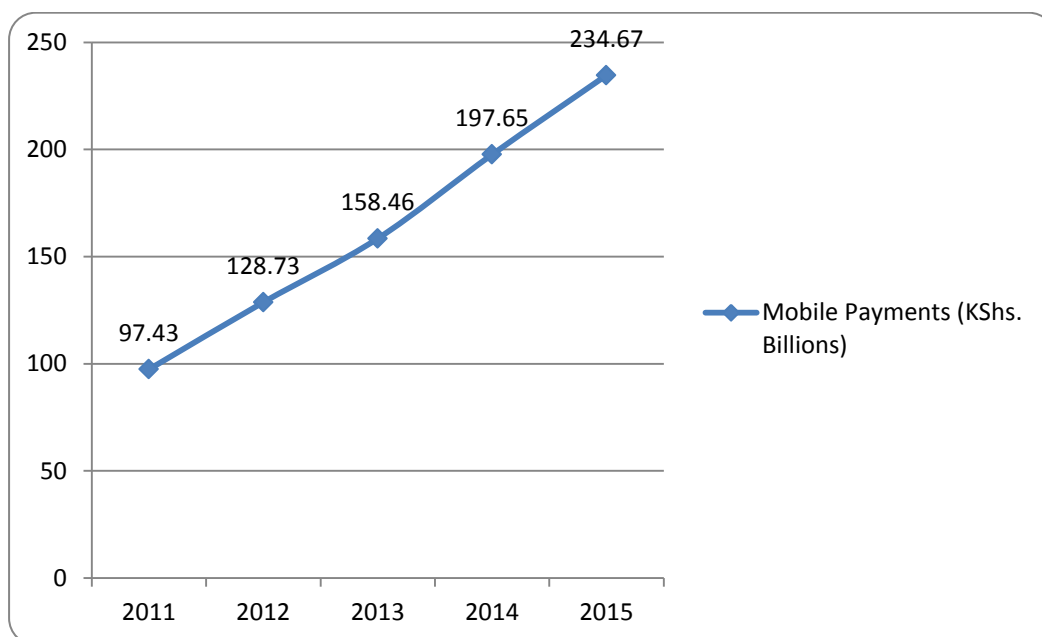
Table 4.2: Mobile Banking

	2011	2012	2013	2014	2015
Mobile Banking (KShs. Billions)	97.43	128.73	158.46	197.65	234.67
Stdev	14.07	10.33	15.72	14.55	18.25

Source: Research Data (2016)

The results of the study found out that the amount of money transacted through mobile banking had been increasing steadily over the study period (2011-2015). The amount of money transferred through mobile phones started from a low of Kshs. 97.43 billion in the year 2011 and increased steadily to a high of Kshs. 234.67 billion in the year 2015. This implies that the banks customers have embraced mobile banking as an alternative banking channel. The trend of m-banking is shown in figure 4.2.

Figure 4.2: Mobile Banking (KShs. Billions)



Source: Research Data (2016).

4.2.3 ATM Banking

In this section, the study sought to establish the amount of money in millions transferred through ATMs. The study findings are shown in the table 4.3.

Table 4.3: ATM Banking

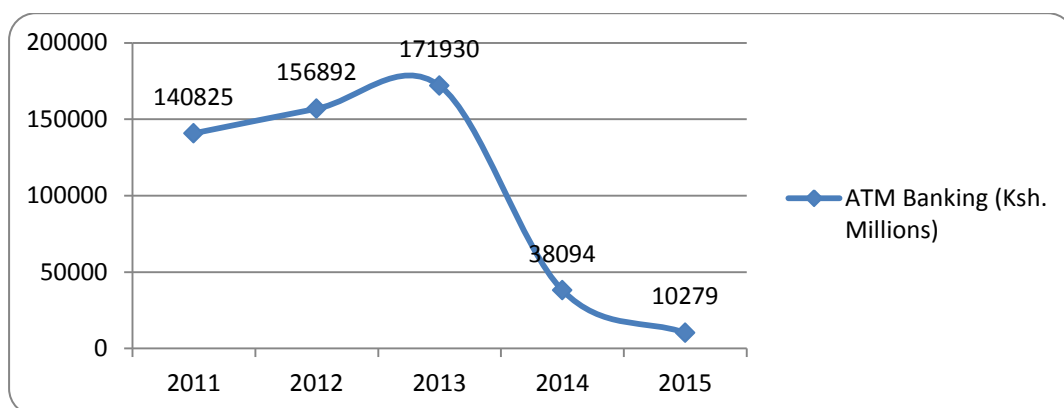
	2011	2012	2013	2014	2015
ATM Banking (Kshs. Millions)	140,825	156,892	171,930	38,094	10,279
STDEV	1055.17	810.10	1190.08	1071.98	65.93

