# EFFECT OF INTERNET BANKING ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY

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#### DECLARATION

This research project is an original work and has not been presented for award of a degree at the University of Nairobi or any other University.

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This project has been presented for examination with my approval as University Supervisor.

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## DEDICATION

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# LIST OF ABBREVIATIONS

CAMEL	Capital adequacy, Asset quality, Management quality, Earning ability
	and Liquidity
СВК	Central Bank of Kenya
DIY	Diffusion of Innovation Theory
DoI	Diffusion of Innovations
EAPS	East African Payment Settlement System
E-banking	Electronic Banking
F & C	Fees and Commissions
ICT	Information Communication Technology
KEPSS	Kenya Electronic Payments and Settlement System
Kshs.	Kenya Shillings
NPLs	Non-Performing Loans
OBT	Online Bank Transactions
OCD	Online Customer Deposit
PEOU	Perceived ease-of-use
ROA	Return on Assets
ROE	Return on Equity
SPSS	Statistical Product and Service Solution
TAM	Technology Acceptance Model
UTAUT	Unified theory of acceptance and use of technology

#### ABSTRACT

Internet banking has the potential to profoundly transform financial services and banking industry. The integration of internet in the banking sector in Kenta is expected to affect the way in which banks come up with financial products and services and consequently customer satisfaction and the performance of these banks. To accomplish this, my study will try to find out: what is the effect of internet banking on financial performance of commercial banks in Kenya. The objective of the study was to establish the effect of internet banking on financial performance among commercial banks in Kenya. Descriptive design was adopted. The target population for the study comprised of the 40 commercial banks. Data collection sheet was used in data collection Pearson correlation coefficient helped evaluate the effect of internet banking on the banks' financial performance. The other inferential test multiple regression analysis was used to analyse the effects of internet banking on financial performance .The study revealed that ROA in commercial banks in Kenya increased in upwards trends due increase in online customer deposits through internet banking. The study established that online bank transaction to total asset ratio increased in an upwards trend over the specified study period. Further increase in internet expenses fees and commissions to total asset ratio increased. There is a moderate, significant and positive correlation between online banking transactions and ROA. The study however found that there exist a moderate and negative correlation between Internet transaction Fees and Commissions (F&Cs) and ROA. The study results further revealed that there exist a strong, significant and negative relationship between Internet banking Expenditure and ROA. The study found that online customer deposits and online banking transaction has a significant relationship with ROA while Internet fees and commissions and internet banking expenditure had a negative relationship with ROA in commercial banks. Regression results established that ROA of bank was significantly predicted by online customer Deposits (OCD) and increase in online customer Deposits would lead to significant increase in ROA in commercial banks in Kenya. Findings in regression revealed that online banking transaction significantly and positively predicted ROA and that an increase online banking transactions led to increase in ROA. However, the Fees and Commissions on internet banking predicted a negatively and significant influence on ROA in banks hence increase in internet fees and commission led to decrease in ROA while internet banking expenditure predicted significant and negative effect on ROA in banks increase in internet banking expenditure led to decrease in ROA in banks. The study concluded that ROA in banks increased in upwards trends due to internet banking. The study concluded that there is a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets (ROA). The study concluded that online banking transaction significantly and positively predicted ROA and that an increase online banking transactions led to increase in ROA. The study recommends that bank management should enhance internet banking to improve financial performance in commercial banks.

#### **CHAPTER ONE: INTRODUCTION**

#### **1.1 Background of the Study**

Commercial banks just like most other organization continue to operate in dynamic environments characterized by changes which require them to adapt accordingly. A number of commercial banking institutions have majorly invested in information systems that have reduced the number of transactions processing involved. These institutions are deploying information communication technology to solve their core financial needs and have increased the use of internet based systems in their business as outlined by Gopalakrishnan, Wischnevsky and Damanpour (2003). In Kenya innovations and reliance of ICT is the force behind the metamorphosis of a number of financial institutions. Banks are now using mobile money systems to open, transact and even process loans and access a number of financial services from these financial institutions. With ICT infrastructure and related services becoming cheaper, efficient, reliable and easily accessible this makes it easy for banks to effortlessly deploy and create e-banking products.

According to a report released by the Governor of central bank Dr. Njoroge for the Year Ending30<sup>th</sup> June 2015, Kenya Electronic Payments and Settlement System (KEPSS) and East African Payment System (EAPS) recorded 2.855 million dealings worth Kshs. 27,002 billion in 2015, compared to 2.230 million transactions worth Kshs. 24,311 billion in 2014. This was a twenty eight percent and eleven percent growth in volume and value respectively. The Report further showed the average amount moved per transaction decreased at twelve percent from Kshs 10.94 million to Kshs 9.56 million. The number of transactions moved per day, however, went up by twenty seven percent to 11,413 dealings from 8,954 dealings in the year 2015. The

increase was attributed to the integration of KEPSS with EAPS. The increased awareness by the users of the KEPSS and EAPS as a secure and efficient method of electronic payment for high value as well as time critical payments for local and East African payments also boosted the volume and value transacted (CBK Report 2015).

#### **1.1.1 Internet Banking**

According to Steven (2002) online banking also referred to as virtual banking, internet banking or electronic banking is indicated by the use of telecommunication networks and internet to provide a extensive array of enhanced financial services and products to clients through a website or a system operated by a financial institution. The notion of e-banking dates back to the early 80s, when it was first envisaged and tried. In October 6<sup>th</sup> 1995 the Presidential Savings Bank opened this service for use by regular clientele. The idea quickly spread to other banks such as Chase, Wells Fargo and Security First Network Bank among other financial institutions. Today, several banks and financial institutions run entirely via the Internet only and have no brick and mortal entities (Ross Bainbridge, 2006).

The use of internet banking is becoming very common due to the ease of access to computers and mobile phones. It has made it possible for clients to access services by enabling them carry out functions including transfers from one client account to another, inquiries about the balance, payment of bills, payment requests cancellation, loan applications and repayments. Initially banks risked having reduced profit margins as a result of increased costs which would be escalated due by the costs associated with the new technological adoption, banking staff feared loss of job opportunities and it was a trade-off between the benefits brought about by internet banking verses the costs to be incurred. As at now majority of banks are offering it and customers find it useful. Customers now demand better quality services with the

advancement of technology, their expectations are higher and they need access to their account information from anywhere at any time.

Sayar and Wolfe (2007) studied how e-banking affected performance of banks comparing the situation in Turkey and United Kingdom. The study found that the uptake of internet banking was more pronounce in Turkey than in England despite England having a more favourable environment for internet banking. The study argued that adoption of online banking was determined by security and user friendliness considerations.

#### **1.1.2 Financial Performance**

Financial performance measures are used to gauge the effectiveness and efficiency by which organizations utilise their investments to generate value for shareholders. The most used and recommended measures for financial performance analysis include profitability, liquidity and solvency (Zenios et al., 1999). The useful profitability ratios and measures are the return on assets (ROA); return on equity (ROE), the operating profit margin in addition the net revenues.

Financial performance is also used to evaluate the financial position of firm over a duration or period of time usually a year, and can be utilised to comparatively evaluate identical firms in one industry or to undertake comparisons across industries or sectors. There exist several approaches and items to determine financial performance of for profit entities. For instance, items such as operating income or revenue obtained directly from operations as well as cash inflows from operations are some reliable indicators of financial performance (Jayawardhera & Foley, 2000). Given that profit is the ultimate goal of firms this is also an acceptable measure of financial position of banks. ROA is also an important ratio for measuring and expressing profitability in the banking sector. As noted by Schiniotakis (2012), ROA

is deemed by practitioners and scholars as an important stability financial performance indicator for the banking and the financial services sector in general. ROE as a financial ratio in banks refers to the income a company earns in relation to the shareholder equity as reported on the balance sheet of such a bank. Schiniotakis (2012) noted that ROE also acts as a risk indicator for the bank's managers and shareholders.

#### **1.1.3 Internet Banking and Financial Performance**

Despite the potential benefits of ICT and internet banking, Egland et al. (1998) pioneer study estimated the proportion of United States banks offering online banking and reviewed the performance and structure of the surveyed banks. The finding was that there was no proof of significant divergence in the performance of banks providing services through online platforms in comparison to those that did not offer online banking services as shown by profitability credit quality or efficiency. The study however revealed that transactional internet banks were different from others mostly by size.

Furst and colleagues studies were a contradiction of Egland et al.(1998) as these studies found that differently sized banks which were offering their services using online platforms posted more profits and rarely relied on traditional banking operations compared to those banks which had not adopted internet banking. There was notable exception to the better performance among start-ups using online platforms to offer financial services, which posted less profit and were less efficient than non-internet start-ups. The conclusion of the study was therefore that that banks using internet platforms did not register a marked effect on their profitability at the time which could be directly linked to (Furst 2000a, 2000b, 2002a and 2002b).

The studies by DeYoung (2001a, 2001b, 2001c &2005) have evaluated financial performance data of pure internet banking institutions in the United States. The studies have consistently found moderately lower net earnings among the purely internet firms than the mortal and brick banks, attributed to huge staff costs, smaller fee based income streams and inability to generate deposit funding. Nonetheless, consistent with the electronic banking model it emerged that online based banks grow faster than traditional brick and mortal banks. This was attributed to the fact that online based banks enjoyed better economies of scale than branch based banking firms making them become more financially stable as the expanded over time. Delgado et al. (2004 and 2006) study on European Union (EU) banks found similar results as to those by DeYoung et al.

Sathye (2005) study was however different from above. The study was based on the Australian market and found that the surveyed online banking indicators did not record a notable relationship with the bank's performance as well as with operating risk indicators. The study emphasized that online based banking services did not improve the financial and operational performance in the context of major financial institution in Australia as it showed no potential to reduce or enhance risk profiles of the surveyed financial institution. The available studies have over the years lacked consensus on whether and how internet based services affect performance of the financial firms.

