DETERMINANTS OF ELECTRONIC BANKING AND OPERATIONAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

By

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD OF THE MASTER OF BUSINESS ADMINISTRATION DEGREE, SCHOOL OF BUSINESS,

UNIVERSITY OF NAIROBI

2015

DECLARATION

This research project is my original work and has not been presented for examination in any other university.

Signature …… Date …….

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D61/75883/2012

This research proposal has been submitted for examination with my approval as a University Supervisor

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DEDICATION

This research project is dedicated to my family for their constant support and encouragement throughout my studies. I cannot forget my parents for their wisdom and inspiration which has been my pillar in search for knowledge.

ACKNOWLEDGEMENTS

I thank the Almighty God for seeing me through the entire research period. Many thanks go to my supervisor Akelo Ernest for his guidance, relentless support and patience during this entire research period. I am indebted to you for your guidance and mentorship. In addition, I acknowledge my colleagues, friends and classmates for their encouragement and support during this entire period.

ABSTRACT

E-banking is regarded as the process by which customer carry out banking transactions electronically without going to a brick-and-mortar institution. With the great reception of the internet as a delivery channel for banking products and services, it has provided new business opportunities for banks as well as for customers. Electronic payment systems have become essential part in the online business process innovation, as companies look for ways to improve service delivery. This study sought to establish the operational determinants of e-banking on performance of commercial banks in Kenya. The study was guided by two objectives; to establish operational determinants of e-banking and to determine the effects of operational determinants of e-banking on performance of commercial banks in Kenya. The target population of the study consisted of all 43 operating commercial banks in Kenya, registered with the CBK where both primary and secondary data was used. The findings from this study presented significant progress towards understanding the determinants of E- banking and its perceived effect on performance of commercial banks in Kenya. The findings agree that increasing implementation of e-banking results in the increased performance and the adoption of e-banking by the banks has positively impacted on the operating efficiency of commercial banks in Kenya. The study conclude that adoption of e-banking has enhanced Kenyan banking industry by making it more productive and effective; E-banking also has a strong positive relationship on the overall banking performance by making workers performance more effective and efficiency. There is need for commercial banks to heavily invest in technology as this will highly encourage the adoption of e-banking technologies and this will influence the financial performance of commercial banks. Commercial banks should therefore continue to adopt new technologies which will improve their margins and hence their profitability in order to attract more investors. There is need for a study to be conducted to determine the relationship between e-banking and financial performance of commercial banks in Kenya.

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ABBREVIATIONS AND ACRONYMS

ATM :	Automated teller machine
CBK :	Central Bank of Kenya
ICT :	Information & communication technology
KEPSS:	Kenya Electronic Payment and Settlement System
MFC:	Mortgage Finance Company
NIAT:	Net Income After Taxes
NIM:	Net Interest Margin
PBC:	Perceived Behavioural Control
PEOU:	Perceived Ease of Use
PU:	Perceived Usefulness
ROA:	Return on Assets
ROE:	Return on Equity
RTGS:	Real Time Gross Settlement
SMS :	Short message service
SPSS:	Statistical Package for Social Science
TAM:	Technology Acceptance Model
TPB:	Theory of Planned Behaviour
US:	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Electronic funds transfer, including small payments and corporate cash managements systems, as well as publicly accessible automated machines for currency withdrawals and retail account management, are global fixtures. With the great reception of the internet as a delivery channel for banking products and services, it has provided new business opportunities for banks as well as for customers. At the same time this new opportunities carry risks as well as benefits.

Cooper, Easingwood and Edget (1994) reported that the challenges facing the current day bank managers include: ability to manage numerous and often distinct products and services; developing a capacity to meet and exceed the performance levels of sophisticated competitors; a customer-focused marketing approach; a capability to measure both market performance and product profitability and initiative and entrepreneurial thinking within their organizations. Electronic payment systems have become essential part in the online business process innovation, as companies look for ways to improve service delivery and reduce the (Kalakota & Whinston, 2009). E-payment is being used in air ticketing, insurance, banking, retail, health care, online markets and even governments - in fact, everywhere money needs to change hands (Chabra, 2009). There are many evident advantages of an electronic mode of transfer compared to the conventional clearing house, because banks are increasingly turning to technology for managing their payments (Kumar, Tat Kee & Taap Manshor, 2009). Some

of the advantages of e-payment systems include secure payments, cost cutting, payment on due date and easier cash management compared to conventional systems.

The banking industry in Kenya has invested huge sums of money, in implementing the self-banking services with the objective of improving the quality of customer service. The development of e-banking services is expected to decongest banking halls and reduce the incidences of long queues in banking halls. ICT –based financial services have made a significant contribution in reducing the cost of offering financial services (CBK 2009).

1.1.1 Electronic Banking

Electronic banking (e-banking) refers to the provision of retail and small value banking products and services through electronic channels as well as large value electronic payments and other wholesale banking services delivered electronically (Georgescu, 2005). According to Basel Committee on banking supervision, (1998 and 2003) E-banking is the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money. Burr (1996) further describes it as an electronic connection between the bank and the customer in order to prepare, manage and control financial transactions.

In addition, e-banking is regarded as the process by which customer carry out banking transactions electronically without going to a brick-and-mortar institution (Simpson, 2002). E-banking also refers to the automated delivery of new and conventional banking products and services directly to customers through electronic channels (Kricks, 2009).

Kricks further highlighted that the emergence of e-banking had not abolished traditional banking products and services but rather upgraded traditional models to improve quality and service delivery, real time access, reduce operational cost and ultimately achieve maximum efficiency in banking operations.

E-banking can be categorized into three types: Internet banking; Smart card banking and Mobile banking. Internet banking is a type of e-banking service where customers' instructions are taken and attended to through the internet. It provides customers to enjoy banking services from the comfort of their homes and offices. Mobile banking involves conducting banking services through mobile phones or fixed wireless phones. In mobile banking, instructions are passed through voice or short messages (SMS) to the computer; the computer decrypts the message and executes the instructions through a highly coded device then the response is given back to the customer electronically while Smartcard banking involves the use of electronic cards like Value Card, ATM Card, Debit Card and Credit Card. The smart card system allows customers to have easy access to cash, carry out transfers and make enquiries about their accounts without visiting the banking hall.

1.1.2 Organizational Performance

Performance is referred to as being about doing the work, as well as being about the results achieved. It can be defined as the outcomes of work because they provide the strongest linkage to the strategic goals of an organization, customer satisfaction and economic contributions (UNDESA, 2003). According to Lebans & Euske (2006), operational performance is a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results. Richard (2009) reported that operational performance encompasses three specific areas of firm outcomes:

financial performance (profits, return on assets, and return on investment), product market performance (sales, market share) and shareholder return (total shareholder return, economic value added).

According to Thompson and Strickland (2001), two very distinct types of performance yardstick from companywide perspective are those relating to financial and strategic performance. Achieving acceptable level of financial results is crucial. The argument is that without adequate profitability, a company's pursuit of its vision as well as its long term health and ultimate survival is jeopardized. Besides, neither shareholders nor creditors will continue to sink additional funds into an enterprise that can't deliver satisfactory financial results. Even so, the achievement of financial performance by itself is not enough unless a company's performance reflects improving competitive strength and stronger long term market position, its progress is less than inspiring and its ability to continue delivering good financial performance is suspect.

An organisation's operational performance could also be measured by various concepts, such as sales per employee, value of export, total assets and operation profit ratio. The ability of an organisation to survive and succeed is influenced by various factors, some of which can and some of which can't be controlled. Therefore the performance of an organisation is a function of the controllable and uncontrollable variables (Kim & Lim, 2008). Highly competitive environments, globalization, ever growing amounts of performance data and increasing pressure to do more with less have made it imperative for organisations to be demand driven. It is no wonder that measuring, reporting and

overall business performances are hot topics. Companies in every industry are seeking ways to get a clear, accurate view of operational performance to financial results.

