THE EFFECT OF INTERNET BANKING ON CASHFLOWS OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

I, the undersigned, declare that this project is my original work and that it has not been presented in any other university or institution for academic credit.

Signature ..... Date .....

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This research project has been submitted for examination with our approval as university supervisor.

Supervisor …… Date .....

Dr. J.Aduda

DEDICATION

I dedicate this project to my grandparents Mrs. Eunice Ongubo, Mr. Johnson Apima and Mrs Celina Ang'ong'a for believing in me and encouraging me to soldier on to achieve that what my heart so desires.

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ABSTRACT

The promise of ICTs in the banking sector has been seen in terms of its potential to increase customer base, reduce transaction costs, improve the quality and timeliness of response, enhance opportunities for advertising and branding, facilitate self-service and service customization, and improve customer communication and relationship (Garau, 2002).

Internet banking is the latest development that has added a new dimension to banking transactions by making it more convenient and also contributes to the elimination of long wearisome queues in banking halls. Nonetheless, there are some problems which do not encourage banking through the internet and causes many customers to be physically present in the bank premises instead of taking advantage of internet banking though internet banking has improved banking efficiency in rendering services to customers. Financial institutions in Kenya cannot ignore information systems since they play an important role in their operations because customers are conscious of technological advancements and demand higher quality services (Okiro, Ndungu 2013). This study sought to determine the impact of internet banking on cashflow of commercial bank in Kenya.

The study was conducted on 43 commercial banks in kenya that been using internet banking since year 2009 to 2013, where secondary data from the period of 2009 to 2013 was used in the analysis. Regression analysis was used in analysis the data. From the finding it was revealed that there was great variation in cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability. From the finding on the Correlation coefficient the study revealed that there was strong positive relationship between cashflow of commercial banks and internet banking, size of the bank, bank deposits, wage and bank's profitability

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LIST OF ABBREVIATIONS

ATM	Automatic Teller Machine
CBK	Central Bank of Kenya
ICTS	Information and Communications Technologies
PE	Perceived Enjoyment
PEOU	Perceived Ease Of Use
PU	Perceived Usefulness
ROA	Return On Assets
TAM	Technology Acceptance Model
US	United States
WWW	World Wide Web

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Advances in information and communication technologies in particular, the growing use of the internet for business transaction, have had a profound effect on the banking industry. While this is a global phenomenon, creating a truly global marketplace, penetration of internet banking into less developed countries has effect on the cashflow of commercial banks in Kenya. Information and communications technologies (ICTs) have changed the approaches to conducting business transactions and meeting the growing demands of customers for most organizations (Warren 2003).

The promise of ICTs in the banking sector has been seen in terms of its potential to increase customer base, reduce transaction costs, improve the quality and timeliness of response, enhance opportunities for advertising and branding, facilitate self-service and service customization, and improve customer communication and relationship (Garau, 2002). Most banks in developed and some in developing parts of the world are now offering e-banking services with various levels of sophistication. However, most African banks seem to be content with having a Web presence with only a few of them making strides towards full-fledged e-banking applications. Since the mid-1990s, there has been a fundamental shift in banking delivery channels toward using self-service channels such as internet banking services.

Internet banking is defined as the delivery of banking services to customers through the internet (Chi *et al.*, 2007). It has become a popular channel for banks to provide banking

services to their customers. The widespread of internet banking is probably due to its conveniences. This study seeks to determine the effect of internet banking on cashflow of commercial bank in Kenya.

1.1.1 Internet Banking

Internet banking (e-banking) is the use of internet and telecommunication networks to deliver a wide range of value added products and services to bank customers (Steven, 2002) through the use of a system that allows individuals to perform banking activities at home or from their offices or over the internet. Some online banks are traditional banks which also offer online banking, while others are online only and have no physical presence.

Online banking through traditional banks enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan applications. Customers can access account information at any time, day or night, and this can be done from anywhere. Internet banking has improved banking efficiency in rendering services to customers. Financial institutions in Kenya cannot ignore information systems since they play an important role in their operations because customers are conscious of technological advancements and demand higher quality services. (Okiro, Ndungu, 2013***)***

1.1.2 Cashflow of Commercial Banks

Financial performance is any of many different measures to evaluate how well a company is using its resources to generate income (Combs et al., 2005; Richard et al., 2009). Common examples of financial performance include operating income, earnings before interest and

taxes, and net asset value. It is important to note that no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures (BCBS, 1996).

In traditional management studies, ratios are classified according to the following performance aspects measured: profitability, liquidity, leverage, and efficiency (Richard et al., 2009). These ratios can be computed directly using financial statement information. Valuation ratios are added with the traditional classification of ratios, which incorporate more current assessments by the market of the company's "worth". Simple balance sheet and income statement items are used to compute ratios to analyze financial statements of the financial institutions.

1.1.3 Internet Banking and Cashflow of Commercial Banks

Internet Banking means that banking services such as services introduction, loan application, account balance inquiry, fund transfer and so forth are provided by a bank through the internet. Internet banking has evolved into a "one step service and information unit" that promises great benefits to both banks and consumers. Internet banking offers many benefits to banks and their customers. The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction (Brogdon, 1999; Jayawardhena and Foley, 2000).

According to a global survey conducted by Booz-Allen and Hamilton (1997), the establishment of specialized Internet Banking requires only US$1-2 million, which is lower than branch-based banking setup. The traditional bank's running costs account for 50% to

60% of its revenues, while the running costs of Internet Banking is estimated at 15% to 20% of its revenues. According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch.

Sheshunoff (2000) says further that the single most important driving force behind the implementation of full service Internet banking by banks is the need to create powerful barriers to customer exiting. He argues that once a customer moves to full-service Internet banking, the likelihood of that customer moving to another financial institution is significantly diminished. The main reasons for this behavior can be found in the consumer behavior theory: switching always requires much time and effort from the individual consumer. He concluded that the competitive advantage of Internet banking for banks is very significant.

Mols (1998) Conducted a survey in Denmark argued that Internet Banking might be useful for strengthening cross-selling and price differentiation. Internet banking makes it possible for banks to offer consumer a variety of services 24/7. Internet banking is attractive because the consumer are more satisfied with their banks, are less price sensitive have the highest intention to repurchase, and provide more positive word of mouth information than other bank customers.

Online banking is the fastest growing service that banks can offer in order to gain and retain new customers (Moody, 2002). Over the past five years, the number of community banks in the USA with a Web presence has trebled to 66 per cent in 2001. It has been estimated that

by the end of 2003, 86 per cent of US banks will provide online banking services (Goldfinger, 2001). It is evident from these figures that Internet banking is growing in the USA, and that there is further growth potential.