#### 1.1.4 Overview of Kenyan Banking Sector

The commercial banks occupy a central place in the economy of any nation. In Kenya the commercial banks play very crucial role as financial intermediaries and are considered very important for economy to functions. The banking sector in Kenya is a robust economic vehicle with 43 banking institutions regulated by the Central Bank of Kenya.

The CBK has been in the forefront of allowing banks to use the Internet Banking (IB) platforms to enhance the financial services which customers are able to access and enhance the quality of these services. The services available include transfer of funds, approval of transactions, balances enquiries and viewing, statements of transactions and ordering of cheque books. This move by the Central Bank of Kenya has had a great impact on the products and services offered by Kenyan banks making them some of the globally acclaimed in adoption of innovations such as mobile and internet banking (CBK Report 2015)

#### **1.2 Research Problem**

Online banking has the potential to profoundly transform the financial services and banking industry. It is believed that the internet has radically changed and will continue changing the way banks conduct their operations and serve customers (DeYoung, 2001a). The integration of internet in the banking sector is likely to affect the way in which banks come up with financial products and services and consequently customer satisfaction and the performance of these banks. Individual banks have to position themselves appropriately to take advantage of the benefits which accrue from embracing internet banking. The banks which position themselves are likely to register gains in improved efficiency in operations and manageable costs as they will be able to replace substituting paper based and staff intensive way of doing business with computerized practices thus improving profitability and productivity. Despite this situation there are yet conclusive documentation by practitioners on how e-banking impacts performance of the banks. In Kenya most banks seem to be making bold moves towards the deployment of information systems that will enable them increase service delivery to their customers and in turn improve their financial performances. Internet banking enable customer's access financial service such as opening accounts, depositing transferring and withdrawing fund and checking balances. Technologies like Mobile money for instance Mpesa have challenged commercial banks and financial institutions in the recent past been by the technological advances to innovate products and services that will enable them be competitive and have a larger market share in the last decade. A lot of value has been created by these financial systems and banks have realized the importance of e-banking. In Kenya both customers and financial institutions are embracing ICT to improve efficiency in their service deliveries.

A study by Sabi (2014) leaning on the integration of online banking in emerging markets revealed that the majority research undertakings about internet banking have been conducted out in the Asia and Latin America contexts. The results of this study portrayed a situation where there was limited research on online banking acceptance across Africa. The results highlighted the existing huge research gap which calls for more robust research undertaking in the African and Kenyan context to assess the impacts of adopting internet platforms to offer financial services, and to find out if internet banking used in Kenyan banks does affect financial performance of these banks. The study by Sabi (2014) validates the existence of a great necessity to devote more resources to undertake research on the effects of acceptance and implementation of virtual banking in the emerging markets such as Kenya.

The available local studies such as the one by Kadzo& Wafula (2015) assessed the effect of virtual banking on the competitive advantage of the Kenya Commercial

Bank (KCB). This study established that that transaction costs were lowered by using the internet thus attracting more potential customers using the bank service. The internet banking was found to support e-banking through which customers are able to access services on a 24 hour basis at their convenience thus building strategic advantage over the banks competitors.

Kariuki (2014) did a study seeking to improve the uncommon empirical knowledge on the acceptance of e-banking in Kenya, in his study he wanted to determine how awareness of IB by the consumers affect adoption of internet banking and to determine to what extent website features affect adoption of internet banking. The result showed that literacy level is not an obstacle to the bank's services, and the middle aged people have most successfully accepted the internet services. Awareness, website features and security all affect the adoption of e-banking.

Njuguna et al (2012) did study in Nairobi County to determine the factors that influence acceptance of online banking among customers of the commercial banks operating in Nairobi. Using the perceived characteristics of innovation (PCI) model and the technology acceptance model (TAM), they conducted a survey on 300 individuals. The outcome demonstrated that internet banking use in Kenya was very low with twenty five percent of the participants indicating they enjoy banking services offered through internet platforms.

The outcome from Njuguna's study also reveal that relative advantage, perceived use friendliness, perceived usefulness, self-efficacy, matching and results verifiability have a strong connection with the objectives to utilise online based banking services, while risk concerns, tangibility and testability were negligible. From the above discussions, not many studies have focused on the internet banking utilisation in local banks this study thus aims at filling the gap. To accomplish this, my research sought to answer the question: what is the effect of internet banking on financial performance of commercial banks in Kenya?

#### 1.3 Objective of the Study

To establish the effect of internet banking on financial performance of commercial banks in Kenya.

#### **1.4 Value of the Study**

The research would shed light on the use of e-banking in local banks to improve performance, this was crucial to both existing and upcoming banks and financial institutions. The study is of great significance to bank executives and policy makers to be aware of the tremendous opportunities and the far-fetched value internet banking brings to their organisations as concerns performance. This study anticipates providing valuable information to government institutions for them to deploy useful strategies for effective and efficient banking platforms in order to increase performance, effect procedures and policies with regard to the use of online based services in commercial banks. Companies in the financial services and telecommunications sectors would find the research significant as they can use the conclusion as a stepping stone on how they can mutually benefit from these developments. Of utmost importance is the addition to the existing literature and value addition for the students, academics, financial institutions, corporate managers and the general public interested to learn more about online banking.

#### **CHAPTER TWO: LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter is based on chapter one issues and looks at the previous works pertinent to the study issues. The chapter reviews past literature on adoption and banking financial performance. The chapter also has given the theoretical basis guiding the study. This chapter also outlines empirical studies on how online banking influences banks' performance. A conceptual model is illustrated which portrays the relationship among the independent and dependent variables.

#### **2.2 Theoretical Perspectives**

To evaluate the embracing of online banking several things come into play, the fundamentals of technological infrastructure and services, their adoption by different stake holders in the financial services sector, regulations and policies among other factors. Numerous research and studies preceded this area have proposed various theoretical frameworks which can better the view on the factors influencing the acceptance of technology in the consumer context. The look at a number models theories and factors relating to this study.

#### 2.2.1 Technology Acceptance Model (TAM)

The TAM is a theoretical framework which was developed by Davis (1989). The theoretical perspective proposes that the connection between users' acceptance of any innovative and the users' perceived ease of use and usefulness of such a technology. The TAM perspective suggests that for any new technology, several issues determine the decision about how and when the technology will be used. These issues include the perceived usefulness (PU) which is the degree to which an individual expectation

that by utilising certain technology will make their task performance more efficient. The second issued identified is the Perceived ease-of-use (PEOU) which indicates extent to which individuals believe that making use of certain technology is not difficult (Davis 1989).

TAM has been empirically tested and improved resulting to three upgrades. The first upgrade is the TAM 2 which is explained by Venkatesh and Davis (2000). The second upgrade is the Unified Theory of Acceptance and Use of Technology (UTAUT) espoused by Venkatesh et al. (2003). Venkatesh and Bala (2008) have also proposed the TAM 3 in the context of e-commerce with an extension of the impact of trust and perceived risk on system use.

Legris,Ingham&Collerette (2003) did prove that TAM is a theoretical model that can help explain and predict user behaviour of information technology. Sabi (2014) also found out that the TAM theoretical perspective is a reliable and was the most applied theory as evidenced by thirty one articles or sixteen percent out of the one hundred and eighty eight articles reviewed. In the context of the study, the theory is relevant because it's a factor by which the adoption of e-banking by local banks can be rationalised. User behaviour on newly introduced information systems is a key factor in its adoption. In this study we shall conduct a research to find out the percentages of customers enrolled for online banking in Kenya this will determine the association between the expediency of information systems and the users' perceptions.

#### 2.2.2 Diffusion of Innovation Theory

This theory was developed and popularized by Rogers in 1962 after empirically analysing more than 508 studies on technology diffusion across various fields. According to Rogers (1962) the Diffusion of Innovations (DoI) Theory was as a result of contributions from the pioneering efforts in the implementation of innovations. In line with this theory, the decision to take up innovations is determined by five issues regarding the features of the innovation. These are the perceived usefulness, matching needs, intricacy, testability and visibility with the social system adopting the technology. The theory also holds that the adopters can be clustered into several categories namely innovators, early adopters, early majority, late majority and laggards. Importantly, the theory holds that customers in the innovation adoption phases differ dramatically in their features.

In the proposed study how the bank managers, employees and customers perceive the five salient features identified to indicate reliable determinants of adoption and use of e-banking in local banks. Further, within the banks in Kenya not all banks adopt the e-banking technology and those that adopt do not adopt at the same time as per the theory. The categorisation of the adopters as per the theory are the innovators, fast adopters, earlier mainstream, late mainstream and the laggards and that would be used to prove or explain why some banks adopt internet banking before others.

#### 2.2.3 Perceived Characteristics Theory

The Perceived Characteristics of the Innovation(PCI) theory was popularized by Moore&Benbasat in 1991. The theory is an improvement of the feature of the Diffusion of Innovation theory. Moore&Benbasat(1991) outlined various issues in the DoI which needed reconsiderations and improvements. The conceptual grounding regarding complexity and relative advantage were deemed to align with perceived ease of use and perceived usefulness (Moore& Benbasat, 1991).

Apart from social (result verifiability, appearance and visibility) as well as psychological ones (testability and willingness), PCI theoretical perspective also incorporates the economic features or usability of technology adoption as indicated by the relative advantage, usability and levels of alignment (Moore &Benbasat, 1991). While the PCI perspective does not characterize a novel framework for understanding the push to take up innovations, the theory contributes significantly towards the relevant scholarly and practitioner work by integrating the determinants of the adoption decisions in the broader organisational viewpoints.

The PCI theory indicates, in relation to financial context since the costs and profitability criteria make the relative advantage quite clear. There has been varied use of the perception characteristics of innovation which indicate that not all features can be said to be useful in every situation. In this theory the specific technology as well as the package of the banking services and the additional features offered by the technology affects its acceptance in the market. These elements make the theory a good grounding for the current study.