1.1.3 Electronic Banking and Organizational Performance

Advances in technology and changing customer preferences have resulted in the development of various alternative channels of conducting banking transactions. These include internet banking, mobile banking, mobile payments, branch networking, automated teller machines, and point of sale systems, telephone banking, agency banking and social media. E-banking therefore becomes the channel of focus and is discussed herewith in detail. Internet banking refers to a bank making its services available to clients using the internet as its delivery channel. Using E-banking, registered users are able to log on to the bank's website and carry out banking transactions or inquiries on their accounts (IBS Intelligence, 2013). E-banking is also commonly referred to as online banking or internet banking.

The benefits of E-banking are varied. To the customer, it means 24/7 access to banking services; greater convenience and speed of executing transactions; no queues or waiting on hold; checking of account balances, transfer of funds to other accounts, ease of account monitoring (Pyun, Scruggs & Nan 2002). According to the fourth international conference on electronic business (2004), E-banking is an effective strategy of providing banking services to its customers that enables it to reduce its operating overheads and gain customer loyalty in the increasingly competitive environment. Challenges faced by E-banking include technophobia, high cost of internet services, security concerns and uptime of banking services.

1.1.4 Banking Industry in Kenya

The Banking Industry in Kenya is governed by the Companies Act, the Banking Act, the Commercial Banks in Kenya Act and various prudential guidelines issued by the Central Bank Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted (Price Waterhouse Coopers, 2010). According to the Central Bank of Kenya annual report as at 31st December 2012, the banking sector comprised of 44 banking institutions (43 commercial banks and 1 mortgage finance company - MFC). Out of the 44 banking institutions, 30 locally owned banks comprise 3 with public shareholding and 27 privately owned while 14 are foreign owned. The foreign owned financial institutions comprise of 10 locally incorporated foreign banks and 4 branches of foreign incorporated banks. The report indicates that, local banks dominate Kenyan banking sector in terms of numbers, and account for 66.6% of the sectors total net assets, while foreign owned banks account for 33.4%.

Kenyan commercial banks are classified into three groups using a weighted composite index that comprises assets, deposits, capital, number of deposit accounts and loan accounts. A bank with a weighted composite index of 5 percent and above is classified as a large bank, a medium bank has a weighted composite index of between 1 percent and 5 percent while a small bank has a weighted composite index of less than 1 percent. In Kenya, banks have introduced e-payment facilities, internet banking and mobile banking to enhance delivery channels to their customers. Kumar (2009) argues that there are many evident advantages of an electronic mode of transfer compared to the conventional clearing house, because of which banks are increasingly turning to technology for managing their payments.

Over the years, Kenya's banking sector has continually raised the bar in terms of innovation and technology use. Serving a client base that not only spans the country geographically, but also runs the scale from social and economic status, banks in Kenya continue to reinvent their service offering in order to stay relevant to their clients' dynamic needs. Moreover, banks have been instrumental in opening up opportunity for the marginalized through the extension of innovative services such as mobile banking, micro financing and agent banking (Kenya Bankers Association, 2013).

Availability of internet access, a pre-requisite for the utilisation of internet banking services, has been on the increase in Kenya over the last few years. According to new data from the Communications Commission of Kenya (2013), the number of internet users in Kenya stands at 16.2 million with internet penetration in the country being 41.1% by 31 December 2012 and mobile money transfer was seen to record tremendous growth in the period under review, with the number of mobile money transfer subscribers in December 2012 being 21.14 million and total deposits of Kes. 227billion. The value transferred through mobile money transfer services for the year to 30 June 2012 was Kes. 1,375.83 billion. There were 9.49 million internet subscribers as at December 6 2012, with 99% of the subscribers browsing through their mobile phones (Central Bank of Kenya, 2012).

1.2 Research Problem

Majority of the banks in Kenya are investing large sums of money in Information and Communication Technology to provide better customer services and increase their profits. The widespread availability of E-banking services are expected to influence the mixture of financial services offered by banks, the manner in which banks produce these

services and the resulting financial profitability of these banks (DeYoung, 2001). Sullivan (2000) reported that the financial performance and risk of a sample of banks that are located in Tenth Federal Reserve District states and observed that the profitability and risk of the non internet banks and internet banks in the sample are similar.

Delgado, Hernando and Nieto (2007) observed that primarily E-banking in European Union affects profitability negatively while recent studies indicate a significantly positive impact on E-banking on banks' performance. According to Sathye (2005), internet banking which is a form of electronic banking does not have significant impact on financial performance and risk on major credit unions in Australia. Acharya and Kagan (2008) indicated that the increasing use of the internet as an additional channel of banking services had significantly improved the financial performance of community banks in the US. Ciciretti, Hasan and Zazzara (2009) reported a significant positive relationship between offerings of internet banking products and Italian banks' performance and a significant negative relationship between the adoption of internet activities and banks' risks.

Local studies by Kariuki (2005) reported that ICT positively impacted banking performance using bank turnover and profits as measure of performance. The study established that those banks with high profit growth are more likely to be using greater numbers of advanced ICT. He concluded that e-banking leads to higher profitability in the long run due to high ICT investment cost. The study however did not address the effects of electronic banking on the operational performance of the commercial banks in Kenya. Njogu (2014) sought to establish the effects of electronic banking on profitability

of commercial banks in Kenya. Data was collected from the Central Bank of Kenya and Commercial banks. The study found that there was a strong positive relationship between financial performance of commercial banks and electronic banking. Electronic banking had helped the commercial banks to lower their cost of banking, through technology which created greater opportunities for the banks to offer great flexibility to the customers thereby encouraging faster adoption of electronic banking. The study however did not establish the extent to which the commercial banks had adopted e-banking and its effects on the operational performance of the banks.

Kenyan banks have embraced Information Technology to enhance profitability, effective and extensive delivery of wide range of value added products and services in their banking operations. Despite the fact that e-banking is gaining acceptance in Kenyan banking sector does not necessarily signify improved bank performance productivity or profitability. The study therefore seeks to bridge the knowledge gap since there is limited empirical evidence on the effects of electronic banking on operational performance of commercial banks in Kenya. This study was therefore filling the existing research gap by answering the following research questions: what are the operational determinants of e-banking on performance of commercial banks in Kenya?

1.3 Research Objectives

The study was based on the following objectives:

i. To establish operational determinants of e-banking among commercial banks in Kenya

ii. To determine the effects of operational determinants of e-banking on performance of commercial banks in Kenya.

1.4 Value of the Study

The finding of the study would be significant to all the managers of the commercial banks in Kenya since it will enable them understand the effect of electronic banking on performance of commercial banks in Kenya, it will assist them in making decision on whether to adopt electronic banking or not and the expected results of electronic banking adoption to the bank's profitability.

The study finding provided knowledge to policy makers in the banking industry on the expected effect of electronic banking on banks profitability; this would aid in proper designing of policies for electronic banking adoption among commercial banks in Kenya.

The study would be important to future scholars and academicians since it would form a basis for future research as well as providing literature for future studies on electronic banking.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter will specifically review theoretical review where various theories on electronic banking will be reviewed, empirical review where empirical studies done on effects of electronic banking on banks profitability will be reviewed, the concept of electronic banking and last but not the least the summary of the literature review which will summarize the existing gaps on the literature.

2.2 Theoretical Foundation

This section will review the interplay between operational determinants of E-banking and performance of commercial banks.

2.2.1 Bank-Focused Theory

The bank-focused theory emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of ATMs to internet banking, mobile phone banking or agent banking to provide certain limited banking services to banks customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking.

2.2.2 Innovation Diffusion Theory

The Innovation Diffusion Theory explains individual's intention to adopt a technology as a modality to perform a traditional activity. The theory is developed by (Roger's, 1983). The critical factors that determine the adoption of an innovation at the general level are the following: relative advantage, compatibility, complexity, trialability and observability

(Rogers, 1995). The theory seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Rogers defines diffusion as the adoption of an innovation "over time by the given social system", as a consequence diffusion processes result in the acceptance or penetration of a new idea, behaviours, or physical innovation. Rogers identified several attributes of an innovation that are key influences on adoption behaviour. According to Rogers, these attributes are relative advantage, complexity, compatibility, trialability, and observability.