The business benefit of the Internet, according to Gow (1997), is to generate additional revenue, improve customer service, extend marketing, and increase cost saving. Banks enjoy these benefits as well. In an article entitled "Next-generation retail banking" (Compaq, 2001), the business drivers for Internet banking included: *Additional transaction revenues*. Banks can derive revenues over and above their offline revenues by charging for online services and value-added services, such as providing a portal for financial services linked to short- and long-term insurers, links to stock brokers, and links to foreign banks. .

1.1.4 Banking Industry in Kenya

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act, and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted. The Central Bank of Kenya, which falls under the Ministry of Finance, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. Central Bank of Kenya publishes information on Kenya's commercial banks and non-banking financial institutions, interest rates and other publications and guidelines (CBK, 2011).

The role of banks in an economy is paramount because they execute monetary policy and provide means for facilitating payment for goods and services in the domestic and

international trade (Government of Kenya, 2007). Commercial banks are custodians of depositor's funds and operate by receiving cash deposits from the general public and loaning them out to the needy at statutorily allowed interest rates. Loans are based on the credit policy of the bank that is tightly coupled with the central bank interest rate policy. These in effect determine the level of financial risk in a particular bank (CBK, 2010). Mortgage loans in Kenya comprises of 90% of the outstanding loan assets portfolio.

1.2 Research Problem

Internet banking is the latest development that has added a new dimension to banking transactions by making it more convenient and also contributes to the elimination of long wearisome queues in banking halls. Nonetheless, there are some problems which do not encourage banking through the internet and causes many customers to be physically present in the bank premises instead of taking advantage of internet banking.

Transactional Internet banking is growing rapidly. It has been estimated that 60 per cent of retail banking transactions will be online in ten years' time (Barwise, 1997). A study by Booz *et al*. (1997) on Internet banking shows that "up to 20 per cent of retail and 30 per cent of corporate customers will use some form of Internet banking capability within the next five years". This study further states that Internet and other virtual banking channels have significantly lower cost structure than traditional delivery channels. "Internet banks can operate at an expense ratio of 15-20 per cent compared to 50-60 per cent for the average bank" (Booz, 1997). Thus, by encouraging customers to use the Internet for banking transactions, the banks would save considerable operating costs.

The Internet-user base in Kenya has peaked at over 500,000 by June 2005, which is considered to be one of the highest in Africa. The telecommunications sector in Kenya is also considered to be one of the most vibrant with the government actively taking steps to liberalization in order to spur competition in the sector (CCK, 2005). In addition, the growth of Internet users in Kenya is estimated at over 150% annually (IWS, 2005). With over 46 providers of banking services, it may seem that competition within the banking industry may be intense. Internet banking is becoming an increasingly visible technology, not only in other parts of the world, but also in Kenya.

Mukulu (2005) in the review of banking sector trends indicates that banks are investing heavily in technological innovations, in particular ATM and e-banking. Many have taken up international franchises for money transfers like Western Union and MoneyGram. To the researcher knowledge there is limited empirical evidence on the effect of internet banking on cashflow of commercial bank , this study seek to fill the existing research gap by conducting a study to determine the effect of internet banking on cashflow of commercial bank in Kenya. Aduda and Kingoo (2012) states that among the functions performed by banks is the provision of a payments system, the method of conducting transactions in the economy. The payments system is centered on banks and, currently, the banking system intervenes, directly or indirectly, in practically all payments, both domestic and international.

Internet banking (e-banking) is the use of internet and telecommunication networks to deliver a wide range of value added products and services to bank customers (Steven, 2002) through the use of a system that allows individuals to perform banking activities at home or

from their offices or over the internet. Some online banks are traditional banks which also offer online banking, while others are online only and have no physical presence. Online banking through traditional banks enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan applications. Customers can access account information at any time, day or night, and this can be done from anywhere. Internet banking has improved banking efficiency in rendering services to customers. Financial institutions in Kenya cannot ignore information systems since they play an important role in their operations because customers are conscious of technological advancements and demand higher quality services (Okiro, Ndungu 2013).

It is at the center of such mixed conclusions that creates and necessitates the need to carry out a study that seeks to find out the effect of internet banking on cashflow of commercial banks in Kenya.

1.3 Objective of the Study

The study sought to determine the effect of internet banking on cashflow of commercial bank in Kenya

1.4 Value of the Study

This study will be of great benefit to banking institutions in Kenya since it will outline the effect of internet banking on cashflow of commercial bank in Kenya. The development of the bank depends on several factors of which internet banking plays a major role in the current banking sector. This study will ascertain the benefits of internet banking and how it affects

cashflow of commercial bank in Kenya. This will help in developing more innovative strategies of internet banking to enhance bank's cashflow.

The study will be crucial to emerging financial institutions as it will provide answers to the factors against the implementation of internet banking in Kenya, prove of the success and growth associated with the implementation of internet banking and highlight the areas of banking operations that can be enhanced via internet banking.

The study will be significant to the government in developing policy pertaining to internet banking. Due to knowledge gained by most applicants through the study most applicants will comfortably embrace mortgage financing and this will lead to high returns to most banks and high tax return to the government.

It is equally significant for bank executives and indeed the policy makers of the banks and financial institutions to be aware of internet banking as a product of internet commerce with a view to making strategic decisions.

It will also be significant to the researchers and scholars as it will form a background reference for future studies and contribute to the existing knowledge of literature.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter brings up relevant literature required to find answers and connect to our research objective. First, a review of theories that guide this study was presented to give the research a firm theoretical base. Then, empirical studies done on this research topic will be looked at which will make it easier to understand the research area.

2.2 Review of Theories

2.2.1 Financial Performance Theories

Capon, Farley and Hoenig (1990) noted that in determining the factors influencing performance diversity, industrial performance and performance differences among firms can be explained as arising from various characteristics: those which are firm specific and those which are industry specific. Scherer (1980) and Porter (1981) point out that industry effects (i.e. concentration levels, industry growth) using the structure-conduct-performance model as the main factor determining firm profitability.

On the other hand the resource-based view suggests that the existence of more or less profitable firms within the same industry must be found in the internal factors of each company (market share, firm size, skill level etc). Amato & Wilder, 1990 indicate that that the firm-effect factors favors the achievement and maintenance of competitive advantages of each firm leading to different profitability levels among firms belonging to the same industry. In the field of finance, financial performance is viewed from the perspective of shareholders

value. The value of the firm is given by the present value of all expected future cash flows arising from the use of firm's assets and the market stock price.