Source: Research data (2016)

The volume of money transferred through ATM banking increased from Kshs. 140,825 million in 2011 to Kshs. 171,930 million in the year 2013. This was followed by a sharp decrease in the amount transacted to a low of Kshs. 10,279 Million. This implies that the choice of ATM banking as an alternative banking channel has been on

the decline. This can partly be attributed to preference of other banking channels such as internet banking and m-banking which are getting popular by day. The trend of the amount of money transfer using ATMs over the study period is as shown in 4.3.

Figure 4.3: ATM Banking



Source: Research Findings (2016)

4.2.4 Agency banking

The volume of money transferred electronically through agency banking was sought. The findings of the study are shown on table 4.4.

Table 4.4: Agency banking (Kshs. Millions)

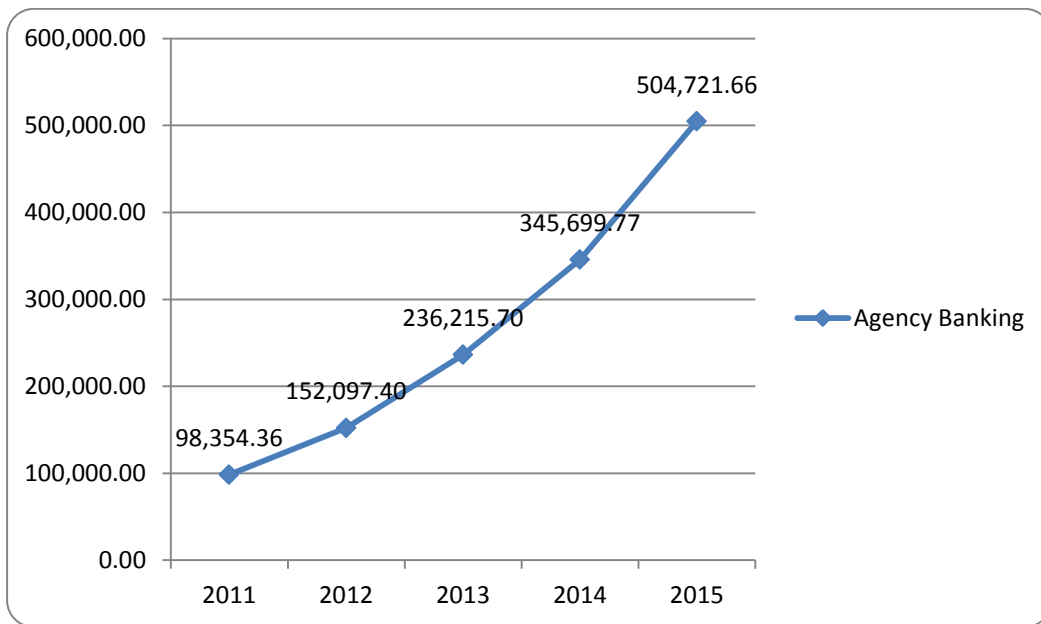
Year	2011	2012	2013	2014	2015
Agency Banking	98,354.36	152,097.40	236,215.70	345,699.77	504,721.66

Source: The Research Findings (2016)

This research found that adoption of agency banking as an alternative banking channel has been on a steady rise over the study period (2011-2015). The findings indicate that the highest volume of money through agency banking was Kshs.

504,721.66 millions in the year 2015 while the lowest (Kshs. 98,354.36 million) was transacted in the year 2011. These figures indicate that agency banking as an alternative banking channel is steadily increasing. The trend of the volume of money transferred through agency banking is shown below in figure 4.4.

Figure 4.4: Agency Banking



Source: Research Findings (2016)

4.2.5 Internet Banking

The study lastly sought to establish the amount of money transferred through the internet. The findings of the study are shown in table 4.5.