Barnes (2008) advises that managers need to understand the capabilities of any particular technology and the benefits that ensue from its use in considering what technology to use with their operations, as well as understand associated costs and limitations of operating that technology. He advises the general issues to consider as the volume and variety of output that the technology can achieve, the fit with existing technology used with the organisation and the level of maturity of the technology. Johnston et al. (1993) advocate the use of three dimensions when considering what type of technology to adopt: the scale of technology, that is, its processing capacity; the degree of automation – the extent to which the technology can operate without human involvement; and, the degree of integration – the extent to which separate pieces of technology are connected to each other, within a process or between more than one processes (Johnston, Chambers, Harland, Harrison, & Slack, 1993).

Benefits of investing in the latest process technology according to Barnes (2008) are threefold: lower operating costs, due to a reduced need for resource inputs, reduced waste, reduced downtime and less maintenance; differentiation, from improved quality,

increased product variety, faster response times, etc.; and, 'new game' strategies (Dussauge, Hart & Ramanantsoa, 1992), that is using technology to change the way that business has previously been conducted in an industry or even creating entirely new businesses and industries. He, however, cautions about the challenges associated with process technology. They include the inherent risk of being the first to adopt a new technology, envisaged benefits are not materialised, and implementation is notoriously difficult, with frequent time and cost overruns and the market not being ready for the new products or services to be produced by the technology.

2.3 Electronic Banking

Electronic banking provides consumers with a convenient method of conducting bank business from the comfort and security of their own home and personal computer. Consumers can check account balances and review other account information any time of the day or night. Electronic banking has changed the face of transactional business and affects commerce across many trades and industries.

2.3.1 Customer Service quality

Customer service quality is the customer's perception of difference between expected service and perceived service (Brodie, 2011). The electronic delivery of banking service has become ideal for banks in meeting customers' expectations and building close customer relationship (Ching & Hori, 2008). It is therefore beyond any reasonable doubt that e-banking has greatly improved customer service. The use of e-banking has impacted customer service quality in many ways since; services are offered at minimal cost, it has resulted in high performance in the banking industry through faster delivery of information from the customer and service provider, customers prefer the use of e-

banking because it saves time, it facilitates the use of innovative product or service at a low transaction fees and it encourages queue management which is one of the important dimensions of e-banking service quality (Gonzalez, 2008).

2.3.2 Customer Satisfaction

Satisfaction is a person‘s feeling of pleasure or disappointment resulting from comparing a product‘s performance in relation to his or her expectation. Increase in service quality of the banks can satisfy and develop attitudinal loyalty which ultimately retains valued customers (Nadiri & Hussein, 2009). The higher level of perceived service quality results in increased customer satisfaction. When perceived service quality is less than expected service quality customer will be dissatisfied (Jain and Gupta, 2004).

According to Cronin and Taylor (1992) satisfaction super ordinate to quality-that quality is one of the service dimensions factored in to customer satisfaction judgment. E-banking currently provides for saving and current accounts holders, reduced frequency of bank hall for banking service, reduced waiting time for customers, the bank customers' satisfaction increased after being e-banking users, enables customers to control their account movements and there is high opportunity to expand e-banking service. All these have led to an increase in customer satisfaction. However, according to Nimako, Gyamfi and Wandaogou (2013) the level of satisfaction differs among different income earners high income earners tend to be more satisfied than low income earners.

2.3.3 Profitability

Apart from the smallest size banks, E-banking is more profitable than traditional banking. Furst, Lang, and Nolle (2000) suggest that this is likely due to a business strategy less focused on plain banking, and more focused on, fee-generating activities. They also

speculate that it is probably too soon to see a systematic impact of Internet banking on banks' profitability. However the relationship between Internet banking and profitability might be different for banks since different researchers have had different findings considering the relationship between e-banking and profitability. Some found a significant impact while other studies found no effect on the profitability of the banks therefore the impact and effects of e-banking vary tremendously between different banks.

2.4 Determinants of Operational Performance

The impact of size on a bank's performance has been greatly argued among researchers. De Jonghe (2010) concludes that small banks are better able to withstand difficult economic conditions, while Barros, Ferreira and Williams (2007) argue that small banks are more likely to get good performance and less chances of getting bad performance. Conversely, large banks are less likely to obtain good performance and a greater chance of getting bad results. Barros et al. (2010) responded to the argument of economies of scale and argued that some costs can be reduced simply by increasing the size.

Capitalization is measured by the ratio of equity to assets ratio (CAR capital to asset ratio). Studies have shown that a higher CAR ratio reduces the ROE due to two mechanisms: A high ratio indicates a lower risk, and the theory of markets to balance advocating a strong relationship at risk and performance would lead to infer a lower financial performance, An increase in this ratio may indicate that the share of the debt decreases and thus implies a lower earnings from the tax exemption of the debt burden.

Liquidity is measured by the ratio of loans to assets. The higher the ratio, the lower the bank has liquidity. Loan agreements usually have various maturities, and therefore, in case of urgent need of capital, the bank cannot rely on these loans, since they will only be

reimbursed later. The vast majority of authors found a positive relationship between this ratio and performance, and therefore a negative relationship between liquidity and performance. Authors obtain results more consistent with what one might think, as Berger and Bouwman (2009) which explain in detail the positive impact of liquidity on the performance of banks.

The impact of market share on performance has mainly been studied by Liu and Wilson (2010).These authors show that, at least in Japan, a negative relationship between market share and performance regardless of the type of bank. On the one hand, by analysing the behaviour of banks with low market share, banks seek to grow and gain market share. To do this, one of the few resources at their disposal is the granting of loans to risky people.

It is not easy to estimate the impact of the level of bank deposits on bank performance. Indeed, two arguments can be opposed on the one hand, a high level of deposits can increase performance, because they are more stable funding and less expensive than borrowed funds, but on the other hand, such deposits require large teams and specialist departments to manage, causing many expenses. Demirgüç-Kunt and Huizinga (1999) supported the second argument that the high costs generated by these deposits lead to weigh negatively on the performance of banks.

2.5 Empirical Review

Based on information from banks in Italy, Hasan (2002) found out that Internet banking institutions were performing significantly better than the non- Internet groups. In addition, the risk variables associated with the internet group continued to be lower

relative to the non-internet group. The asset-liability variables revealed that on average the banks in this internet group were larger and had significantly higher trading and investment activities and less dependent on retail deposits relative to the non-Internet group. The only category where the Internet group showed a lower performance was the non-interest expense category. The study indicated a positive link between offering of internet banking activities and banks' profitability and a negative association between the adoption of internet banking and bank risk levels particularly due to increased diversification.

Sathye (2005) researched on the impact of the introduction of transactional internet banking on performance and risk profile of major credit unions in Australia. Similar to the results of Sullivan (2000), the Internet banking variable did not show a significant association with the performance as well as with operating risk variable. Thus, Internet banking did not prove to be a performance enhancing tool in the context of major credit unions in Australia.

Khrawish and Al-Sa'di (2011) carried out a study on the impact of e-banking on bank profitability: evidence from Jordan. This study aimed to test the effect of e-banking services provided by banks on the internet on the profitability of these banks during the period 2000-2009. The study sample consists of all domestics banks in Jordan separated into groups: Non-internet service providers, recent adopters of the service, and early adopters of the service. Ratios are used to test the effect on profitability; these ratios are Return on Assets, Return on Equity Margin of Interest as profitability measures. Other ratios are used as independent variables which are: Market share, overhead ratio, Deposits/Assets, and Loan/Assets. Regression analysis is used to test the effect of e-

banking services on the profit. The regression analysis showed that there is no significant effect of e-banking services on the profitability of recent adopter's banks in terms of ROA, and ROE. It gives an indicator of high expenses and cost associated with applying these services. For early adopters, the result was much better than those of the late adopters, but there was not significant with the profitability of these banks.

Oyewole, Abba and El-maude (2013), did a study on e-banking and bank performance: evidence from Nigeria. The study examined the impact of electronic banking on banks' performance in Nigeria. Data comprised annual audited financial statements of eight banks that have adopted e-banking and retained their brand name, between 2000 and 2010 as well as macroeconomic control variables were employed to investigate the impact of e-banking on return on asset (ROA), return on equity (ROE) and net interest margin (NIM). Result indicated that e-banking begins to contribute positively to bank performance in terms of ROA and NIM with a time lag of two years while a negative impact was observed in the first year of adoption. It was therefore recommended that investment decision on electronic banking should be rational so as to justify cost and revenue implications on bank performance.