2.2.2 Social Construction Theory

Another theory relevant for the analyzing Internet & M banking and perhaps the most relevant is Trevor Pinch and Wiebe Bijker's social construction of technology theory. This theory argues that technology does not determine how people receive and use mobile technology but that people determine how and in what ways technology is used. The theory posits that the use of a technology cannot be understood without understanding how it is socially integrated within society. Within different social contexts, technology can take different meanings and adoption depends on how society views the technology. Under this theory, the adoption of a technology is not only due to its technical superiority but due to social factors as well. In the context of this study, mobile phone technology and specifically mobile phone financial services having been driven by both business factors and social networks related to business and family. The decomposition theories of planned behavior not only keep the theory of planned behavior principles but also add important value of the original theory, as it adds a bigger number of beliefs and constructs to the models (Vankatesh, Davis and Morris, 2007).

2.2.3 Technology Acceptance Model

It has been noted that users attitudes towards and acceptance of a new information system have a critical effect on successful information system adoption (Succi and Walter, 1999). If users are not willing to accept the information system, it will not bring full benefits to the

organisation (Davis and Venkatesh, 1996). The more accepting of a new information system the users are, the more willing they are to make changes in their practices and use their time and effort to actually start using the new information system (Succi and Walter, 1999) as cited by Pikkarainen et al (2004). One of the most utilized model in studying information system acceptance is the technology acceptance model (TAM) (Davis and Venkatesh, 1996; Al-Gahtani, 2001) in which system use (actual behavior) is determined by perceived usefulness (PU) and perceived ease of use (PEOU) relating to the attitude toward use that relates to intention and finally to behavior.

Pikkarainen et al (2004) in their study of consumer acceptance of online banking in Finland in the light of the technology acceptance model (TAM) added with new variables derived from online banking acceptance literature on one hand and from a focus group interview with bank managers on the other. The model they developed proposed that online banking acceptance can be modeled with the variables derived from the TAM (PU and PEOU) and four other variables referring to perceived enjoyment (PE), information on online banking, security and privacy, and the quality of the Internet connection.

2.2.4 Innovation Diffusion Theory

Mahajan and Peterson (1985) defined an innovation as any idea, object or practice that is perceived as new by members of the social system and defined the diffusion of innovation as the process by which the innovation is communicated through certain channels over time among members of social systems. Diffusion of innovation theory attempts to explain and describe the mechanisms of how new inventions in this case internet and mobile banking is

adopted and becomes successful Clarke (1995). Sevcik (2004) stated that not all innovations are adopted even if they are good it may take a long time for an innovation to be adopted. He further stated that resistance to change may be a hindrance to diffusion of innovation although it might not stop the innovation it will slow it down.

Rogers (1995) identified five critical attributes that greatly influence the rate of adoption. These include relative advantage, compatibility, complexity, triability and observability. According to Rogers, the rate of adoption of new innovations will depend on how an organization perceives its relative advantage, compatibility, triability, observability and complexity. If an organization in Kenya observes the benefits of mobile and internet banking they will adopt these innovations given other factors such as the availability of the required tools. Adoption of such innovations will be faster in organizations that have internet access and information technology departments than in organizations without.

2.3 Internet Banking

According to the Internet Banking Comptroller's Handbook (1999) cited by Ntsiful, Acka and Odorh (2010), Internet banking refers to systems that enable bank customers to access accounts and general information on bank products and services through a personal computer (PC) or other intelligent devices. Internet banking products and services can include wholesale products for corporate customers as well as retail and fiduciary products for consumers. Internet banking according to Essinger (1999) cited by Abor (2004) is: "to give customers access to their bank accounts via a website and to enable them to enact certain transactions on their account, given compliance with stringent security checks." Mols (1999)

also mentions that by the use of the Internet it is possible for banks to offer a number of home banking services, such as bill payment and money management services 24 hours a day.

Johns and Perrott (2008) present a simple model of internet banking represented as cited by Adams and Lamptey (2009). Internet banking involves a bank, internet technology and users computers. The banks customers i.e. business based customers and home base customers can have access to their bank account through the internet. The products and services obtained through Internet banking may mirror products and services offered through the traditional bank delivery channel when a customer visits the bank premises. Electronic banking services range from information push services where customers receive information about the bank, its products and services, to information-download services where customers can download account information and full-transaction services where customers can perform most banking transactions (such as transfer between accounts, bill payment, third party payment, card and loan applications, etc.) electronically (Boateng and Molla, 2006; Singh and Malhotra, 2004).

Internet banking allows funds to be transferred from a checking account to a savings account, or vice versa. Customers can fill out loan applications for anything from personal loans to mortgages online and can even use internet banking for investments. Internet banking accounts can be accessed any time, day or night as long as there is an internet connection of any kind. Extra caution is taken when setting up internet banking systems. Customers who have accounts online use complex passwords. The information will be encrypted.

Furthermore, if customers try to make risky transactions, they will be asked more security questions. During the past few years online banking acceptance has been rapid and currently 55 percent of the private banking customers in Finland have an online banking contract with their bank (The Finnish Banker's Association, 2003; Nordea Oyj, 2003).

Europe has been and still is the leader in online banking technology and usage (Schneider, 2001). By comparison, at the end of 2000 only roughly 20 percent of the US banks offered online banking services and only 20 percent of US private banking customers equipped with an internet connection used online banking services (Sheshunoff, 2000; Orr, 2001). By the end of 2002 about 120 largest US banks offered online banking services (Pyun et al., 2002).

Pikkarainen et al (2004) in their work on Consumer acceptance of online banking find two fundamental reasons underlying online banking development and diffusion. First, banks get notable cost savings by offering online banking services. It has been proved that online banking channel is the cheapest delivery channel for banking products once established (Sathye, 1999; Robinson, 2000; Giglio, 2002). Second, banks have reduced their branch networks and downsized the number of service staff, which has paved the way to self-service channels as quite many customers felt that branch banking took too much time and effort (Karjaluoto et al., 2003). Therefore, time and cost savings and freedom from place have been found the main reasons underlying online banking acceptance (Polatoglu and Ekin, 2001; Black et al., 2002; Howcroft et al., 2002).

Electronic banking is a high-order construct, which consists of several distribution channels. It should be noted that electronic banking is a bigger platform than just banking via the Internet. However, the most general type of electronic banking in our times is banking via the Internet, in other words Internet banking. The term electronic banking can be described in many ways. In a very simple form, it can mean the provision of information or services by a bank to its customers, via a computer, television, telephone, or mobile phone (Daniel, 1999).