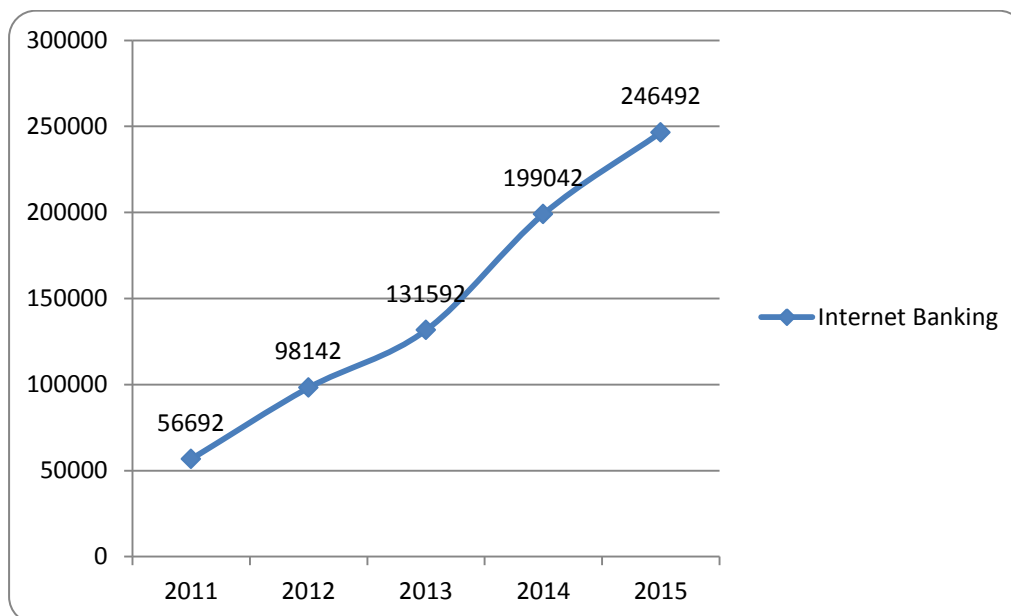
Table 4.5: Internet Banking (Kshs. Millions)

	2011	2012	2013	2014	2015
Internet Banking	56692	98142	131592	199042	246492
Stdev	1050.93	1697.64	2731.18	1070.56	884.28

Source: Research Findings (2016)

The findings show that the preference of internet bank as an alternative banking channel has been on the rise over the study period (2011-2015). The amount transacted through the internet increased Kshs. 56692 million in 2011 to a high of Kshs. 246492 million in 2015. Standard deviations recorded indicate that there were variations in the amount of money transferred through internet banking over the period studied. The trend of the volume of money being transferred through internet banking over the study period is shown in figure 4.5.

Figure 4.5: Internet Banking



Source: Research Findings (2016)

4.3 Inferential Statistics

Multivariate regression was adopted in order to try and find out the correlation between financial performance of commercial banks in Kenya and alternative banking channels in Kenya. A positive or negative correlation was expected. The findings are as below.

4.3.1 Model Summary

The study general results are shown in Table 4.6.

Table 4.6: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. error of the estimate
1	.518 ^a	0.268	0.141	.65237
a. Predictors: (Constant), ATMs, Mobile banking, Internet banking, Agency banking				

Source: Research Data (2016)

The model summary shows that there is a significant ($R=0.518$) relationship between performance of commercial banks and alternative banking channels. The research also arrived at an adjusted R squared of 0.141. This means that 14.1% of the total variance in financial performance of the commercial banks in Kenya can be attributed to alternative banking channels.

4.3.2 Coefficients of Determination

They show the general trend of the relationship between dependent and independent variables. The results of this study are illustrated in table 4.7.

Table 4.7: Coefficients of determination

model	Un standardized coefficients		Standardized coefficients	t	P value sig.
	B	Std. error	Beta		
Constant	-.742	.429		8.725	.000
Mobile banking	.029	.138	.212	3.112	.005
ATM banking	.056	.152	.369	4.596	.001
Agency banking	.075	.175	.432	3.132	.005
Internet banking	.041	.155	.252	4.057	.001
Dependent variable: financial performance (ROA)					

Source: Research data (2016)

With 95% confidence level, mobile banking $t=3.112$, $p=.005$, Automated teller machines banking $t=4.596$, $P=.001$, Agency banking $t=3.132$, $p=.005$ and internet banking $t=4.057$, $p=.001$. The study produced statistically significant values with p values less than 0.05.