Khrawish and Al-sadi (2011) assessed the impact of e-banking on banks profitability for the banking sector in Jordan during the period (2000-2009). Their study found that for banks that do not apply the e-banking services through the internet, have no significant effect on the Return on Equity (ROE) and the margin of the sample, but significant in terms of Return on Assets(ROA). For banks that apply the electronic banking services for less than 2 years, there was no significant effect of these services on the return on assets and the return on equity but was found to be significant on margin. For banks that applied

the electronic banking services, there is no significant effect of these services on banks profitability after 2 years of applying it for the tested sample during the period 2000-2009.

Kingoo (2011) assessed the relationship between the dependent variable which was performance measured by return on assets and the independent variables: investments in e-banking, number of ATMS and number of debits cards issued to customers as proxy for e-banking. The study investigated 26 commercial banks in Kenya. The study found out that the banks that had adopted e-banking recorded better performance.

Ogare (2013) investigated the relationship between e-banking and performance of commercial banks in Kenya. Specifically, the study aimed to establish whether there exists a relationship between the dependent variable, for example, performance measured by profit after tax and the independent variables consisting of number of ATMS, number of debits and credit cards issued to customers, number of point of sales terminals and the usage levels of Mobile banking, Internet banking and Electronic funds transfer, as components of e-banking. The study found a positive relationship between e-banking and bank performance. The significance test showed that the influence of bank innovations on bank profitability was statistically significant meaning that the combined effect of the bank innovations in this research is statistically significant in explaining the profits of commercial banks in Kenya.

2.6 Summary of Reviewed Literature

The evidence of the impact of the adoption of e-banking on financial performance is mixed at both sides. However, the latest studies seem to find a positive relationship with

profitability. It can be argued that as the intensity and experience in the usage of the internet increases, the financial performance of multichannel banks is likely to improve. The number of banks offering financial services over the internet is increasing rapidly in Kenya. By using transactional websites customers can check account balances, transfer funds, pay or receive bills, apply for loans, and perform a variety of other financial transactions without leaving their home or place of business. In other markets internet-only banks have struggled for profitability. These difficulties contrast with relatively recent predictions that they would come to dominate traditional branching banks, (Cheruiyot, 2010).

According to the standard internet based bank business model, low overhead expenses and access to larger geographic markets should allow electronic based banks to offer better prices (higher deposit rates, lower loan rates) than branching banks, grow faster than branching banks, and still earn normal profits. However, in practice the number of physical branch locations is growing, not shrinking, (Cheruiyot, 2010). In Kenya context, many publications highlight the importance of e-banking and also its prospects for the Kenyan banking industry. However these studies do not depict an empirical relationship between banks' performance and electronic banking. On the other hand most of these studies were cross sectional no study narrowed down to focus on the effect of electronic banking on the performance of any particular or specific bank especially in the Kenyan context. The purpose of this paper therefore is to study the same correlation applicable in Kenya context, case study of all the commercial banks in Kenya.

2.7 Conceptual Framework

The conceptual model of the study was based on the following variables customer service quality, customer satisfaction and profitability. These formed the independent variables of the study. The dependent variable was the operational performance of commercial banks. Figure 2.1 below shows the conceptualization depicting the relationship of determinants of electronic banking and operational performance of commercial banks in Kenya

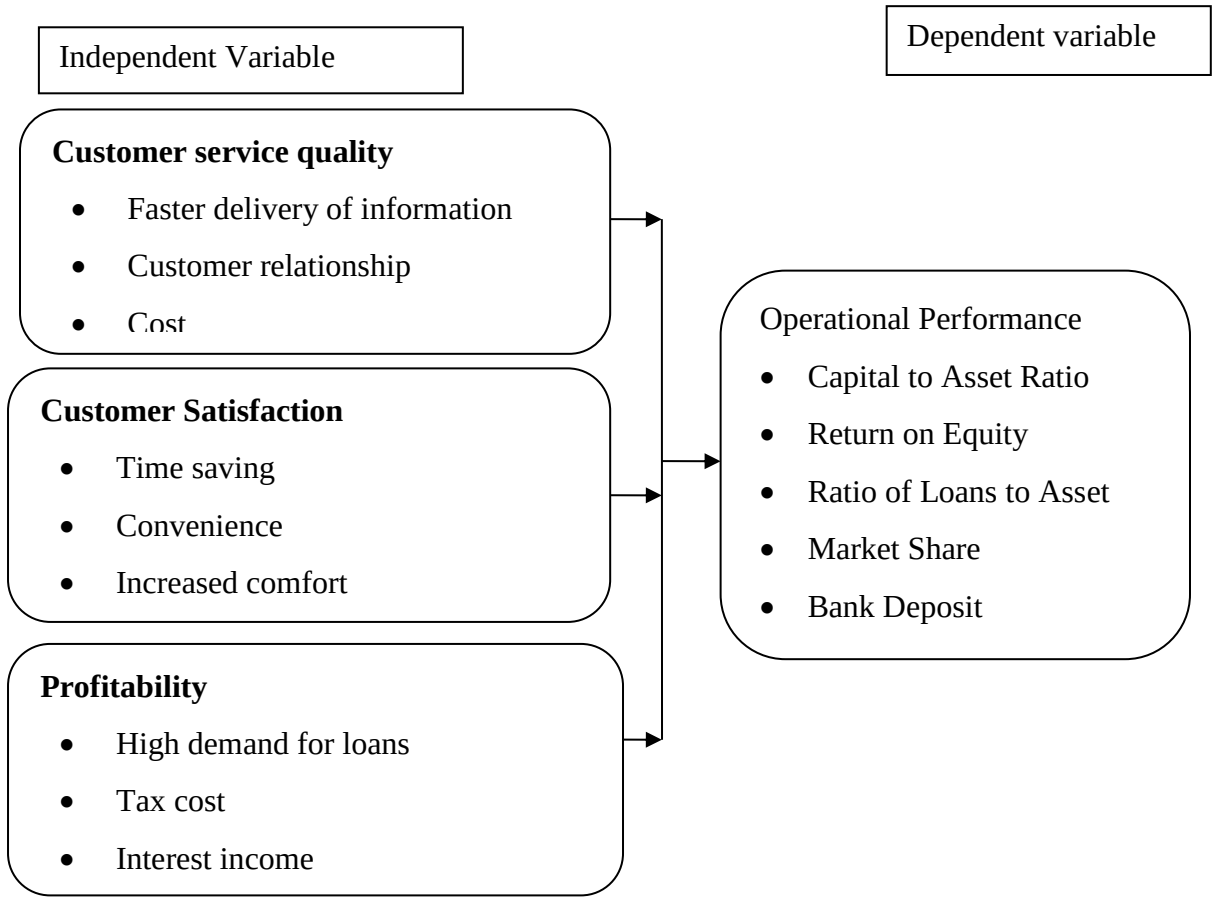

Figure 2.1: Conceptual Framework

Source: Own Compilation, 2015

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the methodology that was used to conduct the research. It describes the research design, the population, sample, data collection and how the data analysis was done.

3.2 Research Design

The study employed descriptive cross sectional census design. This refers to the techniques for collecting data on population characteristics, attitudes, thoughts and behaviour by obtaining responses from individuals to a set of prepared questions (Bryman, 2006). Lavrakas (2008) describes a descriptive census research design as a systematic research method for collecting data from a representative sample of individuals using instruments composed of closed- ended and/or open-ended questions, observations, and interviews. This design is most appropriate because it is less expensive and needs less time. In addition, the information data that was collected were of high quality since similar questions asked to all participants thus reducing any bias.

3.3 Target Population

The target population of the study consisted of all 43 operating commercial banks in Kenya, registered with the CBK. They comprise of 6 big banks, 15 medium banks and 22 small banks (CBK, 2015). Because of the small number of banks and easy accessibility from their Nairobi offices, all of the banks were included in the study hence a census.

3.4 Data Collection

The study used both primary and secondary data. Primary data were collected using questionnaires while secondary data were collected from the comparative financial reports for the last 5 years period (2009-2013). The questionnaire used both open and closed ended questions. Open ended questions were used to solicit respondent's insight information while closed ended questions were used so as to standardize the responses. The study targeted one chief operations manager from each bank hence 43 questionnaires was administered through a drop and pick later method.