Burr (1996), for example, describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Internet banking allows consumers to access their bank and accounts to undertake banking transactions. At an advanced level Internet banking is called *transactional* online banking, because it involves the provision of facilities such as accessing accounts, transfer of funds, and buying financial products or services online (Sathye, 1999). The terms Internet banking and online banking are often used in the literature to refer the same things. Nowadays the Internet is the main channel for electronic banking.

Electronic banking is the newest delivery channel in many developed countries and there is a wide agreement that the new channel will have a significant impact on the bank market (Daniel, 1999; Jayawardhena and Foley, 2000). According to Nehmzow (1997) Internet banking offers the traditional players in the financial services sector the opportunity to add a low cost distribution channel to their numerous different services. He continues that Internet banking also creates a threat to traditional banks' market share, because it neutralizes so many of their competitive advantages in having a traditional branch bank network.

The future of Internet banking looks very promising. As Internet banking becomes more popular, it will be interesting to see what happens to traditional banks with branches. (Wah 1999), argues that traditional banks will not disappear in the future. Instead, the new technology will put them on a new level in banking services. She concludes that even traditional banks will benefit from this new technology, and the will be able to care for their customers in a more efficient, more productive and even more fun way. She also argues that Internet banking is playful for customers. However, there is relatively little evidence about the effect of Internet banking on cashflow of commercial banks.

2.3.1 Determinants of Internet Banking

Explanatory variables include the following. First variable is the size (SIZE) of a bank. It is generally assumed that bigger firms lead the innovation and diffusion processes due to the existence of economies of scale and scope in R&D activities and in the application of their results (Buzzacchi *et al.*, 1995). Some analysts argue that large banks will retain their lead over small banks due to large fixed costs of developing information management systems and creating brand recognition among consumers (Keeton, 2001). Almost all the studies on adoption of Internet banking, except Bughin (2004), have reported positive relations of bank size with adoption decision. Overall, the analysis leads to the expectation that, controlling for other factors, the larger the bank, the more likely it is that it will offer Internet banking, i.e. the coefficient of this variable is expected to be positive.

The age of the bank (AGE) may be considered as a crude proxy for both accumulation of experience in general and reductions in the perceived risk of investments in Internet banking in particular. Hence, age would be expected to increase the probability of adoption of Internet

banking. On the other hand, the coefficient is expected to be negative, because new banks are more flexible, do not have a legacy system to deal with and face smaller managerial obstacles to the adoption of the new technology. New banks may find it cheaper to install Internet banking technology in a package with other computer facilities compared to older banks that must add Internet banking to legacy computer system (Sullivan and Wang, 2005). This hypothesis is consistent with previous findings that *denovo* banks were more likely to adopt Internet banking than other banks (Sullivan, 2000).

Bank deposits (deposits) are another characteristic which may influence the probability to adopt Internet banking. Banks that are less reliant on traditional sources of funding may pursue a more aggressive overall business strategy, including the adoption of Internet banking (Furst *et al.*, 2002a). However, Andriy (2001) found a positive relation between the deposits base and the decision to adopt electronic banking. Sullivan (2000) argued that a bank can generate Internet transactions if it has a sizeable customer base. Banks oriented on client base (i.e. deposits of the bank) respond more actively to adoption of electronic banking and adopt new products quicker than the banks with a small number of deposits ceteris paribus. Thus the expected sign for this variable is ambiguous.

WAGE reflects the average wage bill, as a measure of the incentives to adopt Internet banking technology for reducing labour expenditure associated with human operations in the banks (Gretton *et al.*, 2003; Gourlay and Pentecost, 2005). The adoption of Internet banking should appear more attractive to the banks experiencing higher wages. The average wage may also capture the employment mix of the firm, since a high value for WAGE may reflect

a higher proportion of managerial and technical employees, who are required for the proper functioning of Internet banking. Thus, the expected sign for WAGE is positive.

Banks with relatively high expenses for premises and fixed assets (expenses) may view adoption of Internet banking as a way to reduce expenditures devoted to maintaining a branch network. The adoption of Internet banking should appear more attractive to the banks experiencing higher fixed expenses (Furst *et al.,* 2001, 2002a, b). Thus, the expected sign for expenses is positive.

Return on assets (ROA) has been included as a measure of bank profitability to test whether it has an independent effect on the decision to offer Internet banking. The direction of its effect is ambiguous. It is possible that more profitable banks will choose to incur the costs of offering Internet banking; both because they are financially more able to do so and because they believe doing so will help them maintain their competitive position. It is also possible that less profitable banks may be more willing to invest in Internet banking to improve their performance. However, Literature has shown profitability to be an ineffective factor in decision-making process (Gourlay and Pentecost, 2005)

Bank's market share (market share) measures the size of the bank relative to its own market. It is expected that as market share increases, the probability that a bank adopts Internet banking would increase (Courchane *et al..,* 2002a, b). It may also be possible that the banks with lower market share may adopt Internet banking to increase their customer base. Thus, the expected sign for bank market share is ambiguous.

Recent literature has a narrow focus and ignores internet banking almost entirely; it equates internet money with the substitution of currency with internet gadget. For instance Freedman (2000) suggests that internet banking and internet money consists of three devices; access devices, stored value cards, and network money. Internet banking is simply the access to new devices and is therefore ignored. Internet money is the sum of stored value (smart cards) and network money (value stored on computer hard drives).

Santomero and Seater (1996), Prinz (1999) and Shy and Tarkka (2002) present models that identify conditions under which alternative payments substitute for currency. Most of these models indicate that there is at least a possibility for internet substitutes for currency to emerge and flourish on a wide scale depending on the characteristics of the various technology and those of the potential users.

Friedman (1999) intimated that internet banking presents the possibility that an entire alternative payment system not under the control of the Central Bank may arise. Today computers make it at least possible to bypass the payment system altogether, instead using direct bilateral clearing and settlement (Friedman, 1999).

Branch intensity (Branches) is another characteristic which may influence the probability to adopt Internet banking. More intensively branched banks can see great potentials for costs savings and the possibility of increasing the efficiency of their existing operations. Hence, banks with higher branch network have higher probability to adopt Internet banking with a possible reduction of future network in mind. On the other hand, some analysts have argued that banks without a large branch network will seize on Internet banking as an inexpensive

mean to expand their customer base (Andriy, 2001). To account for the nature of bank category, a dummy variable is also introduced for the present study. Private takes the value of 1 if the bank happens to be a private bank (whether domestic or foreign) and takes a value of zero, otherwise. The expected sign for private is positive as the banks with private ownership are supposed to be more likely to adopt Internet banking (Tufano, 2003).