Constant = -0.742 shows that the independent variables mobile banking , ATMs banking, agency banking and internet banking were zero, the financial performance of commercial banks would be -0.742. A one unit change increase in mobile banking would lead to increase in financial performance by .029. A unit increase in ATMs banking will lead to a .056 increase in financial performance. A unit increase in agency banking would lead to .075 increase in financial performance while a unit increase in internet banking would enhance financial performance by .041.

The regression model equation can be expressed as:

$$Y_i = -0.742 + 0.029X_1 + 0.056\beta_2X_2 + 0.075X_3 + 0.041X_4$$

Where:

Y_i = financial performance (ROA)

X_1 = mobile banking

X_2 = ATMs Banking

X_3 = Agency Banking

X_4 = Internet Banking

4.3.3 Analysis of variance (ANOVA)

In order to determine the goodness of fit of the regression model an analysis of variance was sought. The results of this analysis are shown in table 4.8.

Table 4.8: Analysis of variance (ANOVA)

Model	Sum of squares	df	Mean square	f	Sig.
Regression	1.449	4	.362	11.312	.000 ^a
Residual	0.726	23	.032		
Total	2.175	27			
a. Independent : mobile banking, ATMs banking, agency banking, internet banking					
b. Dependent variable: financial performance (ROA)					

Source: Research data (2016)

The study found out that the regression model had a significance level of 0.00%. This is an indication that the model was an ideal predictor of future financial performance of the commercial banks in Kenya given alternative banking channels. This is because the significant value (p-value) was far much less than 5% which was used as an indicator of statistical significance.

4.4 Summary of Findings

The objective of the study was to examine what effect alternative banking channels have on the financial performance of commercial banks in Kenya. Return on asset was used to measure financial performance of commercial banks. The alternative banking channels considered were mobile banking, ATMs banking, agency banking and internet banking. The findings of the study indicated that there was a strong ($R=0.518$) relationship between alternative banking channels and financial performance of commercial banks in Kenya. A 0.141 value of adjusted R-squared was arrived at. This means that 14.1% of the total variance in financial performance of commercial banks in Kenya can be attributed to alternative banking channels. ANOVA statistics revealed that the regression model was ideal since it had a significance level of 0.0%. The study further established that mobile banking, ATMs banking, agency banking and internet banking affects financial performance of the commercial banks positively and in a statistically significant way. The findings were in line with the findings of Kumbhar (2011), Munyoki (2013), Saluja and Wadhe (2015), Ndungu (2015) and Kambua (2015) suggest that alternative banking channels affects the banks performance positively.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five summarizes the findings, draws conclusion based on the study objectives and the researcher makes recommendations for further research. The limitations of the study are also highlighted.

5.2 Summary of Findings

This study set to establish the effect of alternative banking channels on the financial performance of commercial banks in Kenya. The research was carried out through a census where all the commercial banks were considered. The study used five years (2011-2015) data for analysis. Analysis was done with the help of statistical package for social science (SPSS) version 21 and Microsoft Excel 2016. Descriptive statistics such as standard deviations were used to analyze the trend of mobile banking, ATMs banking, agency banking and internet banking. Regression analysis was used to find out the effect of alternative banking channels on the financial performance of commercial banks in Kenya. Analysis of variance (ANOVA) was used to test the goodness of fit of the regression model to the data collected.

The outcome of the study showed that there was a strong relationship between alternative banking channels and financial performance of commercial banks. This study also established that 14.1% of the total variance in financial performance of the commercial banks in Kenya can be attributed to alternative banking channels. The remaining 85.9 % of the variance in financial performance can be attributed to other

determinants of financial performance which were not the subject of this study. ANOVA statistics revealed that the regression model was ideal since it had a significance level of 0.0%. The study further established that mobile banking, ATMs banking, agency banking and internet banking affects the performance of commercial banks positively and in a statistically significant way. The findings were in line with the findings of Kumbhar (2011), Munyoki (2013), Saluja and Wadhe (2015), Ndungu (2015) and Kambua (2015) suggest that alternative banking channels affects the banks performance positively.

5.3 Conclusion

The research concludes that there is a strong relationship between alternative banking channels and financial performance of commercial banks in Kenya. 14.1% of the changes in the financial performance of the commercial banks can be attributed to alternative banking channels. The study also concludes that mobile banking, ATMs banking, agency banking and internet banking positively affects the financial performance of commercial banks and in a significant way. From the ANOVA statistics, the study concluded that the regression model was derived is reliable and has goodness of fit.