3.5 Data Analysis

The completed questionnaires were edited for completeness and consistency. Descriptive analysis was used. The data was then be coded to enable the responses to be grouped into categories. Data was analyzed using excel and Statistical Program for Social Scientist version 20.0 (SPSS) as the basic computer method for data analysis. Descriptive statistics was used mainly to summarize the data. This included percentages and frequencies. Measures of central tendency will be applied (mean and percentages) for quantitative variables. Multivariate regression will be used to determine the determinants of electronic banking and operational performance of commercial banks in Kenya. The multivariate regression equation was;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Whereby Y = Operational Performance

X_1= Capitalization

X_2 = Liquidity

X_3 = Market share ε = Error term/Erroneous variables

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covered data analysis and findings of the study. The data is summarized and presented in form of frequency tables. The data collected was analyzed and interpreted in line with the objectives of the study which were; to establish operational determinants of e-banking and to determine the effects of operational determinants of e-banking on performance of commercial banks in Kenya. A total of 43 questionnaires were distributed and 31 questionnaires were responded to making the response rate 72%. This response was considerable and representative of the population. It also conforms to Mugenda and Mugenda's (1999) stipulation that a response rate of 50% and above is adequate for analysis and reporting.

4.2 Demographic Information

The study sought to find out the number of years the banks had been in operation, if the banks had adopted electronic form of banking and the general Bank products and services. The findings are shown below:

4.2.1 The Number of Years the Bank have been in Operation

The study sought to establish the number of years that the banks had been in operation. The findings were as shown in the Table 4.1.

Table 4.1 The Number of Years the Bank have been in Operation

Years	Frequency	Percentage
Less than 5 Years	2	7%
6-10 Years	5	16%
11-15 Years	13	42%
Over 15 Years	11	35%
Total	**31**	**100%**

As indicated in table 4.1, majority of the banks 42% had been in operation for 11-15 years followed by 35% for over 15 years, 16% for 6-10 years and the least 7% for less than 5 years. With majority of the banks having operated for more than 10 years, it is expected that they have a good understanding of the electronic banking hence the data collected is more reliable.

4.2.2 Adopted Electronic Form of Banking

The study sought to determine the electronic form of banking adopted by the banks. The findings are shown in Table 4.2.

Table 4.2: Adopted Electronic Form of Banking

	Frequency	Percentage
Cash deposit and withdrawal	6	19%
Debit cards	7	23%
Visa cards	4	13%
Finance Bank guarantees	3	10%
Bankers cheques	4	13%
Credit cards	3	10%
Letter of credit/Trade	2	6%
Electronic Money transfer Services	2	6%
Total	**31**	**100%**

As indicated in Table 4.2, majority of the banks 23% had adopted debit cards as a form of banking, followed by Cash deposit and withdrawal at 19%, Visa cards and bank cheques had 13% each, Finance Bank guarantees and credit cards had 10% each and Letter of credit/Trade and Electronic Money transfer Services had the least at 6%.

From the findings it shows that debit card and cash deposit and withdrawals had been widely adopted electronic form of banking by the commercial bank in Kenya this concurs with the findings of Gonzalez (2008) that it facilitates the use of innovative product or service at a low transaction fees and it encourages queue management which is one of the important dimensions of e–banking service quality.

4.3 Operational Determinants of E-Banking

The study sought to find out to the extent to which operational determinants of E-banking had been used. The findings are as presented on Table 4.3.

Table 4.3: Operational Determinants of E-Banking

	Mean	Std Dev
The impact of size on a bank's performance has greatly increased	3.35	1.14
Capitalization of the bank has increased due to e-banking	3.43	1.15
Liquidity of the bank has increased due to the use of e-banking	3.49	1.16
The market share of the bank has greatly increased the performance.	3.24	1.12
The level of bank deposits on bank has improve the performance of the bank	3.19	1.13

As indicated in Table 4.3, Liquidity of the bank has increased due to the use of e-banking had the highest mean of 3.49 with a standard deviation of 1.16,this is inconsistent with Berger and Bouwman (2009) which explain in detail the positive impact of liquidity on the performance of banks. Capitalization of the bank had increased due to e-banking which had a mean of 3.43 with a standard deviation of 1.14. The impact of size on a bank's performance has greatly increased had a mean of 3.35 with a standard deviation of 1.13 this concurs with the study of Barros, Ferreira and Williams (2007) who argue that small banks are more likely to get good performance and less chances of getting bad performance.

The market share of the bank has greatly increased the performance had a mean of 3.24 with a standard deviation of 1.12 which contradict with Liu and Wilson (2010) who showed that, at least in Japan, a negative relationship between market share and performance regardless of the type of bank. The level of bank deposits on bank has improve the performance of the bank had the least mean of 3.19 with a standard deviation

of 1.12 this is in consistent with the study of Demirgüç-Kunt and Huizinga (1999) who argued that the high costs generated by these deposits lead to weigh negatively on the performance of banks.

4.3.1 Extent to which Operational Determinants of E-Banking Influence the Performance of the Bank

The study sought to establish the extent to which the Operational Determinants of E-Banking Influence the Performance of the Bank. The findings are shown in Table 4.4.

Table 4.4: Extent to which Operational Determinants of E-Banking Influence the Performance of the Bank

	Frequency	Percent
Very great extent	12	38%
Great Extent	16	52%
Moderate Extent	3	10%
Total	**31**	**100%**

From the findings in Table 4.4, Majority of the respondents 52% agreed to a great extent that operational determinant of e-banking influence the performance of their banks, 38% to a very great extent and the least 10% to a moderate extent. This shows that the operational determinants of e-banking had improved the banks performance to a great extent as most of the banks were adopting the new technology.

4.3.2 Effects of Operational Determinants of E-Banking on the Performance of the Banks

The study sought to establish the effects of operational determinants of e-banking on the Performance of the Bank. The respondents were asked to indicate the extent to which it influences performance in their banks on a scale of 1-5 where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5= strongly agree. The findings are shown in Table 4.5.

Table 4.5 Effects of Operational Determinants of E-Banking

Statement	Mean	Std Dev
E-banking provides our consumers with a convenient method of conducting bank business	4.54	0.82
Our customers often check account balances and review other account information any time of the day or night	3.92	1.40
Our e-banking services have encouraged closer customer relationship	4.03	0.94
Our e-banking services are offered at minimal cost	3.59	1.24
E-banking enables faster delivery of information between the customer and the bank	3.14	1.25
Our customers prefer e–banking because it saves time	3.78	1.22
Our bank offers quality and efficient e- services	3.76	1.23
Our bank passes tax cost on to our customers by increasing the fees and the interest spread	2.41	1.34
Our shareholders' funds, reserves and retained profit affect the bank's performance	2.49	1.33
Our bank loans are on high demand	3.49	1.28
Our bank obtains revenue from dividends and gains from dealing in the securities market	3.62	1.18
E-banking service has improved our branding and response to the market	3.24	1.25
There is less cheque processing costs due to an increase in electronic payments	4.68	0.81
Reduction in costs of paper and mail distribution as bank statements and disclosures are presented online	3.68	1.24
There is less data entry as applications are processed online by customers	3.73	1.26

As indicated in Table 4.5, there is less cheque processing costs due to an increase in electronic payments had the highest mean of 4.68 with a standard deviation of 0.81 followed by E-banking provides our consumers with a convenient method of conducting bank business which had a mean of 4.54 with a standard deviation of 0.82 and e-banking services have encouraged closer customer relationship had a mean of 4.03 with standard deviation of 0.94. This implies that the quality of service had improved to a great extent according to the respondents. Customer deposits, customer withdraws and customer convenience was to have increased to a great extent.

Customers often check account balances and review other account information any time of the day or night had a mean of 3.92 with a standard deviation of 1.40, customers prefer e–banking because it saves time had a mean of 3.78 with a standard deviation of 1.2, bank offers quality and efficient e- services had a mean of 3.76 with a standard deviation of 1.2 and there is less data entry as applications are processed online by customers had a mean of 3.7 with a standard deviation of 1.3. This indicates that there was a moderate increase in information sharing and the quality of services as a result of adaptation of e-banking in commercial banks.