2.4 Empirical Review

Financial institutions captivated by the internet technology have adopted the concept of internet banking (Akhlaq and Shah, 2011). Pikkarainen *et al.* (2004) explains that internet banking is an access for the customer to the banking services through an internet portal set up by the physical bank. Internet banking, unlike conventional information systems, allows customers to execute financial activities virtually, using emerging technologies such as internet and WWW (Suh and Han, 2002).

Despite the potential benefits of ICT and e-commerce, there is debate about whether and how their adoption improves bank performance. Use of and investment in ICT requires complementary investments in skills, organization and innovation and investment and change entails risks and costs as well as bringing potential benefits. There are positive effect of e-banking on bank turnover and profitability and to a lesser extent on employment, most notably when e-commerce is part of larger business strategies of bank. The use of e-banking can contribute to improved bank performance, in terms of increased market share, expanded product range, customized products and better response to client demand. E-banking continues to influence banks activities and their income structure. Among the activities that may be subject to stronger pressures for change are those that, up to today, have remained

relatively insulated from ICT developments. This applies mainly to some retail banking activities that are suitable for standardization, and also to developments in remote banking (Kariuki, 2005).

Initially, internet banking was only used for promotional activities and advertisements of the banks' products and services (Tan and Teo, 2000). Today, internet banking features not only includes funds transfer, loan applications and investment activities but also comprises of personal finance management such as importing data into personal accounting software and account aggregation. Brick and mortar banks, at the moment, have shifted their focus to branchless banking. Moreover, internet only banks which only exist in cyberspace and do not exist physically are giving hard time to brick and mortar banks by offering better interest rates and online banking features. Internet only banks have competitive advantage over brick and mortar banks because major part of the cost is incurred on premises and staff of which virtual banks are not liable.

Internet banking services make it possible to replace the traditional deposit service functions of bank employees along with the brick and mortar investment required of financial institutions. Ultimately world-wide web services make it possible to have financial institutions that exist only in cyberspace. Internet services provide customers with timely, speedy, accurate and convenient banking opportunities and allow institutions to sell products customized to individual needs. Internet banking also provides financial institutions with an additional delivery channel whereby they can deliver services and sell products to targeted customers. This channel broadens the geographical reach of financial institutions and can

help build and retain additional customers. There are significant benefits of internet banking but the establishment of internet banking services requires a major investment in internet infrastructure and continuing maintenance costs. Thus internet banking may increase a financial institution's asset growth but it is also likely to significantly increase operating costs.

There is mixed evidence on the net benefits of internet banking services. Suganthi *et al.* (2001) discuss how internet banking provides opportunities for banks to develop markets by attracting a new customer base from the existing internet users. Polatoglu and Ekin (2001) and Gerrard and Cunningham (2003) explore the benefits of internet banking and the innovations in this field. Gattiker *et al.* (2000) and Jones *et al.* (2000) point out the risk management issues faced by financial institutions.

Customers who adopt electronic financial services are more likely to perceive problems related to loss of privacy. Hoffman *et al.* (1999) assert that this privacy threat has caused many users to opt out of various forms of participation in the internet, including providing personal information to websites for banking transaction purposes. Delgado *et al.* (2007) suggest that empirical evidence indicates internet banks worldwide have underperformed newly chartered traditional banks mainly because of their higher overhead costs.

2.5 Cashflows of commercial banks

Cash Flow is one of the most common cash forecasting and cost control technique has been widely used by most of the companies for a long time. In economy, cash flow is described as

"The pattern over time of a firm's actual receipts and payments in money as opposed to credit" (Black, 1997) or "The flow of money payments to or from a firm" (Bannock et al. 1988). Basically, cash flow defines the expenses and revenues of the single project or whole company per time and reflects their present and future situations by demonstrating net cash conditions. Cash flow is a financial model necessary to count the demand for money to meet the banks running cost and the pattern of income it will generate (Smith, 2008).

Cash flow is one of the major tools required for controlling the cash movement of the company by determining the cash in and cash out in the project and demonstrating the possible results clearly. Due to importance of the cash flow in banking sector; many studies have been made by researches for developing a reasonable cash flow model for the banking sector. Cash shortage is one of the most dangerous problems that may appear while the banks are running. If the bank does not have any plan for covering the amount of cash shortage, the banks liquidity of the banks will be affected due the insufficient source of money. According to Kaka and Price (1991), Kenley (2003); the inadequacy or the absence of the cash is the main reason of banks are going bankruptcy rather than lack of profit. Likewise, Singh and Lakanathan (1992) stated that cash is the most important resource for supporting the day to day activities of the banks.

In traditional management studies, ratios are classified according to the following performance aspects measured: profitability, liquidity, leverage, and efficiency (Richard et al., 2009). These ratios can be computed directly using financial statement information. Valuation ratios are added with the traditional classification of ratios, which incorporate more current assessments by the market of the company's "worth". Simple balance sheet and

income statement items are used to compute ratios to analyze financial statements of the financial institutions. Financial performance, which assesses the fulfillment of the firm's economic goals, has long been a central focus in management research on firm performance (Barney 2002). While measuring financial performance is not as complicated as quantifying the effects of prudential regulations, it also has it explicit complications. There is little consensus about which measurement instrument to apply. Richard et al., (2009) writes that while firm performance is a multidimensional construct that consists of many different aspects such as operational effectiveness, corporate reputation, and organizational survival, the most extensively studied areas is its financial component, the fulfillment of the economic goals of the firm.

2.6 Chapter summary

Internet Banking is of quite eminence to customers and banks because it gives great advantages to the customer and the bank. Existing literature on the addition of internet banking services for banks suggests both benefits (in the form of convenience and fast banking) and costs (identity thefts) to customers. Empirical evidence also indicates internet banks worldwide have underperformed newly chartered traditional banks mainly because of their higher overhead costs. Despite opening a new marketing channel, internet banking does not appear to consistently enhance the growth rate of commercial banks. Internet banking services are associated with increased growth but the relationship is statistically significant. The retention of profitability, the evidence of potentially higher asset growth rates and the continued competition from all financial institutions offering internet banking services suggest the trend of internet banking adoption will continue in the near future in the credit

union industry. This study sought to determine the effect of internet banking on cashflow of commercial bank in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the research design, population of the study, sample size, data sources and data analysis procedure together with the model specification.

3.2 Research Design

The causal study design was employed in this research. Causal research suggests causal linkages between variables by observing existing phenomena and then searching back through available data in order to try to identify plausible causal relationships. It was concerned with determining cause and effect relationship and to understand which variable is dependent and which is independent. This research design was the best in explaining if two variables are related and if they vary together with the help of enough information or data for testing cause and effect relationship. It aimed to explore to determine the effect of internet banking on cashflow of commercial bank in Kenya and the empirical evidences that help answer the research objective.