5.4 Policy Recommendations

The study established that mobile banking, ATMS banking, agency banking and internet banking have affects the performance of commercial banks in Kenya. Thus the study wishes to make the following recommendations for policy change:

Commercial banks in Kenya should invest heavily in alternative banking channels like mobile banking, ATMs, agency banking and internet banking since this will lead

to improvement in the financial performance of the banks. The Kenyan Government through the Central bank should come up with policies that create a conducive environment for commercial banks to operate in since it will translate to economic growth of the country.

5.5 Limitations of the Study

This study is mainly dependent on the secondary data available at the Central Bank. This implies that the accuracy of the study findings is dependent on the data that was available. The researcher cross checked the data available on individual commercial banks website in order to ensure reliability and validity of the data.

Further, academic studies are usually subjected to tight academic deadlines. This explains why the researcher was able to collect data from only 28 commercial banks. If more time was available, the researcher could be in a position to make more detailed conclusions and observation on how alternative banking channels influences financial performance of commercial banks.

5.6 Suggestions for Future Studies

Alternative banking channels only 28.2% of the economic performance could be attributed to innovation and technology. In future, a similar study should be carried to investigate other factors that affect the financial performance of commercial banks in Kenya. In the coming days, a study should also be done to investigate the challenges that commercial banks are facing when adopting alternative banking channels. This will also shed light on how these challenges can be tackled.

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APPENDICES

Appendix I: List of Commercial Banks in Kenya

KBA Members as at 31st December 2015:

African Banking Corp. Ltd

Bank of Africa Kenya Ltd

Bank of India

Bank of Baroda (K) Ltd

Barclays Bank of Kenya Ltd

CfC Stanbic Bank Ltd

Chase Bank (K) Ltd

Citibank N.A.

Commercial Bank of Africa Ltd

Consolidated Bank of Kenya Ltd

Co-operative Bank of Kenya Ltd

Credit Bank Ltd

Development Bank (K) Ltd

Diamond Trust Bank (K) Ltd

Dubai Bank Ltd

Ecobank Limited

Equatorial Commercial Bank Ltd

Equity Bank Ltd

Family Bank Ltd

Faulu Bank

Fidelity Commercial Bank Ltd

Fina Bank Ltd

First Community Bank Ltd
Giro Commercial Bank Ltd
Guardian Bank Ltd
Gulf African Bank Ltd
Habib Bank A.G. Zurich
Habib Bank Ltd
Housing Finance Company of Kenya Ltd.
Imperial Bank Ltd
I & M Bank Ltd
Jamii Bora Bank Ltd
K-Rep Bank Ltd
Kenya Commercial Bank Ltd
Kenya Women Microfinance Bank
Middle East Bank (K) Ltd
National Bank of Kenya Ltd
NIC Bank Ltd.
Oriental Bank Ltd
Paramount Universal Bank Ltd
Prime Bank Ltd
Postbank
Standard Chartered Bank (K) Ltd
Transnational Bank Ltd
UBA Kenya Bank Ltd
Victoria Commercial bank Ltd
(<http://www.kba.co.ke>)