Shareholders' funds, reserves and retained profit affect the bank's performance had a mean of 2.5 with a standard deviation of 1.3 and bank passes tax cost on to our customers by increasing the fees and the interest spread had a mean of 2.4 with a standard deviation of 1.3.

From the findings, it shows that customer services have been improved to a great extent; this is in consistent with Ching and Hori (2008) that the electronic delivery of banking service has become ideal for banks in meeting customers' expectations and building close customer relationship. The findings are in agreement with Nadiri and Hussein (2009) that increase in service quality of the banks can satisfy and develop attitudinal loyalty which ultimately retains valued customers. Further the finding shows that apart from the smallest size banks, E-banking is more profitable than traditional banking as suggested by Furst, Lang, and Nolle (2000)

4.4 Regression

The researcher conducted a multiple regression analysis to find out the operational determinants of e-banking on performance of commercial banks in Kenya. The researcher

applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 4.6: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.929[a]	.863	.782	.28092

From the findings in Table 4.6 R was 0.93 meaning that there was a positive relationship between all the three operational determinants of e-banking and operational performance. R^2 was 0.86 implying that only 86.3% of the operational performance variations could be explained by capitalization, liquidity and market share while only 13.6% of the variations were due to other factors. This implies that the regression model has very good explanatory and predictor as only 13.6 of the variations in performance could not be explained.

Table 4.7 ANOVA

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	250	3	83.3	4.49	.013[b]
Residual	3950	213	18.54		
Total	**2.895**	**215**			

From the findings in Table 4.7, the results show that the model had an F ratio of 4.49 and the p value was 0.01<0.05, implying that the F ratio was statistically significant, therefore the overall regression model for all the three determinants is statistically significant and can be used for prediction purposes at 5 % significance level, this further indicate that the

variables (capitalization, liquidity and market share) used in this study are statistically significant.

Table 4.8 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	2.286	.622		3.675	.014
Capitalization	.696	.149	.995	4.661	.006
Liquidity	.052	.161	.060	.323	.760
Market Share	-.384	.102	-.738	-3.783	.013

$Y=2.286+ 0.696X_1+0.052X_2-0.384X_3+ \varepsilon$

Where Y is Operational Performance, X_1 is Capitalization, X2 is Liquidity, X_3 is Market Share and ε is error term.

Beta was also statistically significant for Capitalization (β=0.696, t= 4.661 and p=0.006< 5%) while for Liquidity (β=0.05, t=0.32, and p=0.76< 5%) and for Market Share was β=-0.38, t=-0.78 and p=0.013<5% which was also statistically significant. At 5% level of significance and 95% level of confidence system (Capitalization), had a co- efficient value of 0.69 level Liquidity had a 0.05 while Market Share was at -0.38, thus we conclude that Market Share on its own has an inverse relationship to overall performance of the commercial banks as the coefficient is negative.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the objective of the study.

5.2 Summary of Findings

The findings from this study presented significant progress towards understanding the determinants of E- banking and its perceived effect on performance of commercial banks in Kenya. It has been shown that adoption of e-banking strategies had a positive effect on banks' profits. According to the established relationship between e-banking and bank's performance, the findings agree that increasing implementation of e-banking results in the increase performance of commercial banks in Kenya.

The study found out that the ability of the systems determines the types of products and services the institution can offer and how efficiently those products and services will be offered to its customers. This has led to greater implementation of e-banking strategies which has resulted in diversification of banking products as well as greater efficiency in service delivery to their customers which has brought in returns and banks have put more emphasis on this in addition to interest income which is the bank's traditional main source of revenue.

In determining the effect of operational determinants of e-banking on performance of commercial banks, the study reveals that most of the commercial banks had adopted the use of e-banking. The adoption of e-banking by the banks has positively impacted on the operating efficiency of commercial banks in Kenya. For instance, there has been improvement in general quality of service delivered to customers, increased customer deposits, reduced paper work, decreased transaction processing time, improved staff productivity as well as increased customer withdrawals.

5.3 Conclusion

Most of the commercial banks in Kenya have invested significantly on e-banking applications in despite of the various challenges that exist. The study concluded that adoption of e-banking in commercial banks in Kenya has positively impacted on the operating efficiency of the banks thus improve the performance.

The study further conclude that adoption of e-banking has enhanced Kenyan banking industry by making it more productive and effective; E-banking also has a strong positive relationship on the overall banking performance by making workers performance more effective and efficiency; The adoption of e-banking has enhanced the fortune of the Kenyan commercial banks. This is especially achieved through charges on the use of debit cards and ATM withdrawal charges; the electronic banking has improved the bank customer relationship by rendering effective services throughout the day and night in every week. Customers can now have access to their account outside working hours to make withdrawal to attend to their needs; the electronic banking guideline introduced by CBK strongly helps in effective electronic banking system. Withdrawal can be made anywhere at any time and using any bank ATM machine, customer cannot make a

withdrawal more than some certain amount to allowed other customers have access to cash and money, can be transfer from one place to another through electronic means. In general conclusion the e-banking has made banking transaction to be easier by bringing services closer to its customers hence improving banking industry performance.

5.4 Limitation of the Study

The study was limited to 43 Commercial banks in Kenya; the finding of this study was generalized to the entire banking industry. The study was based on 5 years period from year 2010 to 2014. A longer duration of the study would have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem. The size of the bank was held constant across the period.

E-banking in Kenya and knowledge about use of information communications and technology innovations in the banking industry are at the infancy stage. The results of the study may not be perfectly generalizable, especially to countries who adopted innovation in information communications and technology at different time period than that of Kenya. The measurement instrument for determinants of e-banking and efficiency score could be further refined to enhance its validity in future studies.

5.5 Recommendations

From the finding there is need for various players in the banking sectors to adopt electronic banking service as this will enable them have a wider coverage, flexibility, interactivity, and greater accessibility compared to conventional banking. There is need for commercial banks to heavily invest in technology as this will highly encourage the adoption of e-banking technologies and this will influence the financial performance of

commercial banks. There is also need for commercial banks in Kenya to increase their size as it positively influence their financial performance.

Profitability is also crucial to shareholders and the market is also keen on the profitability of organizations. Any ethical and responsible attempt to improve profitability of a company will be appreciated by the shareholders. Commercial banks should therefore continue to adopt new technologies which will improve their margins and hence their profitability in order to attract more investors.

5.6 Suggestion for Further Studies

The study sought to determine the operational determinants of e-banking and the performance of commercial banks in Kenya. There is need for a study to be conducted to determine the relationship between e-banking and financial performance of commercial banks in Kenya. There are various factors that influence financial institutions to adopt technology in the banking sector; there is need for a study to be done to determine factors influencing adoption of electronic banking by commercial banks in Kenya.

Another related area of research should cover the determinants of e-bank service quality as banks need to know these determinants to improve their competitive advantage through adoption of internet banking strategies which will eventually improve the banks performance.

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APPENDICES

APPENDIX I: RESEARCH STUDY QUESTIONNAIRE

Date……

Please take a few minutes to complete this questionnaire. Your honest option will be completely anonymous, but your views, in combination with those of others are extremely important in this research. This questionnaire will last approximately 20 minutes. All the information provided will be kept strictly confidential and will only be used for the purpose of this study. Your participation will be highly appreciated.

Kindly tick the appropriate response. In case of open-ended questions, write in the space provided.

SECTION A: Demographic Information

(Please tick one box for each of the questions

1. Kindly indicate the name of your bank.....
2. How many years has your bank been in operation

   Less than 5 years [ ] 6-10 years [ ]

   11-15 years [ ] Over 15 years [ ]
3. Has your bank adopted electronic form of banking?

   Yes [ ] No [ ]
4. The following are general Bank products and services. Indicate whether the eservice / Product is available electronically in your bank

   Cash deposit and withdrawal [ ] Bankers cheques [ ]

   Debit cards [ ] Credit cards [ ]

   Visa cards [ ] Letters of credit/Trade [ ]

   Finance Bank guarantees [ ] Electronic Money transfer Services [ ]

   Treasury bills and bounds [ ] Corporate bounds [ ]

Travellers cheques [ ]

5. Please specify other operational areas where electronic operations are applied in your bank.

.....
.....
.....