3.3 Target Population

The population for this study was Commercial banks in Kenya (Appendix 1). There are a total of 44 Commercial Banks in Kenya which formed the target population for this study concentrating on 43 banks due to lack of sufficient information in one bank (Jamii bora Bank) that was recently upgraded to a bank from a microfinance in less than the period under consideration. Mugenda and Mugenda, (2003), explain that the target population should have

some observable characteristics, to which the researcher intends to generalize the results of the study using the entire population as hence a census.

3.4 Data Collection

Secondary data from financial statements of Commercial banks involved in internet banking was collected using data collection forms. The study collected secondary data for the last five years starting year 2009 to 2013, on the effect of internet banking on cashflow of commercial banks in Kenya. The data obtained from the financial statement was on return on assets for bank , Percentage increase in the total assets , revenue generated through internet banking over total revenue of the bank , natural log of total assets, total number of bank deposit over total assets and wage

3.5 Data Analysis

Data analysis was done using SPSS Version 22 whereby inferential statistics was applied whereby a multiple regression model was employed. To determine the effect of internet banking on cashflow of commercial bank in Kenya, a logit regression model was used:

$Yjt = C + \alpha Xjt + \beta Zt + \varepsilon jt$ ---------- (1)

The j refers to an individual financial institution; t refers to year; Yjt is an dependent variable and refers to cashflow (CF) of a financial institution j in a particular year t; the C is the intercept; X represents the independent variable which is internet banking, whereas Z represents the other determinants of cashflows; α and β are co-efficient and εjt represent the error term. The study therefore proceeds by using a modified version of Adofu and Abula (2010) Classical Linear Normal Regression Model (CLRM) of the following form:

$CF\ jt = C + \beta_1 IB\ jt + \beta_2 SIZE\ jt + \beta_3 BD\ jt + \beta_4 WAGE\ jt + \beta_5 ROAjt + \varepsilon jt$ ------- (2)

Where:

CF is cashflow, which was measured by the percentage increase in the total assets over the previous year

IB is internet banking which was measured by revenue generated through internet banking over total revenue of the bank

Size is the size of the bank, which was measured by natural log of total assets

BD is the bank deposits, which was measured by the by total number of bank deposit in a particular over total assets

Wage , wage was used as a measure of the incentives to adopt Internet banking technology for reducing labour expenditure associated with human operations in the banks

ROA is the return on assets (ROA) is measure of the bank's profitability.

3.6 Data Validity And Reliability

Validity refers to the accuracy and meaningfulness of inferences based on the research results (Mugenda & Mugenda, 2003). This can be enhanced by absence of errors in the data collected. The research an instrument was piloted in with 10 respondents who did not form part of the selected respondent for the study. The pilot study aims at establishing construct validity of the instruments (Mugenda & Mugenda, 1999). The piloted data collection sheet was revised and ambiguous items modified.

To test the reliability of the instruments, the researcher will use the split-half technique. The instrument was split into two sub sets (the sets which have odd numbers and even numbers). All even numbered items and odd numbered responses in the pilot study were computed separately. By using this method, the researcher aimed at determining the co-efficient of

internal consistency and the reliability co-efficient whose value varies between 0.00 (indicating no reliability) and +1.00 (indicating perfect reliability). The odd numbered scores for all items were correlated with even numbered scores using Pearson Product Moment Correlation Co-efficient of the entire test. A coefficient of 0.70 will be considered adequate but a coefficient of 0.80 is good according to Gay (2003).

CHAPTER FOUR:

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings to determine the impact of internet banking on cashflow of commercial bank in Kenya. The study was conducted on 43 commercial banks in kenya that been using internet banking since year 2009 to 2013, where secondary data from the period of 2009 to 2013 was used in the analysis. Regression analysis was used in analysis the data.

4.2 Regression Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 20) to code, enter and compute the measurements of the multiple regressions

Regression analsyis for year 2009

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.935[a]	.874	.856	.1134

Adjusted R squared is coefficient of determination which tell us the variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, from the findings in the above table the value of adjusted R squared was 0.856 an indication that there was variation of 85.6% on the cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability at 95% confidence interval . This shows that 85.6% changes in cashflow of the banks could be accounted for by internet banking, size of the

bank, bank deposits, wage and bank's profitability. R is the correlation coefficient which shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.935.

Table 4.2: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	1.991	.157		12.646	.000
	Internet Banking	.249	.075	.432	3.329	.001
	Size of the bank	.221	.074	.385	2.997	.004
	Bank deposits	.110	.060	.243	1.825	.013
	Wages	-.024	.051	-.041	-.481	.032
	Banks profitability	.055	.063	-.116	.885	.030

The established regression equation for the impact of internet banking on cashflow of commercial bank in Kenya in year 2009 was

CF = 1.991 + 0.249 IB + 0.221 SIZE + 0.110 BD - 0.024 WAGE + 0.055 ROA

From the above regression equation it was revealed that holding internet banking, size of the bank, bank deposits, wage and bank's profitability to a constant zero , cashflow of the bank would stand at 1.991 , a unit increase in internet banking would lead to increase in cashflow of the bank by a factor of 0.249, a unit increase in size of the bank would lead to increase cashflow of the bank by factors of 0.221 , unit increase in banks deposits would lead to increase in cashflow of the bank by a factor of 0.110 , unit increase in wage would lead to decrease in cashflow of the bank by a factors of 0.024 , further unit increase in banks profitability would lead to increase in cashflow of the bank by factors of 0.055.

Regression analsyis for year 2010

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.918[a]	.842	.816	.11456

Adjusted R squared is coefficient of determination which tell us the variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, from the findings in the above table the value of adjusted R squared was 0.816 an indication that there was variation of 81.6% on the cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability at 95% confidence interval . This shows that 81.6% changes in cashflow of the banks could be accounted for by internet banking, size of the bank, bank deposits, wage and bank's profitability. R is the correlation coefficient which shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.918.