The PCI theory further argues that the characteristics of the technology, relate to either the consumer or the services being offered which in turn impacts the observed complexity since the amount of costs associated with the technology adoption. The theory holds that the characteristics also vary with each stage of adoption. For instance, within the evolution phase the characteristics are unique to the customer needs and customer segments.

In the study this theory is of significance just as the Diffusion of Innovations model and the Technology Acceptance Theory, as the PCI theory incorporates the usage/economic features of technology integration, it goes further to explain "the social" factor appearance, visibility, output demonstrability) as well as psychological (testability and willingness) which are quite helpful elements in explaining and understanding tech-based innovations adoption. This will be important in the current

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study in understanding how financial indicators of the banks are affected by internet based bank services.

#### **2.3 Empirical Review**

Available empirical studies have examined the trends in financial performance among banks offering online banking services. The subsequent sections examine international as well as local studies in an attempt to identify the research gaps.

#### 2.3.1 International Evidence

A number of empirical researches available have examined the link between ebanking and financial performance of these banks. A study by Ovidiu et al. (2015) on how performance is affected by e-banking among Romanian banking sector players found out that the banking sector players have accrued tremendous benefits since the arrival of the internet as a service offering platform. Internet profoundly brought a paradigm shift on the way in which these financial information systems have been structured to meet the client needs and aspirations. The study found out that there were only a few studies and literature which is devoted to address the influence these internet services have had among the banking sector players especially among the newer European Union members. According to the study the results suggested two distinct operational tactics used in the Romanian banks namely "cost orientation" and "online based services orientation". The study further found that only a few of the Romanian banks were able to adopt and utilise the internet banking services efficiently in ways which could enhance their performances while majority of the banks sampled preferred a combination of integrating online services in addition to the cost reduction strategies.

Another study by Jeffrey (2015), whose focus was on how integration internet banking in the banking sector enhances customers' satisfaction, noted that the adoption of e-banking would continue across the world as the spread of e-commerce caught on. The internet banking and ecommerce enable individuals to access products and service at the convenience of their workplace and homes. Jeffrey noted that one of the key challenges of the e-banking remained to keep on innovating on a faster pace than the development in changes of the consumer needs and aspirations. The industry has to continue developing more secure tools to enhance the consumer experience. The study suggests that the software and hardware makers have to keep up the pace with the internet banking needs for it to enhance the financial performance of the firms that utilise these technologies. Therefore to increase the adoption of internet banking in innovation is very necessary.

The study by Ngango(2015) sought the link among online bank services and financial indicators among banks in Rwanda. The study examined the contribution of E-banking towards performance and found out that electronic banking played a great role in performance of Rwandan banking sector players. The study found out that online banking had a huge effect on banks' performance and increased profits, return on investment, and return on equity, improved bank's managers' competence, increased bank asset and promoted the banks growth and its expansion. It was evident that e-banking promoted the effectiveness and efficiency in service delivery since clients were able to withdraw and deposit money, authorize payments and check account balance at ease. Customers were also satisfied, management quality improved and bank assets increased.

Another study by Stephen (2015) on how brick and mortal banks manage e-commerce to build its core competencies and boosts productivity examined banks e-banking

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strategy and implementation. The study found out there is linkage between IT capabilities and strategic controls in organisations. Consequently, the information technology capabilities are linked with intermediate performance measures such as income improvements though no reduced costs. In turn these intermediate performance measures are linked to the firm profitability. The study shows that effectively managing resource flows is critical for firms to achieve competitive advantage. This study shows that e-banking actually improves banks performance.

Sabi (2014) did a study diffusion of online based services among banks in developing countries in the study he reviewed a hundred and eighty eight articles which focused on internet banking up take, spread and integration in the emerging market nations. The study noted increased interest by scholars in studying online banking in the developing nations with the turn of the 21<sup>st</sup> Century. In this study results attested to the fact that the Asian countries were still dominating research on online banking, with Africa, Caribbean and Latin America nations having lower research output in the field of online banking. Sabi's study showed that internet and computer literacy which was found to be at 18.6% is one crucial factor which determines user acceptance and usage of online banking. Other important factors were found to include customers' attitude (17%); infrastructure at 9.6%; internet banking understanding (7.4%) as well as the accessibility to computers and the internet (10.6%).

#### 2.3.2 Local Evidence

In Kenya a number of researches have been done with regards to the relationship between internet banking and improving banks performance. Kombe (2015) studied financial performance was impacted by use online banks' services among commercial Kenyan Commercial Banks. The study adopted a case study of KCB and found out that internet banking reduced the transaction costs which in turn attract more potential customers. The internet banking was found to support e-banking through which customers are able to access services on a 24 hour basis at their convenience thus building strategic advantage over the banks competitors. The internet banking was found to support e-banking through which customers are able to access services on a 24 hour basis at their convenience thus building strategic advantage over the banks competitors. The author gives a workable definition of online banking which has been adopted by this study. The study refers to internet banking as the utilisation of online platforms and cable networks to offer diverse, enhanced products and services to bank'scustomers. The enhanced service offering include transferring data into individual customers' accounts. Other online banking tools also support account aggregation which enable customers to scrutinize their financial records in a repository within their banker or with other firms.

Monyoncho (2015) studied how financial indicators of Kenyan banks were affected by banking technologies. The study was grounded on the resource based theory, technology acceptance theory and the diffusion of innovations model. It was established that that e-banking influences the monetary performance among commercial banks locally. The research revealed that e-banking enhances convenience of undertaking many financial transactions at any time which suiting the customer. Under e-banking customers are able to access cash and transfer cash between accounts, pay bills and make purchases throughout the day at any day of the week. The study revealed a strong positive correlation coefficient between internet banking and financial indicators among commercial banks locally.Thus the study concluded that internet based services improved the measured financial indicators of the surveyed banks. Bichanga and Ali (2014) study sought how online based bank services affected on growing the customer base in across Kenyan banks. The study found out that electronic cash transfers does impact the expansion of the customer base among the Kenyan banks, through improvements in banking services availability to a bigger customer base across Kenya. The study also found out that the implementation of the card systems has contributed towards an expanded customer's numbers by removing or rather address the impediments that hinder the spread of bank services among those exclude by banking institutions in the country. The study calls for increased sensitization through all media outlets to create trust and reduce the security concerns and therefore ensure more people are aware of potential fraud among financial sector players.

Okiro and Ndungu (2013) conducted a study on how performance among Kenyan financial institutions is influenced by the mobile and internet banking. This study sampled two microfinance institutions, eleven SACCOS and seventeen commercial banks. The study also studied the extent of the usage of the m-banking and e-banking services in the surveyed financial firms. The study found out that internet banking enhances financial indicators of the banking industry players due to enhanced effectiveness, efficacy and efficiency. According to the study commercial banks had the largest usage level of online banking amid the surveyed financial firms.

#### 2.4 Elements of Banking Financial Performance

The banking system financial performance is determined by six factors derived from the revised CAMELS (Capital Adequacy, Asset quality, Management quality/Assessment, Earning ability, Liquidity and Sensitivity that is sensitivity to market risk, especially interest rate risk) ratings. These six components are indicative of bank being safe and sound as a financial institution (Dang, 2011). These were designed as a result of concerns relating to massive failures of banking institutions in the 1980s. The CAMELS is a powerful tool and its indicators are helpful to regulators, investors and customers in determining whether the bank has a risk of failure or they are safe to place the deposits or investments in such a bank. The ratings components are discussed in detail as follows;-

#### 2.4.1Capital Adequacy

Capital adequacy refers to equity which is supposed to balance out with the financial firm's risk exposure. The risks which face financial sector players include operational market, credit and market risks. Adequate capital enables financial institutions to cover for possible losses as well as offer protection for the firm's debt holders. Ensuring that the set minimum capital conditions have been met is an imperative in the capital adequacy decisions (Getahun, 2015).

The capital adequacy is calculated using certain the most important financial ratios. For a financial firm to be considered as reputable in the global market, the ratio of equity capital to the total assets ratio must be between four and six. Bank regulators and auditors have adopted the use of the capital to risk asset ratio to determine the capital adequacy of such banks. The adequacy of capital in firms is also assessed based on two crucial indicators including namely the ratio of capital to assets and the Capital Adequacy Ratio (CAR) (Desta, 2016).

#### 2.4.2 Assets Quality

As noted by Grier (2007), the quality of assets is one of the main reasons of most banks' collapse. One of the most vital assets categories among financial institutions is the loan portfolio. Accordingly, one of the great peril facing financial institutions is the risk of loan losses as a result of bad loans. It is incumbent upon credit analysts to scrutinize the asset quality by undertaking credit risk management and examining the quality of loan basket by means of comparative and trends analysis. Determining the quality of the assets is made tough by its reliance on the subjectivity of the analyst.

The quality of asset indicators shows the use of NPLs ratios which are the substitute of asset quality and the provision or allowance to loan losses reserve (Frost, 2004). As defined in the regular categorisation system, loans include five groups identified as the standard, sub-standard, special mention and doubtful as well as bad losses. NPLs refer to the debts falling under the three low classes which are overdue or those upon which interest has not been remitted for intern the acceptable ninety days. In certain jurisdictions regulators allow usually hundred and eighty days (Parven, 2011).

Banking institutions are highly regulated on how they treat the bad debts and they are expected to provide satisfactory provisions for such bad loans under the loan loss reserve account. The estimates about the quality of a bank's loan portfolio the amount of reserves for bad loans play a critical role. Further, the quality of asset of financial institutions is also determined by the ratio of NPLs to total Loans, NPLS to total equity, and the allowance for loan loss ratio and provision for bad loan loss ratio (Desta, 2016)

#### 2.4.3 Bank's Management Assessment

Assessment of bank's managers' quality refers to the ability among the board members and other senior managers while undertaking their roles, to manage the risks facing a firm in its operations. The risk management ability is aimed to assure stakeholders that the firms secure, health and is operating with efficiency in line with existing regulatory framework (Dang, 2011).Meulbroek (2002) states that the top managers need not be actively involved in the daily micro operations but need to

provide clear guidelines on the tolerable risk exposures limits to guarantee that suitable policies, structures and strategies are put in place.