SECTION B: OPERATIONAL DETERMINANTS OF E-BANKING

1. Below are statements on operational determinants of e-banking. Kindly indicate the extent to which it applies to your bank. Rate the extent to which you agree with the following statements on a scale of 1-5 where 1= strongly disagree, 2=disagree, 3= neutral, 4= agree, 5= strongly agree.

	1	2	3	4	5
The impact of size on a bank's performance has greatly increased					
Capitalization of the bank has increased due to e-banking					
Liquidity of the bank has increased due to the use of e-banking					
The market share of the bank has greatly increased the performance.					
The level of bank deposits on bank has improve the performance of the bank					

2. To what extent have operational determinants of e-banking influence the performance of the bank.

Very great extent ( )
Great extent ( )
Moderate extent ( )
Little extent ( )
No extent ( )

SECTION C: EFFECTS OF OPERATIONAL DETERMINANTS OF E-BANKING ON PERFORMANCE OF COMMERCIAL BANKS IN KENYA

1. Below are statements on effects of operational determinants of e-banking on performance of commercial banks. Kindly indicate the extent to which it applies to your bank. Rate the extent to which you agree with the following statements on a scale of 1-5 where 1= strongly disagree, 2=disagree, 3= neutral, 4= agree, 5= strongly agree.

Statement	1	2	3	4	5
E-banking provides our consumers with a convenient method of conducting bank business					
Our customers often check account balances and review other account information any time of the day or night					
Our e-banking services have encouraged closer customer relationship					
Our e-banking services are offered at minimal cost					
E-banking enables faster delivery of information between the customer and the bank					
Our customers prefer e–banking because it saves time					
Our bank offers quality and efficient e- services					
Our bank passes tax cost on to our customers by increasing the fees and the interest spread					
Our shareholders' funds, reserves and retained profit affect the bank's performance					
Our bank loans are on high demand					
Our bank obtains revenue from dividends and gains from dealing in the securities market					
E-banking service has improved our branding and response to the market					
There is less cheque processing costs due to an increase in electronic payments					
Reduction in costs of paper and mail distribution as bank statements and disclosures are presented online					
There is less data entry as applications are processed online by customers					

APPENDIX II: LIST OF COMMERCIAL BANKS IN KENYA

1. African Banking Corporation
2. Bank of Africa Ltd
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya Ltd
6. CFC Stanbic Bank Limited
7. Charterhouse Bank Limited
8. Chase Bank Limited
9. Citibank N.A.
10. Commercial Bank of Africa
11. Consolidated Bank of Kenya
12. Co-operative Bank of Kenya
13. Credit Bank Limited
14. Development Bank of Kenya
15. Diamond Trust Bank Kenya
16. Dubai Bank Limited
17. Ecobank
18. Equatorial Commercial Bank
19. Equity Bank Limited
20. Family Bank Ltd
21. Fidelity Commercial Bank
22. Fina Bank Limited
23. First community bank
24. Giro Commercial Bank
25. Guardian Bank
26. Gulf African bank
27. Habib AG Zurich
28. Habib Bank Limited
29. I&M Bank
30. Imperial Bank Limited

31. Jamii bora Bank
32. Kenya Commercial Bank Ltd
33. K-REP Bank
34. Middle East Bank of Kenya
35. National Bank of Kenya Ltd
36. National Industrial Credit Bank
37. Oriental Commercial Bank
38. Paramount-Universal Bank
39. Prime Bank Limited
40. Standard Chartered Bank Ltd
41. Transnational Bank Limited
42. UBA Kenya bank Ltd
43. Victoria Commercial Bank

APPENDIX III: TOTAL ASSETS

TOTAL ASSETS	2009	2010	2011	2012	2013
Kenya Commercial Bank	164,875,372	172,690,915	282,494	304,112	3.23E+08
Equity Bank Limited	168,223,215	223,024,556	176,911	215,829	2.38E+08
Co-op Bank	123,909,119	142,880,029	167,772	199,663	2.29E+08
Barclays Bank	100,811,750	133,889,997	167,305	195,493	2.21E+08
Standard Chartered Bank L	110,531,373	153,983,533	164,182	185,102	2.07E+08
CFC Stanbic Bank	47,146,767	62,069,592	140,087	133,378	1.71E+08
Commercial Bank of Africa	51,404,408	63,591,642	83,283	101,772	1.25E+08
Diamond Trust Bank	44,655,313	58,605,823	77,453	100,456	1.14E+08
I & M Bank	18,280,761	60,026,694	76,903	94,512	1.13E+08
Citibank, N.A.	5,130,103	54,776,432	74,646	91,520	1.1E+08
NIC Bank Ltd	97,337,054	62,552,113	73,581	69,580	92493033
National Bank(NBK)	23,697,056	107,138,602	68,665	67,155	76568930
Bank of Africa	57,628,290	29,325,841	38,734	49,105	71242659
Bank of Baroda (K) Ltd	3,664,948	6,215,384	36,701	48,958	52683299
Chase Bank Limited	6,898,919	32,444,424	36,513	46,138	52021524
Prime Bank Limited	15,358,108	4,530,094	35,185	43,463	49460889
Housing finance	6,777,889	10,478,682	31,972	40,686	43500989
Ecobank Kenya Ltd	3,364,459	19,399,089	27,210	34,590	43006228
Family Bank	4,491,372	8,031,214	26,002	31,771	36907137
Imperial Bank Limited	44,009,222	4,761,853	25,618	30,985	30721440
Bank of India	21,939,617	32,331,505	23,352	24,877	25638049
Consolidated Bank of Kenya	18,331,250	14,112,365	15,318	19,071	19639370

Fina Bank Limited	5,498,595	8,208,537	14,630	18,001	16778631
Equitorial Commercial Bank	490,890	1,723,233	12,927	17,150	16053971
Gulf African Bank	6,914,485	10,233,964	12,915	14,109	15580630
African Banking Corporation	16,919,962	26,699,124	12,507	13,562	15562475
Giro Commercial Bank	13,305,770	20,188,379	11,846	13,417	13644242
Development Bank of Kenya	8,109,411	10,649,758	11,523	12,280	13623296
Fidelity Commercial Bank	12,969,712	21,858,603	10,789	11,772	13199240
K-Rep Bank Ltd	3,100,351	4,419,806	9,319	11,745	12834687
Guardian Bank	15,394,571	19,671,456	8,754	10,323	12778509
First community Bank	51,371,890	10,398,805	8,740	9,959	11305398
Habib AG Zurich	4,461,421	10,348,739	8,722	9,702	11009480
Victoria Comm. Bank Ltd	8,971,669	4,558,349	7,645	9,548	9657868
Transnational Bank Limited	3,052,314	26,892,185	7,287	8,801	8078122
Habib Bank Limited	13,949,400	8,127,135	5,861	7,255	8028877
Credit Bank Ltd	7,339,320	4,018,428	5,394	7,014	7308854
Oriental Comm. Bank	3,141,381	7,670,050	5,030	6,407	7010323
Paramount-Universal Bank	7,136,327	5,425,541	4,727	6,220	7006527
Middle East Bank of Kenya	4,658,793	1,874,268	4,639	5,870	5765799
UBA BANK	1,596,398	9,594,061	3,206	3,480	3709630
Dubai Bank Limited	7,748,940	6,380,098	2,316	2,924	2926860
Jamii Bora Bank	4,451,626	1,723,000	2,070	2,584	2.66E+09