Appendix II: Return on Asset

	ROA				
BANK	2011	2012	2013	2014	
African Banking Corporation Ltd	0.0412	0.0292	0.0294	0.0149	0.0287
Bank of Africa (K) Ltd	0.0143	0.013	0.0195	0.0033	0.0125
Bank of India	0.0418	0.0244	0.0408	0.0374	0.0361
CFC Stanbic Bank (K) Ltd	0.0223	0.0353	0.041	0.0431	0.0354
Chase Bank Ltd	0.0233	0.0268	0.0294	0.0308	0.0276
Citibank N.A. Kenya	0.0643	0.1039	0.07	0.0522	0.0726
Consolidated Bank of Kenya Ltd	0.0161	0.0098	-0.0085	-0.0182	-0.0002
Co-operative Bank of Kenya Ltd	0.0368	0.048	0.0468	0.0443	0.0440
Credit Bank Ltd	0.0095	0.0126	0.0099	-0.0102	0.0055
Diamond Trust Bank (K) Ltd	0.0419	0.0494	0.0488	0.0447	0.0462
Ecobank Kenya Ltd	0.0045	-0.0483	-0.0334	-0.0109	-0.0220
Equity Bank Ltd	0.0684	0.0744	0.0765	0.0726	0.0730
Family Bank Ltd	0.0201	0.0272	0.0404	0.0424	0.0325
Guaranty Trust Bank Ltd	0.0212	0.0203	0.0161	0.0208	0.0196
First Community Bank Ltd	0.0128	0.0295	0.0177	0.0067	0.0167
Giro Commercial Bank Ltd	0.0279	0.0169	0.0281	0.0313	0.0261
Gulf African Bank Ltd	0.012	0.0276	0.027	0.0311	0.0244
I&M Bank Ltd	0.058	0.0516	0.0549	0.0564	0.0552
Imperial Bank Ltd	0.0637	0.0553	0.058	0.0475	0.0561
Kenya Commercial Bank Ltd	0.0498	0.0518	0.0549	0.0593	0.0540
K-Rep Bank Ltd	0.0275	0.0321	0.0422	0.0461	0.0370
National Bank of Kenya Ltd	0.0356	0.0171	0.0192	0.019	0.0227
NIC Bank Ltd	0.0457	0.0424	0.0462	0.0444	0.0447
Oriental Commercial Bank Ltd	0.0383	0.0183	0.0254	0.0107	0.0232
Prime Bank Ltd	0.0307	0.0267	0.0383	0.0418	0.0344
Standard Chartered Bank (K) Ltd	0.0503	0.0589	0.0604	0.0642	0.0585
Trans-National Bank Ltd	0.0405	0.0366	0.0233	0.0186	0.0298
UBA Bank (K) Ltd	-0.0571	-0.1358	-0.0749	-0.0697	-0.0844

Source: CBK (2015)

Appendix III: Alternative Banking

	Mobile Payments	ATM Banking	Internet Banking
Month, Year	Value(KShs. Billions)	Value (KShs. Millions)	Value(KShs. Millions)
Jan, 2015	210.54	743	5047
Feb, 2015	208.132	739	4525
Mar, 2015	231.836	846	5125
Apr, 2015	213.746	826	5272
May, 2015	230.152	852	5770
Jun, 2015	227.921	853	5460
Jul, 2015	238.864	889	6084
Aug, 2015	248.154	889	6583
Sep, 2015	247.506	894	6149
Oct, 2015	255.808	902	6478
Nov, 2015	236.372	870	6424
Dec, 2015	267.068	976	7799
Jan, 2014	178.478	3646	6641
Feb, 2014	172.797	3451	6453
Mar, 2014	192.695	3830	7231
Apr, 2014	186.664	3781	4192
May, 2014	198.131	3888	4210
Jun, 2014	189.911	3426	4282
Jul, 2014	200.992	3477	4535
Aug, 2014	206.72	3509	4597

Sep, 2014	206.341	3522	4394
Oct, 2014	210.277	3752	4533
Nov, 2014	203.239	1011	4843
Dec, 2014	225.549	801	6272
Jan, 2013	142.653	13441	13535
Feb, 2013	141.126	12762	13345
Mar, 2013	134.446	13668	10075
Apr, 2013	142.609	13897	9374
May, 2013	158.77	15034	8593
Jun, 2013	152.5	12832	8892
Jul, 2013	162.76	13180	6813
Aug, 2013	168.1	15133	6567
Sep, 2013	165.59	14833	5938
Oct, 2013	175.29	15430	5901
Nov, 2013	175.22	15207	6783
Dec, 2013	182.495	16513	7652
Jan, 2012	114.06	12536	7230
Feb, 2012	116.691	12085	7602
Mar, 2012	126.093	13099	7948
Apr, 2012	117.36	12413	7489
May, 2012	128.403	13256	8039
Jun, 2012	124.02	12273	8686
Jul, 2012	129.28	12500	10167
Aug, 2012	131.38	13375	10476

Sep, 2012	130.69	13081	10183
Oct, 2012	137.68	13712	10320
Nov, 2012	138.99	13540	10118
Dec, 2012	150.16	15022	13114
Dec, 2011	118.08	14063	4381
Nov, 2011	112.332	12373	4190
Oct, 2011	109.119	12384	4416
Sep, 2011	108.615	12124	4244
Aug, 2011	107.424	12333	4294
Jul, 2011	99.7104	9982	4358
Jun, 2011	92.6437	11382	5156
May, 2011	94.3724	11278	5915
Apr, 2011	86.0877	11339	6780
Mar, 2011	88.9966	11901	6616
Feb, 2011	76.3366	10464	6342
Jan, 2011	75.4328	11202	7831

Source: CBK (2015)