The top managers are responsible for formulating and ensuring proper execution of visions, plans, processes and strategies which will transform the overall organisational mission, plans and risks into practical operational guidelines. Competent senior managers with required qualities and experience develop a god reputation with regard the interpersonal communication within firms (Young& Jordan, 2008). The management quality among banks is a key factor and determinant of the financial indicators as the quality of the management is directly linked with the strategic orientation and thus the financial and technical performance.

#### 2.4.4 Earning Ability

Based on the viewpoint of financial regulators, the main rationale for financial institutions' earnings, both present and past, for covering losses and enhance capital strengths in the firm. Earnings are the primary defence against the risks of undertaking in the credit and loan business as it offers the first line of defence against capital depletion occasioned by dwindling asset worth. The earnings trends also allow the financial institutions to maintain a competitive edge by availing the funds required to execute the management's strategies and manoeuvres.

The profitability is estimated based upon the total asset growth rate which is the average of past asset growth ratio, loan increase ratio- average of historical loan increase ratio and earnings increase ratio - average of historical earning increase ratio. The earning required are considered by the CAMEL's approach where majority of earnings indicates lower instability and the observed expansion trends in the previous three years are in line with or higher than requirements set by the regulator and ensure

that there exists several sources of revenue including interest and non-interest revenue streams (Jaffar & Manarvi, 2011).

#### 2.4.5 Liquidity

Liquidity refers to the ability by firms to finance their corresponding assets and meet obligations as and when they become due. For banks this is imperative to take care of anticipated and unanticipated changes in the balance sheet and make available expansion strategies funds. Under liquidity management the banks senior leadership has to be on the lookout for liquidity risk as it determines the viability of the banks. Liquidity risk refers the peril which is occasioned by inability to obtain money at a rational price within realistic time durations to settle its obligations as and when they are demanded by the creditors (Drehmann & Nikolaou, 2013).

According to Rudolf (2009) liquidity is expressive of the extent to which a bank is able of meeting its relevant commitments. It is imperative to note that financial firms get income through mobilization of as many deposits as possible at relatively low interest rates, the lending the accumulated deposits to long term investors at a higher rate able to cover the operation costs and have a profit. Profitability is estimated based upon the Customer to deposit asset and the total loan to customer deposits.

#### 2.4.6 Sensitivity

Banks are prone to numerous risks, which include credit risk, legal risk, foreign exchange risk and interest risk as a result of uncertainty, information irregularity and the policy environment. For instance, when banks have unparalleled maturities of advances they are exposed to interest rate risk. This occurs when banks raise funds through short-term deposits to finance long-term advances or purchase security with lengthier maturity. Interest rate risk is also defined by inconsistency of the market interest rate. Banks are exposed to interest risk due to information disproportionateness. Banks cannot tell *ex ante* the fraction of advances that will perform and when they carry out evaluations, credit losses are not fully excluded. To conceal interest risk, banks charge a premium based on the bank credit policy, interest on substitute assets, amount lent, and type of client and size of security. This increase the actual rate paid by borrowers and lessens the demand for advances.

#### **2.5 Conceptual Framework**

Conceptual framework depicts the connection between indicators for independent variables and indicators of dependent variable. In this study, the independent can be measured and altered by the researcher whereas the dependent variable responds to conceptualized effects. The indicators of independent variable are the ones which will dictate the direction of the indicators of the dependent variable. In this case the independent variables is internet banking which is shown by products banks have, internet expenditure, amount sent through online platforms and number of customers registered for online banking. The dependent variable is indicated by Return on Assets (ROA). The impact of internet banking and financial performance variables is a shown in Figure 2.1.

### Figure2. 1: Conceptual Model

### **INDEPENDENT VARIABLES**

### **DEPENDENT VARIABLE**



Source: Author (2017).

#### 2.6 Summary of the Literature Review

In line with the innovations diffusion perspective as discussed in this chapter, the choice to take up an innovation is influenced by, the views of the constituents of a given social structure. As highlighted in this chapter the determinants of financial performance are asset quality, capital adequacy, earning ability, liquidity and management competence. Management competence being the capacity of the board members and top bank managers, to discover, classify, manage and mitigate the risks inherent in firm's operations as well as ensuring the security, proper and efficiency in operations in line with the applicable regulatory framework. Technology Acceptance Model proposes that both the assumed utility and how easily the technology can be used are good predictors about the stance on embracing such new technologies, which affects the actual use of the system directly which affects operations and hence performance.

The study by Egland et al. (1998) did not discover any supporting proof on the effect of offering services through the internet banking platforms in comparison to the banks which had stuck to the brick and mortal approach in terms of quality of the credit portfolio, operational efficiencies and profitability. However, study done by Kadzo& Wafula(2015) concluded that that the adoption of internet leads to lower transaction costs thus attracting more customers for such banks. Further, the study by Bichanga& Ali (2014) on the effects of e-banking on growth of customer base in Kenyan banks from 2009 to 2014 concludes that transfer of money electronic has led to an expanded customer base for the banks operating in Kenya, by ensuring that services offered by the banking are accessed easily by the more people. The study by Sabi (2014) shows that the available study on e-banking in the context of developing nations was not grounded on justifiable theoretical frameworks. Most of the reviewed researchers have focused on the up take and spread concepts without outlining the applicable theories for such their research undertakings. A gap therefore exists in the theoretical study and empirical review while it is perceived that e-banking improves the performance of banks and financial institutions it's not stated in the studies reviewed whether e-banking is used in local banks to improve performance and to what extent e-banking is used. In conclusion, the research question for this study will therefore be whether e-banking is used in local banks to improve the banks performance.

#### **CHAPTER THREE: RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter introduces the guidelines to be followed in conducting the study. It focuses on: research design, sample and population, data collection as well as the analysis procedures and techniques.

#### 3.2 Research Design

The study adopted a descriptive research design for the purposes of seeking and illustrating the nature and features of the unit of analysis which in this study is the banks (Mugenda &Mugenda, 2003). Descriptive survey research design is suitable since the research is designed to construct a picture for the readers about observed effects of online banking on financial indicators among commercial banks in this nation.

#### **3.3 Population**

A population consists of the larger set of observation elements while the selected smaller set is known as the study sample (Cooper & Schindler 2008). The target population for the study consist of the 43 commercial banks as at 31<sup>st</sup>September 2017. This excluded the three banks that are under receivership.

#### **3.4 Data Collection**

Achievement of the objectives of a research study requires use of a well justified data collection approach and procedure. The respondents in the study consist of commercial banks in our country as at 31<sup>st</sup> September 2017. The source of data will be both primary and secondary. Secondary data came from published financial

statements. A questionnaire was administered to respondents. The content of the questionnaire was organised in 3 sections. The first section A enquire from the respondent the demographic data in section it sought to establish the name of the bank, the number the respondent has worked for the bank and he level of education. Section B sought to collect data from respondents regarding if internet services are offered in a number of the services listed or not. Section C sought to find out the percentage of customers registered for online banking.

#### 3.4.1 Questionnaire Validity and Reliability

Piloting was done to enhance the validity and reliability of the questionnaires. Pilot testing helped to ensure the questionnaire items are clear and easily understood by the respondents. The items which were not clear and which were not making sense were deleted or modified thus ensuring credibility of the questionnaires to be administered. Since the nature of the questionnaire in this study is brief it's not expected that the research instrument required much adjustments. Any adjustments found necessary was done on the instrument before it is administered to the respondents in the study.

Validity in research refers to the accuracy and meaning of the findings which are based on the research results (Patton 2002). Validity of the research instruments was determined through content validity. Content related validity is ideal for this study since it is in line with the research objectives.

Reliability of the data is assured since the study relied on primary data. Any modifications and amendments made by research supervisor on the research instrument was made prior to field study. They used Cronbanch's Alpha to determined reliability of the instrument. The Cronbanch coefficient of Online Customer Deposits/Total Assets was 0.7419, Cronbanch coefficient of Online Banking Transactions/Total Assets was 0.8173, Cronbanch coefficient of Internet Fees and

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Commissions/Total Assets was 0.8024, Cronbanch coefficient of Internet Banking Expenditure/Total Assets was 0.7915. The Cronbanch coefficient for all the variable were above 0.7 making data collection instrument reliable.

#### **3.5 Data Analysis**

This study used both inferential and descriptive statistics in analysing data. Data analysis procedure followed the usual four-stage phases used in research: data cleaning, reduction, differentiation and explanation. Cleaning data was involves editing, coding and tabulation with an aim of detecting errors. Analysis was done mainly using (SPSS) program. Descriptive statistics: frequencies, percentages and mean for each specified variable was calculated. Visual summaries of the data were displayed and tabulated using pie charts, line charts, bar charts and frequency distribution tables. To unearth the nature of the relationship among the variables, inferential tests of Pearson correlation coefficient and multiple regression analysis was used.

Pearson correlation coefficient helped evaluate the effect of internet banking on the banks' financial performance. Exploration of the relationships was based on the Pearson's correlation coefficient. The correlation coefficient shows the linear association strength of two variables and lies between -1 and +1.A correlation that is close to +1 indicates a significant positive relationship. Correlation that is closer to -1 shows a strong negative relationship while a correlation of 0 indicates no relationship between the two variables. The other inferential test multiple regression analysis was used to analyse the effects of internet banking on financial performance. Given the three year period of the secondary data to be gathered, regression analysis was carried

out to look into the relationship between internet banking and on financial bank performance.