APPENDIX IV EQUITY CAPITAL

Equity capital	2009	2010	2011	2012	2013
Kenya Commercial (KCB)	20058	22398	4 0,876	45163	52926
Equity Bank Limited	19660	23337	2 8,308	35047	42672
Co-op Bank	20463	24210	3 1,465	29223	29583
Barclays Bank	13933	16103	2 0,202	20972	28967
Standard Chartered Bank Ltd	11390	13807	2 0,210	20571	30603
CFC Stanbic Bank	7118	8143	1 0,035	10150	18101
Commercial Bank of Africa	9190	11077	1 2,882	15112	17346
Diamond Trust Bank Kenya	5334	6263	8 ,057	10366	14878
I & M Bank	5529	6434	7 ,896	9900	15065
Citibank, N.A.	6208	7908	9 ,930	10456	10450
NIC Bank Ltd	1910	2565	4 ,744	4936	5758
National Bank(NBK)	3075	3065	3 ,898	3742	4175
Bank of Africa	845	1223	1 ,715	2969	5101
Bank of Baroda (K) Ltd	1912	2247	3 ,095	3685	4554
Chase Bank Limited	1690	2069	2 ,756	3378	4063
Prime Bank Limited	1171	1198	1 ,336	1536	2504
Housing finance	846	927	1 ,477	1435	1574
Ecobank Kenya Ltd	968	1145	1 ,631	1702	2112
Family Bank	1273	1150	1 ,224	1319	1561
Imperial Bank Limited	608	857	1 ,340	1579	1775
Bank of India	676	730	9 06	1204	722
Consolidated Bank of Kenya	424	490	8 01	1017	1185
Fina Bank Limited	1129	1107	1 ,158	1331	1527
Equitorial Commercial Bank	1229	1363	1 ,489	1562	1634
Gulf African Bank	1235	1325	1 ,541	1743	1834
African Banking Corporation	774	958	1 ,118	1280	1530
Giro Commercial Bank	835	873	948	1065	1219
Development Bank of Kenya	763	935	1 ,103	1579	2036
Fidelity Commercial Bank	620	747	896	1062	1348
K-Rep Bank Ltd	944	982	1 ,138	1290	1385
Guardian Bank	666	728	948	958	1179
First community Bank	492	527	785	1026	1136
Habib AG Zurich	877	904	1 ,027	1100	1124
Victoria Comm. Bank Ltd	411	463	596	712	917
Transnational Bank Limited	537	559	948	815	890
Habib Bank Limited	501	512	2 ,103	752	801
Credit Bank Ltd	464	465	896	688	711
Oriental Comm. Bank	428	418	2 ,138	625	622
Paramount-Universal Bank	391	371	622	562	532
Middle East Bank of Kenya	355	324	459	499	443
UBA BANK	319	278	2 ,027	436	353
Dubai Bank Limited	282	231	596	373	264

APPENDIX V: LIQUIDITY

	2009	2010	2011	2012	2013
Kenya Commercial (KCB)	27%	29%	31%	36%	45%
Equity Bank Limited	31%	34%	37%	46%	58%
Co-op Bank	23%	25%	27%	36%	45%
Barclays Bank	36%	39%	43%	39%	49%
Standard Chartered Bank Ltd	29%	31%	34%	47%	59%
CFC Stanbic Bank	32%	35%	38%	46%	58%
Commercial Bank of Africa	38%	41%	45%	35%	45%
Diamond Trust Bank Kenya	30%	33%	36%	48%	60%
I & M Bank	33%	35%	38%	38%	48%
Citibank, N.A.	54%	58%	63%	35%	45%
NIC Bank Ltd	23%	25%	27%	82%	103%
National Bank(NBK)	29%	31%	34%	30%	38%
Bank of Africa	22%	24%	26%	43%	55%
Bank of Baroda (K) Ltd	42%	45%	49%	26%	32%
Chase Bank Limited	40%	43%	47%	56%	70%
Prime Bank Limited	36%	39%	42%	48%	60%
Housing finance	25%	27%	29%	37%	46%
Ecobank Kenya Ltd	35%	38%	41%	39%	50%
Family Bank	24%	26%	28%	40%	50%
Imperial Bank Limited	29%	31%	34%	39%	49%
Bank of India	67%	72%	79%	66%	83%
Consolidated Bank of Kenya	23%	25%	28%	43%	54%
Fina Bank Limited	41%	44%	48%	47%	60%
Equitorial Commercial Bank	28%	30%	32%	44%	55%
Gulf African Bank	32%	35%	38%	32%	41%
African Banking Corporation	29%	32%	35%	29%	37%
Giro Commercial Bank	36%	39%	42%	46%	58%
Development Bank of Kenya	31%	33%	36%	55%	69%
Fidelity Commercial Bank	26%	28%	31%	34%	43%
K-Rep Bank Ltd	25%	27%	29%	39%	49%
Guardian Bank	26%	28%	30%	38%	48%
First community Bank	41%	44%	48%	40%	50%
Habib AG Zurich	62%	68%	73%	86%	85%
Victoria Comm. Bank Ltd	31%	33%	36%	31%	39%
Transnational Bank Limited	57%	62%	67%	60%	76%
Habib Bank Limited	66%	72%	78%	66%	83%
Credit Bank Ltd	35%	38%	41%	63%	79%
Oriental Comm. Bank	37%	40%	44%	49%	62%
Paramount-Universal Bank	49%	53%	58%	45%	57%
Middle East Bank of Kenya	27%	30%	32%	41%	52%
UBA BANK	63%	76%	83%	62%	78%
Dubai Bank Limited	29%	31%	34%	13%	42%
Jamii Bora Bank	24%	14%	46%	24%	

APPENDIX V: MARKET SHARE

	2009	2010	2011	2012	2013
Kenya Commercial (KCB)	12.32	13.98	14.52	13.1	12.83
Equity Bank Limited	12.74	10.72	9.98	9.3	9.79
Co-op Bank	9.15	9.09	8.9	8.6	8.61
Barclays Bank	8.17	8.95	8.41	8.4	8.09
Standard Chartered Bank Ltd	7.19	8.02	7.74	7.9	7.65
CFC Stanbic Bank	71.3	5.31	5.1	5.7	5.43
Commercial Bank of Africa	4.26	4.07	4.09	4.4	4.4
Diamond Trust Bank Kenya	3.8	3.84	3.98	4.1	4.26
I & M Bank	3.8	3.72	3.96	4.3	4.19
Citibank, N.A.	3.48	3.6	3.77	3.9	4.17
NIC Bank Ltd	3.3	3.36	3.7	3	3.39
National Bank(NBK)	3.25	3.27	3.59	2.9	2.83
Bank of Africa	1.75	1.91	1.83	2	2.4
Bank of Baroda (K) Ltd	1.62	1.81	1.7	2.1	1.93
Chase Bank Limited	1.42	1.51	1.64	2.1	1.77
Prime Bank Limited	1.32	1.54	1.49	1.9	1.74
Housing finance	1.25	1.42	1.34	1.7	1.62
Ecobank Kenya Ltd	1.14	1.26	1.37	1.5	1.55
Family Bank	1.13	1.16	1.17	1.3	1.46
Imperial Bank Limited	1.03	1.16	1.02	1.1	1.15
Bank of India	0.98	1.13	0.69	1.4	1.15
Consolidated Bank of Kenya	0.96	1.1	0.68	0.8	1.09
Fina Bank Limited	0.91	0.76	0.63	0.7	0.7
Equitorial Commercial Bank	0.65	0.63	0.6	0.8	0.62
Gulf African Bank	0.6	0.61	0.6	0.6	0.53
African Banking Corporation	0.57	0.59	0.57	0.5	0.52
Giro Commercial Bank	0.54	0.56	0.5	0.6	0.51
Development Bank of Kenya	0.53	0.56	0.47	0.5	0.5
Fidelity Commercial Bank	0.51	0.48	0.56	0.5	0.47
K-Rep Bank Ltd	0.51	0.46	0.44	0.4	0.47
Guardian Bank	0.5	0.45	0.44	0.6	0.46
First community Bank	0.41	0.45	0.44	0.4	0.46
Habib AG Zurich	0.38	0.39	0.41	0.4	0.42
Victoria Comm. Bank Ltd		0.37	0.4	0.4	0.4
Transnational Bank Limited		0.35	0.32	0.4	0.39
Habib Bank Limited		0.32	0.31	0.3	0.32
Credit Bank Ltd		0.29	0.31	0.3	0.32
Oriental Comm. Bank		0.28	0.28	0.3	0.3
Paramount-Universal Bank		0.27	0.28	0.1	0.29
Middle East Bank of Kenya		0.21	0.26	0.3	0.28
UBA BANK		0.19	0.24	0.1	0.22
Dubai Bank Limited		0.14	0.16	0.1	0.17
Jamii Bora Bank		0	0.15	0.1	0.14