Table 4.4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	1.843	.170		10.868	.000
	Internet Banking	.397	.053	.690	7.447	.000
	Size of the bank	.066	.065	.146	1.026	.009
	Bank deposits	.009	.061	.015	.150	.001
	Wages	-.079	.071	-.165	-1.102	.005
	Banks profitability	.115	.083	.176	1.383	.002

The established regression equation for the impact of internet banking on cashflow of commercial bank in Kenya in year 2010 was

CF = 1.843 + 0.397 IB + 0.066 SIZE + 0.009 BD - 0.079 WAGE + 0.115 ROA

From the above regression equation it was revealed that holding internet banking, size of the bank, bank deposits, wage and bank's profitability to a constant zero , cashflow of the bank would stand at 1.843 , a unit increase in internet banking would lead to increase in cashflow of the bank by a factor of 0.397, a unit increase in size of the bank would lead to increase cashflow of the bank by factors of 0.066 , unit increase in banks deposits would lead to increase in cashflow of the bank by a factor of 0.009 , unit increase in wage would lead to decrease in cashflow of the bank by a factors of 0.079 , further unit increase in banks profitability would lead to increase in cashflow of the bank by factors of 0.115.

Regression Analsyis for Year 2011

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928[a]	.861	.841	.1711

Adjusted R squared is coefficient of determination which tell us the variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, from the findings in the above table the value of adjusted R squared was 0.841 an indication that there was variation of 84.1% on the cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability at 95% confidence interval . This shows that 84.1% changes in cashflow of the banks could be accounted for by internet banking, size of the bank, bank deposits, wage and bank's profitability. R is the correlation coefficient which

shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.928.

Table 4.6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	1.217	.408		3.944	.348
	Internet Banking	.016	.089	.222	2.347	.021
	Size of the bank	.017	.095	.080	.732	.006
	Bank deposits	.479	.097	.135	1.375	.013
	Wages	-.090	.091	-.269	-2.951	.004
	Banks profitability	.783	.092	.019	.236	.014

The established regression equation for the impact of internet banking on cashflow of commercial bank in Kenya in year 2011 was

CF = 1.217 + 0.016 IB + 0.017 SIZE + 0.479 BD - 0.090 WAGE + 0.783 ROA

From the above regression equation it was revealed that holding internet banking, size of the bank, bank deposits, wage and bank's profitability to a constant zero , cashflow of the bank would stand at 1.217, a unit increase in internet banking would lead to increase in cashflow of the bank by a factor of 0.016, a unit increase in size of the bank would lead to increase cashflow of the bank by factors of 0.017, unit increase in banks deposits would lead to increase in cashflow of the bank by a factor of 0.479 , unit increase in wage would lead to decrease in cashflow of the bank by a factors of 0.090, further unit increase in banks profitability would lead to increase in cashflow of the bank by factors of 0.783.

Regression Analsyis for Year 2012

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951[a]	.904	.891	.0897

Adjusted R squared is coefficient of determination which tell us the variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, from the findings in the above table the value of adjusted R squared was 0.891 an indication that there was variation of 89.1% on the cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability at 95% confidence interval . This shows that 89.1% changes in cashflow of the banks could be accounted for by internet banking, size of the bank, bank deposits, wage and bank's profitability. R is the correlation coefficient which shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.951.

Table 4.8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	1.334	.394		4.098	.000
	Internet Banking	.184	.067	.385	3.911	.000
	Size of the bank	.049	.056	.207	1.991	.050
	Bank deposits	.045	.079	.317	2.940	.004
	Wages	-.065	.058	-.016	-.169	.016
	Banks profitability	.076	.071	.016	.154	.018

The established regression equation for the impact of internet banking on cashflow of commercial bank in Kenya in year 2012 was

CF = 1.334 + 0.184 IB + 0.049 SIZE + 0.045BD – 0.065WAGE + 0.076 ROA

From the above regression equation it was revealed that holding internet banking, size of the bank, bank deposits, wage and bank's profitability to a constant zero , cashflow of the bank would stand at 1.334, a unit increase in internet banking would lead to increase in cashflow of the bank by a factor of 0.184, a unit increase in size of the bank would lead to increase cashflow of the bank by factors of 0.049, unit increase in banks deposits would lead to increase in cashflow of the bank by a factor of 0.045 , unit increase in wage would lead to decrease in cashflow of the bank by a factors of 0.065, further unit increase in banks profitability would lead to increase in cashflow of the bank by factors of 0.076.

Regression Analsyis for Year 2013

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.911[a]	.829	.811	.1513

Adjusted R squared is coefficient of determination which tell us the variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, from the findings in the above table the value of adjusted R squared was 0.811 an indication that there was variation of 81.1% on the cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability at 95% confidence interval . This shows that 81.1% changes in cashflow of the banks could be accounted for by internet banking, size of the

bank, bank deposits, wage and bank's profitability. R is the correlation coefficient which shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.961.

Table 4.10: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	1.276	.578		3.300	.001
	Internet Banking	.046	.054	-.042	.410	.003
	Size of the bank	.071	.104	-.037	.304	.012
	Bank deposits	.077	.088	.453	3.886	.000
	Wages	.083	.090	-.189	-1.721	.019
	Banks profitability	.076	.095	.041	.400	.000

The established regression equation for the impact of internet banking on cashflow of commercial bank in Kenya in year 2013 was

CF = 1.276 + 0.046 IB + 0.071 SIZE + 0.077 BD – 0.083 WAGE + 0.076 ROA

From the above regression equation it was revealed that holding internet banking, size of the bank, bank deposits, wage and bank's profitability to a constant zero , cashflow of the bank would stand at 1.276, a unit increase in internet banking would lead to increase in cashflow of the bank by a factor of 0.046, a unit increase in size of the bank would lead to increase cashflow of the bank by factors of 0.071, unit increase in banks deposits would lead to increase in cashflow of the bank by a factor of 0.077, unit increase in wage would lead to decrease in cashflow of the bank by a factors of 0.083, further unit increase in banks profitability would lead to increase in cashflow of the bank by factors of 0.076.

4.3 Summary and Interpretation of Findings

From the finding the study revealed that there was great variation in cashflow of commercial banks that had adopted internet baking due to changes in internet banking, size of the bank, bank deposits, wage and bank's profitability. From the finding on the Correlation coefficient the study revealed that there was strong positive relationship between cashflow of commercial banks and internet banking, size of the bank, bank deposits, wage and bank's profitability

The established regression equation on the impact of internet banking on cashflow of commercial bank in Kenya was

CF = 1.991 + 0.249 IB + 0.221 SIZE + 0.110 BD - 0.024 WAGE + 0.055 ROA

CF = 1.843 + 0.397 IB + 0.066 SIZE + 0.009 BD - 0.079 WAGE + 0.115 ROA

CF = 1.217 + 0.016 IB + 0.017 SIZE + 0.479 BD - 0.090 WAGE + 0.783 ROA

CF = 1.334 + 0.184 IB + 0.049 SIZE + 0.045BD – 0.065WAGE + 0.076 ROA

CF = 1.276 + 0.046 IB + 0.071 SIZE + 0.077 BD – 0.083 WAGE + 0.076 ROA

From the above regression equation it was revealed that there was a positive relationship between a cashflow of the bank , internet banking , size of the bank , banks deposits and bank profitability , the study also found that there was negative relationship between wage and cashflow of the bank. The finding of the study concur with the finding of Burr (1996), who found that electronic banking has positive effect on earning of the bank. Internet banking allows consumers to access their bank and accounts to undertake banking transactions. Electronic banking is the newest delivery channel in many developed countries and there is a wide agreement that the new channel will have a significant impact on the bank market (Jayawardhena and Foley, 2000). According to Nehmzow (1997), internet banking offers the traditional players in the financial services sector the opportunity to add a low cost

distribution channel to their numerous different services. He continues that Internet banking also creates a threat to traditional banks' market share, because it neutralizes so many of their competitive advantages in having a traditional branch bank network.