#### 3.5.1 Diagnostic Tests

Diagnostic tests are performed in different ways for different samples. For this study it was unsuitable to calculate the performance of a test in a secondary population when the test given this study utilised primary population. The regularity and severity of the target conditions are expected to be smaller in primary population. The diagnostic test thus tells the appropriateness of the target population selected.

To get the most suitable study sample for this study a test of accuracy is represented by the randomly or consecutive selected series of commercial banks which the intention have implemented internet banking. There is need to use the sampling technique as an exclusion/inclusion criteria with the expectation that this led into a significant decline in accessible data. This is because respondents' sampling methods are often poorly reported in test accuracy studies. There is possibility for more useful for the sampling technique to be taken as an aspect of quality assurance for the study. There is also need to ground the inclusion criteria relating to the population on the research question characteristics.

#### 3.5.2 Analytical Model

The regression model used was:

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

 $Y_{it}$  - Financial performance as measured by Return on Asset of bank I at time t,(Net interest income /Asset growth rate)

 $\alpha$  = Estimated value of Y when all the other variables are zero

X1 - Online Customer Deposits/Total Assets

X2 - Online Banking Transactions/Total Assets

X<sub>3</sub> - Internet Fees and Commissions/Total Assets

X<sub>4</sub> - Internet Banking Expenditure/Total Assets

et - Error term

Where  $\beta_{j, j=1}$ , 2, 3 are coefficients whose sign shows the how significant the effect internet banking on financial performance of banks indexed by the return in assets. Moreover the test of hypotheses to find out the level of significance of an independent variable against the dependent variable also be tested through the multiple regression and correlation with the significance level of 95% confidence level or a *p*-value <0.05.

#### 3.5.2 Test of Significance

The study used multivariate regression model to find the value of  $\alpha 0$  and  $\beta i$  which clarifies the correlation among the independent variables and dependent variable. The reliability of the approximations of the individual variable beta was tested by p-value in the ANOVA table. The results from the ANOVA tested the suitability of the model from a statistical point of view. Adjusted R2 was used to evaluate the magnitude of variance in the dependent variable that explained the independent variables to a maximum of 1. Further, the F-test was used to test the significance of R, which is similar to testing the significance of R2 and testing the significance of the whole regression model while the t-test was utilised to show how significant the individual variable betas are.

#### **CHAPTER FOUR**

### DATA ANALYSIS AND INTERPRETATIONS OF FINDINGS

#### 4.1 Introduction

Here the outcome of the research is presented based on the data gathered from the field. The research was to establish if there's a connection between internet banking and financial performance of commercial banks in Kenya.

The study sought to collect and analyse consolidated data from the 40 commercial banks in Kenya. Secondary data obtained from reports published by the Central Bank of Kenya which regulates the bank sector and bank audited and supervision reports were used. Dependent variable, Consolidated Commercial banks' profit after tax and exceptional items were obtained from CBK's annual bank supervision reports. I used ROA as a measure of financial performance as it is the most stable measure of financial performance in commercial banks. The independent variables; Online Customer Deposit, Online Bank transaction, Internet Fees and Commissions and Internet banking Expenditure were obtained from banks annual reports. A study period of 5 years, 2012 to 2016 was used

#### **4.2 Descriptive Statistics**

Year	ROA	Online Customer Deposit /Total	Online Bank transactio n / total	Fees and Commissio ns/Total Assets	Internet banking Expenditure/ Total Assets
		Assets	Assets		
2012	0.015	0.205	0.101	0.1023	0.231
2013	0.016	0.315	0.117	0.1254	0.242
2014	0.021	0.321	0.120	0.1733	0.286
2015	0.023	0.354	0.128	0.1691	0.301
2016	0.029	0.378	0.215	0.2065	0.297
Mean	0.020	0.3146	0.1362	0.1553	0.2714
Max	0.023	0.378	0.215	0.2065	0.301
Min	0.015	0.205	0.101	0.1023	0.231

.Table 4. 1: Descriptive Statistics Analysis

Source: Research Data

From descriptive results in Table 4.1, commercial bank financial performance was measured using ROA as it is the most stable measure of financial performance. The study found that the ROA increased in upwards trends from 2012 at 0.015 to 0.029 in 2016 with a Mean M=0.020, Max M= 0.023 and Min M=0.015. The findings in Table 4.1 indicated that commercial bank online customer deposits to total asset ratio also increase in upwards trend increasing from 0.205 in year 2012, 0.315 in year 2013, 0.321 in year 2014, 0.354 in year 2015 and 0.378 in the year 2016 indicating increase on online customers deposits recording a Max Mean =0.378 and a Min Mean= 0.205.

The descriptive results in table 4.1 indicated that online bank transaction to total Asset ratio exhibited an upward trends as it increase from 0.101 in year 2012, to 0.0117 in year 2013, to 0.120 in year 2014, 0.128 in 2015 and finally to 0.215 in year 2016 recording a Mean of 0.1362 with a Max Mean=0.215 and Min Mean=0.101. The descriptive results in table 4.1 indicated that fees and commissions to total asset ratio

exhibited unstable trend with year 2012, 2013 and 2014 indicated an upward trends from 0.1023,0.1254 to 0.1733 respectively before declining to in year 2015 to 0.1691 before increasing to 0.2065 attaining a mean of 0.1553 with a Max Mean= 0.2065 and a Min mean =0.1023. Descriptive results further indicated that internet banking Expenditure to total asset ratio indicated a positive trend from 0.231 in year 2012, 0.242 in year 2013, 0.286 in year 2014 to 0.301 in year 2015 before declining to 0.297 in year 2016 and achieve a mean of 0.2715, a Max mean=0.301 and Min Mean=0.231 an indication of variation in internet banking expenditure among the banks.

#### **4.3 Correlation Analysis**

		(ROA)	OCD	OBT	F&C	IBE
	Pearson Correlation	1				
(ROA)	Sig. (2-tailed)	0.000				
	N	200				
OCD	Pearson Correlation	.792**	1			
	Sig. (2-tailed)	.001	0.0015			
	Ν	200	200			
OBT	Pearson Correlation	.617*	.409	1		
	Sig. (2-tailed)	.0012	.013			
	N	200	200	200		
F&C	Pearson Correlation	469*	.659	0.324	1	
	N	200	200	200	200	
	Sig (2-tailed)	0.0011	0.025	.476	0.638	
IBE	Pearson Correlation	682*	.655	0.411	0.345	1
	Sig. (2-tailed)	0.012	0.332	.254	.761	.776
	N	200	200	200	200	200

 Table 4. 2: Correlation between Internet banking and Return on Assets

\*\*-Correlation is significant at the 0.01 (2 tailed)

\*- Correlation is significant at the 0.05 (2 tailed)

The correlation between internet banking and financial performance both in direction either positive or negative and strength of association were determined using Pearson Product Moment correlation coefficient. This would help in assessing whether there exists any association the study variables before further regression analysis. The criterion employed was that Correlation Coefficient of 0. 7 and above was strong, 0.4and less than 0.7 was assigned moderate 0 and less than 0.4 weak (Mirie, 2014)

The correlation coefficient was also used to test whether there existed were if the correlation coefficiencent if more than 0.9 (r>0.9) there exist high multicollinearity which may led to unreliable regression model (Dancey & Reidy, 2011). The results in Table 4.2 shows that there is a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets(ROA) where r=0.792, P V=0.000), there is a moderate, significant and positive correlation between Online banking transactions and ROA where r=0.617, PV=0.0012, Internet transaction Fees and Commissions (F&Cs) has a moderate significant and negative correlation with ROA, r=0.469, PV=0.0011<0.05 and that there exist a strong, significant and negative relationship between Internet banking Expenditure and ROA , as r=- 0.682, PV=0.012. The study found that online customer deposits, online banking transaction has a significant relationship with ROA while fees and commissions on internet banking expenditure had a negative relationship with ROA in commercial banks.

## 4.4 Regression Model Summary

In order to establish the relationships and effects of internet banking on financial performance in banks in Kenya.

<b>Table 4.3:</b>	Regression	Analysis	<b>Results</b>

Regressio	RegressionModel Summary: Dependent variable ROA						
R	R						
R Square	R Square			0.6734			
Adjusted	R Square			0.6681			
Std							
Erro				0.041			
Goodness	s of Fit						
		Degree of freedom		Sum of Squares	Mean So	quare	
Regressio	Regression			8.221	3	32.884	
Residual		195		0.281	113.1		
Total	Total			0.580	145.984		
Calculate	d F	•		16.424			
Significan	nce F			0.0086			
Output o	f Regression – Co	o-efficient	E				
Model	Unsta	indardized		Standardized	t	Sig.	
	Co	pefficients					
				Coefficients			
	В	Std. Error		Beta			
(Constant)	8.445	95.845		9.908		.001	
OCD	0.78936	.078		.486 10.12		.000	
OBT	0.20064	.016		.269 12.54		.0014	
F&C	-0.62259	0.069		-0.642	9.023	0.033	
IBE	-0.24806	0.032		-0.365	7.752	0.018	

The study multiple regression model had an adjusted  $R^2 = 0.6681$  and standard error of 0.041 which denote that the mean deviation of ROA predicted resultant regression model at 95% confidence level. Internet banking account for 66.81% variance of ROA in commercial banks in Kenya. The findings in table 4.3 show that the variable had a significant goodness of fit between variable as F- calculate, 16.424 (0.67/0.04).

The results in Table 4.3 shows that ROA of bank was significantly predicted by Online customer Deposits (OCD) ( $\beta = 0.78936$ , P=0.000< 0.05). This implication is that increase in Online Customer Deposits would lead to significant increase in ROA in commercial banks locally.

The outcome is Online banking transaction significantly predict ROA ( $\beta = 0.20064$ , P= 0.0014<0.05), Fees and Commissions on internet banking predict a negatively and significant influence on ROA in banks ( $\beta_3 = -0.62259$ , P=0.033<0.05) and internet banking expenditure predict significant and negative effect on ROA in banks ( $\beta_4 = -0.24806$ , P=0.018<0.05).

#### 4.5 Interpretation of the Findings

The study established that ROA in banks increased in upwards trends due to internet banking as from 2012 at 0.015 to 0.029 in 2016 with a M=0.020. The results indicated that commercial bank online customer deposits to total asset ratio increase in upwards trend increasing from 0.205 in year 2012, to 0.378 in the year 2016 indicating increase on online customers' deposits. The results concurred with Ali (2014) who revealed that online based bank services increase customers growing the customer across Kenyan banks.

Results also indicated that online bank transaction to total Asset ratio increased in an upwards trend from 0.101 in year 2012, to 0.215 in year 2016 with a Mean of 0.1307. The increase in internet banking expenses fees and commissions to total asset ratio had an increased mean of 0.1362 but exhibited unstable trend with year 2012, 2013 and 2014 indicated an upward trends from 0.1023,0.1254 to 0.1733 respectively before declining to in year 2015 to 0.1691 before increasing to 0.2065. The study concluded with Kombe (2015) who indicated that increase internet banking transactions has led to increase in financial performance was impacted by use online banks' services among the commercial banks in Kenya.

Descriptive results exhibited an increasing trend of internet banking Expenditure to total asset ratio with a mean of 0.301 and variation in internet banking expenditure among the banks. The correlation results indicated there is a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets (ROA) where r=0.792, P V=0.000), there is a moderate, significant and positive correlation between Online banking transactions and ROA where r=0.617, PV=0.0012. The study concurred with Ngango (2015) who revealed that revealed that online banking services improve banks' performance and increased profits, return on investment, and return on equity, improved bank's managers' competence, increased bank asset and promoted the banks growth and its expansion in Rwanda.

There exist a moderate and negative correlation between Internet transaction Fees and Commissions (F&Cs) and ROA (r=0.469, PV=0.0011 < 0.05). The study established the existence of a strong, significant and negative relationship between Internet banking Expenditure and ROA (r=-0.682, PV=0.012). The study found that online customer deposits, online banking transaction has a significant relationship with

ROA while fees and commissions on internet banking and internet banking expenditure had a negative relationship with ROA in commercial banks.

Regression results indicated ROA of bank was significantly predicted by Online customer Deposits (OCD) ( $\beta = 0.78936$ , P=0.000< 0.05) hence increase in Online customer Deposits would lead to significant increase in ROA in commercial banks in Kenya. The findings concurred with Rudolf (2009) who found that use of internet banking led to mobilization of as many online customer deposits as possible at relatively low interest rates, leading the accumulated deposits to long term investors at a higher rate able to cover the operation costs and have high bank profit.

Findings in regression model indicated that online banking transaction significantly and positively predicted ROA ( $\beta = 0.20064$ , P= 0.0014<0.05) hence an increase online banking transactions led to increase in ROA. The findings concurred with Kadzo and Wafula (2015) who revealed that the adoption of internet leads to lower transaction costs thus attracting more customers for such banks and improve bank return on assets. However, the Fees and Commissions on internet banking predicted a negatively and significant influence on ROA in banks ( $\beta_3$ =-0.62259, P=0.033<0.05) and therefore increase in internet fees and commission led to decrease in ROA while internet banking expenditure predicted significant and negative effect on ROA in banks ( $\beta_4$  =-0. 24806, P=0.018<0.05) hence increase in internet banking expenditure led to decrease in ROA in banks.

#### **CHAPTER FIVE**

#### SUMMERY, CONCLUSION AND RECOMMENDATIONS

#### **5.1 Introduction**

This chapter provides a summary of the findings; the conclusion and the recommendations on effects of internet banking on financial performance of commercial banks in Kenya.

#### 5.2 Summary

The study revealed that ROA in banks went up due to internet banking. Increase in commercial bank online customer deposits through internet banking and increase on online customers deposits led to increase in bank ROA

The study established that online bank transaction to total Asset ratio increased in an upwards trend over the specified study period. Further increase in internet banking expenses fees and commissions to total asset ratio increased over the study specified period but exhibited unstable trend as it fluctuated as it declined in year 2015 with and increase in year 2016. The study established as increasing trend of internet banking Expenditure to total asset ratio and variation in internet banking expenditure among the banks.

The study established a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets (ROA). There is a moderate, significant and positive correlation between online banking transactions and ROA. The study however found that exist a moderate and negative correlation between Internet transaction Fees and Commissions (F&Cs) and ROA. The study results went on to reveal that there exist a strong, significant and negative relationship between Internet banking Expenditure and ROA. My research found that online customer deposits, online banking transaction has a significant relationship with ROA while fees and commissions on internet banking and internet banking expenditure had a negative relationship with ROA in commercial banks.

Regression results established that ROA of bank was significantly predicted by Online customer Deposits (OCD) and increase in Online customer Deposits would lead to significant increase in ROA in commercial banks in Kenya.

Findings in regression revealed that online banking transaction significantly and positively predicted ROA and that an increase online banking transactions led to increase in ROA. However, the Fees and Commissions on internet banking predicted a negatively and significant influence on ROA in banks hence increase in internet fees and commission led to decrease in ROA while internet banking expenditure predicted significant and negative effect on ROA in banks increase in internet banking expenditure led to decrease in ROA in banks.

#### **5.3 Conclusions**

The study concluded that online bank transaction to total Asset ratio increased in an upwards trend in specified study period. The conclusion was that there exist a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets (ROA). There is a moderate, significant and positive correlation between online banking transactions and ROA. The study however found that exist a moderate and negative correlation between Internet transaction Fees and Commissions (F&Cs) and ROA.

Online customer deposits, online banking transaction has a significant relationship with ROA while fees and commissions on internet banking and internet banking expenditure had a negative relationship with ROA in commercial banks.

The study concluded that ROA of bank was significantly predicted by Online customer Deposits (OCD) and increase in Online customer Deposits would lead to significant increase in ROA in commercial banks in Kenya. Online banking transaction increase customers banking transaction such as increase deposit volume positively predicting ROA and that an increase online banking transactions led to increase in ROA. Increase in commercial bank online customer deposits through internet banking and increase on online customers deposits led to increase in bank ROA

The study concluded that the Fees and Commissions on internet banking predicted a negatively and significant influence on ROA in banks hence increase in internet fees and commission led to decrease in ROA. An increase in internet banking expenses fees and commissions lower total bank asset hindering bank profitability

The study finally concluded that internet banking expenditure predicted significant and negative effect on ROA in banks increase in internet banking expenditure led to decrease in ROA in banks. Increased trend of internet banking Expenditure lower bank asset and lower bank profitability.

#### **5.4 Policy Recommendations**

The recommendation of the study is that bank management should enhance internet banking to improve financial performance in commercial banks. The need for adoption of internet banking in commercial banks is evident, since this has provided the benefit of constant access to certain core services reducing the need to interact with bank staff for many people and increase banks' ROA. Government through the financial sector regulatory authorities, more so CBK, should encourage banks to improve internets banking but at the same time closely regulating such expenditure on developments to assure on the integrity of more so the payment systems. Internet banking is the engine of increase ROA in banks. Faster and more financial service delivery spurs development of businesses and economic growth in all other sectors in addition to facilitating financial deepening.

The study established there is a strong, significant and positive correlation between online Customer Deposit (OCD) and Return on Assets (ROA). There is a moderate, significant and positive correlation between online banking transactions and ROA. The study results went on to reveal the existence of a strong, significant and negative relationship between Internets banking Expenditure.

The study recommends that improve on adoption of internet banking to increase bank return on assets. The regression results confirmed that ROA of bank was significantly predicted by online customer Deposits (OCD) and increase in Online customer Deposits would lead to significant increase in ROA in commercial banks in Kenya.

The study recommend that bank management should lower internet banking internet fees and commissions to increase banks' total asset and lower profitability of the banks. The results revealed that there exist a moderate and negative correlation between Internet transaction Fees and Commissions (F&Cs) and ROA. The study recommends that banks should devise measures to reduce Fees and Commissions on internet banking to increase ROA in banks.

Further bank management should be cautiously invest in internet banking and minimise internet banking expenditure predicted to improve ROA in banks.

#### 5.5 Limitations of the Study

In conducting the study, the researcher experienced a number of difficulties. One of the difficulties faced was inadequate support from some banks that were reluctant to provide data for the study. This study was relying on financial records and annual reports from commercial banks but then some banks were not willing to offer such data. The researcher explained to the banks management that the sought material was for academic research and there would be confidentiality in handling such data.

Another limitation was that, majority of the small banks, though they formed part of the sample size, some had not adopted online banking unlike the banks in the first tire. This limited data collected from these banks could not therefore form a clear comparison on the effect of internet banking financial performance of small and larger banks.

The third challenge was limitation of information given by the banks. Some banks were secretive or rather limited the information they gave out. Some of the information such as number of transactions recorded, amount of deposits from specific transactions was not provided. Some of this information was crucial for the study to make a formidable conclusion. However, the researcher made efforts and supplemented the data from CBK supervision financial reports.

#### 5.6 Areas For further Research

This study was concerned with the association between internet banking and financial performance of commercial banks in Kenya. A further study should be carried out to determine the effect of internet banking on asset quality of commercial banks in Kenya and Financial institution such as Micro finance institutions and Credit unions that adopt internet banking. Further research should be carried out to determine the

effects of internet banking on financial performance in Microfinance institutions, Savings and Cooperative societies in Kenya. A further study should be carried out to determine the relationship between internet banking and non funded income in commercial banks in Kenya

The study found out that there has been better adoption of internet banking by the financial institutions. The researcher recommends that an advanced research should be conducted to establish the relationship between online banking and loan portfolio performance in commercial banks.

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#### APPENDICES

# Appendix I: Commercial Banks in Kenya as at 30<sup>th</sup> September 2017

- 1. ABC Bank
- 2. Bank of Africa
- 3. Bank of Baroda
- 4. Bank of India
- 5. Barclays Bank
- Charter House Bank Limited(Under Statutory Management)
- Chase Bank Kenya(Under Receivership)
- 8. Citibank
- 9. Consolidated Bank of Kenya
- 10. Cooperative Bank
- 11. Commercial Bank of Africa
- 12. Credit Bank
- 13. Development Bank of Kenya
- 14. Diamond Trust Bank
- 15. Dubai Bank Kenya(In receivership)
- 16. Ecobank
- 17. Equity Bank
- 18. Family Bank
- 19. First Community Bank
- 20. Guaranty Trust Bank Kenya
- 21. Guardian Bank

#### Source CBK Report (2017)

- 22. Gulf African Bank
- 23. Habib Bank ( Acquired by Diamond Trust Bank)
- 24. Habib Bank AG Zurich
- 25. Housing Finance Company of Kenya
- 26. Imperial Bank (Under Receivership)
- 27. I&M Bank
- 28. Jamii Bora Bank
- 29. Kenya Commercial Bank
- 30. Middle East Bank
- 31. National Bank of Kenya
- 32. NIC Bank
- 33. Oriental Commercial Bank
- 34. Paramount Universal Bank
- 35. Prime Bank
- 36. SMB Bank
- 37. Spire Bank
- 38. Sidian Bank
- 39. StanbicBank
- 40. Standard Chartered
- 41. Trans National Bank
- 42. United Bank for Africa
- 43. Victoria Commercial Bank

#### **Appendix II: Bankers Questionnaire**

#### Introduction

1

- a) The questionnaire is meant for academic research purposes and shall not be used for any purpose whatsoever.
- b) You are not required write your name or contact on the research questionnaire
- c) Tick the appropriate answer and in cases where comments are needed respond accordingly
- d) In cases of difficulty please ask for assistance
- e) There should be no victimization of whatever kind based on the answers provided and any persons using the responses to judge or victimize shall be liable to legal action

#### **SECTION A: DEMOGRAPHIC DATA**

Name of bank .....

1. How many years have you worked for the bank?

Under 5 Years	[]
5-10 Years	[]
10-15 Years	[]
Over 10 years	[]

2. State your highest level of education attained?

Diploma	[]
Under Graduate Degree	[]
Master's Degree	[]
PhD	[]

#### **SECTION B:**

#### Please indicate the online products offered by your bank. Tick as Appropriate

SERVICE OFFERED	YES	NO
Acceptance of deposits		
Acceptance of payments for beneficiaries (utilities, taxes)		
Deposit services – Acceptance of deposits		

### **SECTION C**

Please indicate the approximate percentage range of customers registered for online banking.

Under 20% [] 21% - 40% [] 41% - 60% [] 61% - 80% [] Over 80% []

Please indicate Internet banking (ICT) expenditure: Year Amount (Kshs)

2012			
2013			
2014			
2015			
2016			

Number of Online Bank Transactions Year 2012	Number
2013	
2014	
2015	
2016	
Number of Online Bank Accounts Year 2012	Number
Number of Online Bank Accounts Year 2012 2013	Number
Number of Online Bank Accounts Year 2012 2013 2014	Number
Number of Online Bank Accounts Year 2012201320142015	Number

#### **ROA-** Financial Performance

	2016	2015	2014	2013	2012
	ROA	ROA	ROA	ROA	ROA
African Banking Corporation Ltd	1.61%	1.49%	2.9%	2.9%	2.9%
Bank of Africa (K) Ltd	-2.07%	0.33%	2.0%	2.0%	1.3%
Bank of Baroda (K) Ltd	3.65%	4.35%	4.8%	4.8%	2.4%
Bank of India	3.49%	3.74%	4.1%	4.1%	7.0%
Barclays Bank of Kenya Ltd	5.01%	5.44%	5.8%	5.8%	3.6%
CfC Stanbic Bank (K) Ltd	3.56%	4.31%	4.1%	4.1%	3.5%
Citibank N.A. Kenya	6.33%	5.22%	7.0%	7.0%	10.4%
Co - operative Bank of Kenya Ltd	4.14%	4.43%	3.6%	3.6%	4.0%
Commercial Bank of Africa Ltd	3.14%	2.57%	-0.8%	-0.8%	1.0%
Consolidated Bank of Kenya Ltd	0.35%	-1.82%	4.7%	4.7%	4.8%
Credit Bank Ltd	-1.74%	-1.02%	1.0%	1.0%	1.3%
Development Bank of Kenya Ltd	1.05%	1.88%	1.8%	1.8%	0.8%
Diamond Trust Bank (K) Ltd	3.69%	4.47%	4.9%	4.9%	4.9%
Ecobank Kenya Ltd	0.18%	-1.09%	-3.3%	-3.3%	-4.8%
Equatorial Commercial Bank Ltd	-4.53%	-2.78%	1.0%	1.0%	-4.6%
Equity Bank Ltd.	6.56%	7.26%	7.7%	7.7%	7.4%
Family Bank Ltd.	3.55%	4.24%	4.0%	4.0%	2.7%
Fidelity Commercial Bank Ltd	-1.84%	1.80%	2.5%	2.5%	0.9%
First Community Bank Ltd	0.07%	0.67%	1.8%	1.8%	2.0%
Giro Commercial Bank Ltd	3.03%	3.13%	2.8%	2.8%	2.9%
Guaranty Trust Bank Ltd	1.86%	2.08%	1.6%	1.6%	1.7%
Guardian Bank Ltd	2.25%	2.59%	3.0%	3.0%	1.9%
Gulf African Bank Ltd	4.42%	3.11%	2.7%	2.7%	2.8%
Habib Bank A.G. Zurich	3.53%	5.29%	4.3%	4.3%	4.2%
Habib Bank Ltd	4.74%	5.63%	6.2%	6.2%	6.5%
I&M Bank Ltd	5.66%	5.64%	5.5%	5.5%	5.2%
Jamii Bora Bank Ltd	0.22%	0.73%	1.3%	5.8%	5.5%
Kenya Commercial Bank Ltd	5.01%	4.61%	4.2%	1.3%	1.5%
Middle East Bank (K) Ltd	0.75%	5.93%	5.5%	4.2%	5.2%
National Bank of Kenya Ltd	-1.34%	1.28%	1.4%	5.5%	3.2%
NIC Bank Ltd	3.99%	1.90%	1.9%	1.4%	0.8%
Oriental Commercial Bank Ltd	0.49%	4.44%	4.6%	1.9%	1.7%
Paramount Universal Bank Ltd	1.60%	1.07%	2.5%	4.6%	4.2%
Prime Bank Ltd	3.99%	1.32%	1.2%	2.5%	1.8%
Sidian Bank Ltd	2.72%	4.18%	3.8%	1.2%	1.2%
Standard Chartered Bank (K) Ltd	3.83%	6.42%	6.0%	6.0%	5.9%
Trans - national Bank Ltd	2.39%	1.86%	2.3%	4.7%	3.7%
UBA Kenya Ltd	-3.91%	-6.97%	-7.5%	2.3%	-13.6%
Victoria Commercial Bank Ltd	3.38%	3.68%	4.3%	-7.5%	4.8%

# Appendix III : Online Customer Deposits

BANKS	Online Cus KSHs (M)	stomer Depos	sits		
	2012	2013	2014	2015	2016
Kenya Commercial Bank I td	174	2013	938	1506	2 213
Standard Chartered Bank Ltd	374	484	699	1614	2,213
Barclays Bank of Kenya I td	705	925	932	937	1 125
Co-operative Bank of Kenya Ltd	207	614	778	8.82	1,125
CfC Stanbic Bank Ltd	323	381	842	1 462	1 181
Faulty Bank Ltd	335	682	720	2 321	3 682
Bank of India Ltd	53	78	85	177	278
Bank of Baroda Ltd	72	70	81	91	177
Commercial Bank of Africa Ltd	44	101	149	288	301
National Bank of Kenya Ltd	34	101	116	466	497
Citibank N A	62	89	103	164	308
Bank of Africa Ltd	56	81	95	101	219
NIC Bank Ltd	56	73	98	110	181
Ecobank Ltd	20	242	248	292	960
	172		2.0	_>_	200
I & M Bank Ltd		246	265	316	433
	174	_			
Diamond Trust Bank Ltd	66	74	99	98	105
Family Bank Ltd	21	59	95	98	846
Habib Bank Ltd	51	99	108	160	597
Oriental Commercial Bank Ltd	95	107	156	218	299
Habib Bank A.G. Zurich		57	66	8,4	107
	34				
Middle East Bank Ltd	65	82	85	97	107
Consolidated Bank of Kenya Ltd	69	83	107	102	122
Credit Bank Ltd	41	97	104	140	182
Trans-National Bank Ltd	49	102	169	2 06	223
African Banking Corporation Ltd		94	132	115	167
	44				
Giro Commercial Bank Ltd		101	27	170	172
	91				
Equatorial Bank Ltd		110	129	146	894
	81				
Paramount Universal Bank Ltd		102	121	176	181
	61				
Jamii Bora Bank Ltd		121	124	136	150
	59				
Guaranty Trust Bank Ltd		80	94	104	132
	52				
Victoria Commercial Bank Ltd	47	44	55	89	120
Guardian Bank Ltd	37	81	97	82	98
Development Bank of Kenya Ltd	94	103	118	129	94
Fidelity Commercial Bank Ltd	36	51	69	86	1 31
Charterhouse Bank Ltd	27	61	82	147	183
K-Rep Bank Ltd	70	96	98	108	119
Gulf African Bank Ltd	53	72	86	93	101
First Community Bank Ltd	41	63	95	99	112
UBA Kenya Bank Ltd	74	99	64	109	33

<b>Internet Banking T</b>	<b>'ransactions</b>	<b>(M</b>	KSHs)	)
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Banks	2012	2013	2014	2015	2016
African Banking Corporation Ltd	317.28	568.65	776.25	1,072.30	1,382.97
Bank of Africa Kenya Ltd	237.52	427.84	671.45	1,169.90	1,442.48
Bank of Baroda (K) Ltd	143.87	377.23	580.93	915.41	1,407.81
Bank of India	240.24	396.34	621.74	1,155.14	1,398.71
Barclays Bank kenya Ltd	759.77	859.68	1,032.12	1,364.31	1,674.66
CFC Stanbic Holdings Limited	456.50	992.40	1,070.63	1,271.47	1,523.10
Charterhouse Bank Ltd	230.01	752.89	1,033.38	1,343.91	1,587.41
Chase Bank (K) Ltd	245.52	321.41	567.41	849.32	1,646.50
Citibank N.A Kenya	307.31	356.32	539.13	1,308.74	1,651.75
Commercial Bank of Africa Ltd	569.23	825.92	1,136.58	1,352.43	1,574.21
Consolidated Bank of Kenya Ltd	477.00	764.15	1,129.23	1,379.75	1,763.30
The Co-operative Bank of Kenva	725.61	1.271.24	1.427.84	1.428.67	1.682.74
Ltd		_,	_,	-,	-,
Credit Bank Ltd	204.20	332.10	523.32	731.41	891.43
Development Bank of Kenya Ltd	395.43	764.15	844.48	1,257.39	1,472.51
Diamond Trust Bank (Kenya) Ltd	364.19	651.81	987.73	1,147.32	1,324.74
Dubai Bank Kenva Ltd	453.72	790.09	1.104.98	1.314.72	1.809.26
Ecobank Kenya Ltd	553.31	650.10	881.68	1.371.35	1.574.32
Equatorial Commercial Bank Ltd	489.29	613.76	897.13	1.074.21	1.241.74
Equity Bank Limited	969.66	1.232.07	1.342.48	1.692.00	1.857.73
Family Bank Limited	671.47	770.58	1.036.60	1.347.21	1.624.32
Fidelity Commercial Bank Ltd	271.46	407.13	685.21	957.41	1.142.86
Fina Bank Ltd	188.65	280.21	373.23	475.21	651.42
First community Bank Limited	245.41	375.62	632.47	918.74	1.023.74
Giro Commercial Bank Ltd	219.77	394.37	670.74	842.52	1,234.74
Guardian Bank Ltd	217.10	403.95	762.20	964.14	1,475.32
Gulf African Bank Limited	363.28	587.48	741.32	935.73	1,145.48
Habib Bank A.G Zurich	267.36	397.12	515.16	746.21	987.42
Habib Bank Ltd	214.59	375.47	567.75	619.20	874.23
Imperial Bank Ltd	335.43	696.34	938.41	1,217.61	1,472.84
I &M Holdings Limited	624.85	725.88	1,039.86	1,319.47	2,219.71
Jamii Bora Bank Limited	356.97	797.60	933.12	1,187.28	1,378.65
Kenya Commercial Bank Ltd	930.73	1,608.00	1,810.36	2,010.81	2,238.41
K-Rep Bank Ltd	291.54	412.34	689.77	974.21	1,243.47
Middle East Bank (K) Ltd	152.93	284.37	439.74	745.46	987.21
National Bank Of Kenya Ltd	595.66	707.71	1,191.62	1,374.21	1,574.21
NIC Bank Limited	796.44	827.70	1,179.16	1,474.31	1,859.20
Oriental Commercial Bank Ltd	223.78	416.37	718.41	941.32	1,174.51
Paramount Universal Bank Ltd	218.36	387.67	578.15	814.67	1,012.32
Prime Bank Ltd	356.12	642.32	837.22	1,142.52	1,564.21
Standard Chartered Bank Kenya	607.84	953.19	1,187.98	1,385.74	1,589.31
Ltd					
Trans-National Bank Ltd	354.20	606.24	1,077.82	1,570.20	1,910.45
UBA Kenya Bank Limited	276.52	321.17	689.71	828.56	972.32
Victoria Commercial Bank Ltd	181.56	290.72	397.18	547.41	741.85

# Appendix III: Data Analyzed

Banks	Internet Expenditure (M)				Fees and Commissions (M					
	2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Paramount	2460	19726	13258	7083	3478	1265	1004	806	561	350
Bank	4									
Oriental	2470	18048	10736	9361	2354	2572	2058	1903	471	298
Commercial	9									
Bank Ltd										
Nic Bank Ltd	1210	98034	76910	56194	24387	36079	18097	9478	7592	4769
	09									
National Bank	9031	74519	58701	45673	34657	19469	10834	4254	4327	4065
Ltd	8									
Prime Bank Ltd	4231	40921	38901	26548	12657	21376	15869	6792	3694	1879
	7									
Standard	2514	219053	19358	180657	16981	35871	32179	29142	25479	23143
Commercial	07		6		1					
Bank Ltd										
Victorial	1043	8904	8132	3670	2543	3241	1798	1033	671	396
Commercial	6									
Bank Ltd										
Middle East	3044	3216	3542	2437	1986	1730	1265	688	358	301
Bank(K) Ltd										
K-Rep bank Ltd	5602	7809	7680	5126	4798	2980	1365	1134	794	709
KCB Bank Ltd	1577	190803	18209	115861	93159	91908	69118	32699	11019	15,14
	89		7		1					6
Habib Bank A. Zurich	4,564	4,921	3,888	2,260.	1,806	2,595.	1,782	697	372	293.
Habib Bank Ltd	5,031	5,890	6,635	4,932	3,496.	2,860	2,134	1,190	812	568.
Guardian Bank	6,091	5,967	6,557	4,555	2,963	3,463.	2,161	1,176	750	481
GT Bank Ltd	8,894	9,881	11,52	8,252	5,260	5,056	3,579	2,067	1,359	855.
			2							
Giro	6,368	8,000	8,355	4,646	3,166	3,620	2,898	1,499	765	514

Commercial										
	9890	8447	8407	5942	3510	5623	3060	1508	979	570
Fidelity Bank	8,281	7,287	6,702	3,695	2,308	2546	2,639	1,202	609	375
Development	6,958	7,782	141,0	5,468	3,476	3,956	2,819	25,29	901	565
Namk Ltd			00					6		
Equity Bank Ltd	2,351	130,00	200,0	133,000	130,00	38,90	36,85	30,58	26,000	22,10
		0	00		0	9	3	8		0
Equatorial	7,317	8,731	8,490	3,001	2,351	4,160	3,162	1,523	494	382
Bank Ltd										
Diamond Trust	49,01	52,312	47,85	31,688	22,177	27,86	18,95	8,584	5,221	3,605
Bank	7		1			8	0			
Credit Bank Ltd	3,322	3,643	3,698	2,463	1,939	1,889	1,319	663	405	315
Co-operative Bank	91,475	85,212	88,213	75,214	86,313	64,980	58,139	49,074	39,259	31,407
of Kenya Ltd										
Consolidated	9,335	10,345	8,555	4,636	2,483	5,307	3,747	1,535	764	403
Bank of Kenya										
Commercial Bank	180,00	130,000	200,00	133,000	130,000	39,209	32,360	24,057	15,754	10,014
of Africa	0		0							
Citibank N.A	36,08	50,416	50,679	34,527	168,786	20,516	18,263	9,092	5,689	27,441
Kenya	6									
CFC Stanbic	6917	50416	50679	65421	44345	39328	18263	9092	10780	7209
	4									
Bank of Africa	25,39	26161	21799	11372	6560	14435	9477	3911	1873	1066
	1									
Bank of Baroda	2392	24788	26398	14746	9790	13604	8979	4756	2429	1591
	8									
Bank of India	1290	15772	16016	10347	6424	7335	5713	2881	1705	1044
	2									
Barclays Bank	9613	113000	14100	111,000	90000	54580	40935	25296	18,290	14632
of Kenya	2		0							

#### **Appendix IV: List of Banks**

- 1. African Banking Corporation Ltd
- 2. Bank of Africa Kenya Ltd
- 3. Bank of Baroda (K) Ltd
- 4. Bank of India
- 5. Barclays Bank kenya Ltd
- 6. CFC Stanbic Holdings Limited
- 7. Charterhouse Bank Ltd
- 8. Citibank N.A Kenya
- 9. Commercial Bank of Africa Ltd
- 10. Consolidated Bank of Kenya Ltd
- 11. The Co-operative Bank of Kenya Ltd
- 12. Credit Bank Ltd
- 13. Development Bank of Kenya Ltd
- 14. Diamond Trust Bank (Kenya) Ltd
- 15. Ecobank Kenya Ltd
- 16. Equatorial Commercial Bank Ltd
- 17. Equity Bank Limited
- 18. Family Bank Limited
- 19. Fidelity Commercial Bank Ltd
- 20. GT Bank Ltd
- 21. First community Bank Limited
- 22. Giro Commercial Bank Ltd
- 23. Guardian Bank Ltd
- 24. Gulf African Bank Limited
- 25. Habib Bank A.G Zurich
- 26. Habib Bank Ltd
- 27. I &M Holdings Limited
- 28. Jamii Bora Bank Limited
- 29. Kenya Commercial Bank Ltd
- 30. K-Rep Bank Ltd
- 31. Middle East Bank (K) Ltd
- 32. National Bank Of Kenya Ltd
- 33. NIC Bank Limited
- 34. Oriental Commercial Bank Ltd
- 35. Paramount Universal Bank Ltd
- 36. Prime Bank Ltd
- 37. Standard Chartered Bank Kenya Ltd
- 38. Trans-National Bank Ltd
- 39. UBA Kenya Bank Limited
- 40. Victoria Commercial Bank Ltd