Wah (1999) argues that traditional banks will not disappear in the future. Instead, the new technology will put them on a new level in banking services. She concludes that even traditional banks will benefit from this new technology, and the will be able to care for their customers in a more efficient, more productive and even more fun way. She also argues that Internet banking is playful for customers. Internet banking offers many benefits to banks and their customers. The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction (Jayawardhena and Foley, 2000).

Booz-Allen and Hamilton (1997), the establishment of specialized Internet Banking requires only US$1-2 million, which is lower than branch-based banking setup. The traditional bank's running costs account for 50% to 60% of its revenues, while the running costs of Internet Banking is estimated at 15% to 20% of its revenues. According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch. According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch. Mols (1998) Conducted a survey in Denmark argued that Internet Banking might be useful for strengthening cross-selling and price differentiation. Internet banking makes it possible for banks to offer consumer a variety of services 24/7. Internet banking is attractive because the consumer are more satisfied with their banks, are

less price sensitive have the highest intention to repurchase, and provide more positive word of mouth information than other bank customers.

According to Gow (1997), is to generate additional revenue, improve customer service, extend marketing, and increase cost saving. Banks enjoy these benefits as well. In an article entitled "Next-generation retail banking" (Compaq, 2001), the business drivers for Internet banking included: *Additional transaction revenues*. Banks can derive revenues over and above their offline revenues by charging for online services and value-added services, such as providing a portal for financial services linked to short- and long-term insurers, links to stock brokers, and links to foreign banks.

On the Internet, customers serve themselves, negating the need for frontline staff. Savings are gained from reductions in staff, reduction in branch sizes, and reduction in consumable costs such as paper, ink cartridges, and other stationery. Transactional Internet banking is growing rapidly. It has been estimated that 60 per cent of retail banking transactions will be online in ten years' time (Barwise, 1997). A study by Booz *et al.* (1997) on Internet banking shows that "up to 20 per cent of retail and 30 per cent of corporate customers will use some form of Internet banking capability within the next five years". This study further states that Internet and other virtual banking channels have significantly lower cost structure than traditional delivery channels. "Internet banks can operate at an expense ratio of 15-20 per cent compared to 50-60 per cent for the average bank" (Booz, 1997). Thus, by encouraging customers to use the Internet for banking transactions, the banks would save considerable operating costs.

Ntsiful, Acka and Odors (2010) states that internet banking refers to systems that enable bank customers to access accounts and general information on bank products and services through

a personal computer (PC) or other intelligent devices. Internet banking products and services can include wholesale products for corporate customers as well as retail and fiduciary products for consumers.

CHAPTER FIVE:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study sought to determine the impact of internet banking on cashflow of commercial bank in Kenya. The study was conducted on 43 commercial banks in Kenya that been using internet banking since year 2009 to 2013, where secondary data from the period of 2009 to 2013 was used in the analysis. Regression analysis was used in analysis the data. From the finding of the adjusted R squared the study found that there was variation in cash flow of the bank due to changes in the internet banking, size of the bank, bank deposits, wage and bank's profitability, this is an indication that major variation in cashflow of the banks could be accounted for by internet banking, size of the bank, bank deposits, wage and bank's profitability. From the finding of R correlation coefficient, the study found that there was strong positive relationship between cash flow and internet banking, size of the bank, bank deposits, wage and bank's profitability

The established regression equation on the impact of internet banking on cashflows of commercial bank in Kenya was there was a positive relationship between a cashflows of the bank, internet banking, size of the bank, banks deposits and bank profitability, as the study found that a unit increase in internet banking, size of the bank, banks deposits and bank profitability lead to increase in cashflows of the bank. The study further revealed that there was negative relationship between wage and cashflows of the bank, as the study revealed that a unit increase in wage would lead to decrease in cashflows of the bank.

5.2 Conclusions

The objective of the study was to determine the impact of internet banking on cashflow of commercial bank in Kenya. From the finding the study found that there was strong positive relationship between internet banking on cashflow of commercial bank in Kenya, as the indicated by strong correlation coefficient. This is an indication internet banking was positively influencing banks cashflow.

From the finding the study found that there was a positive relationship between cashflow of commercial bank and banks deposits, thus the study concludes that banks deposits positively influence the cashflow of commercial bank.

The study also revealed that wage were negatively affecting the cashflow of the banks that had adopted internet banking , thus the study concludes that wages negatively influence the banks cashflow.

The study also revealed that size of the bank positively influence the cashflow of the bank, thus the study concludes that size of the bank was positively associated with cashflow the bank that had adopted internet banking.

The stduy also found that profitability of the bank was positively associated with cashflow of the bank thus the study concludes that profitability of the bank has a positive relationship with cashflow of the bank.

5.3 Policy Implications

From the finding the study found that there was a strong positive relationship between internet banking on cashflow of commercial bank in Kenya, thus the study recommend that there is need for commercial banks in kenya to full adopt internet banking as it will have a positive impact to their cashflow.

There is need for the management of commercial banks that have adopted internet banking to control the wages of staff involved in internet banking as it was found that wages negatively affects cashflow of the bank.

There is need for management of commercial banks to enhance their profitability as this will help them to increase their adoption of internet banking which will help in increasing the cashflow for the bank.

From the finding there is need for various players in the banking sectors to adopt internet banking service as this will enable them have a ubiquity in 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 internet banking technologies and this will influence the cashflow. There is also need for commercial banks in Kenya to increase their size as this will positively influence their cashflow.

5.4 Limitations of the Study

In attaining its objective the study was limited to 43 commercial banks that had adopted internet banking. Commercial Banks that had not adopted internet banking over the stipulated period were excluded. The study could not therefore incorporate the impact on these of commercial banks.

Secondary data was collected from the banks financial reports and Central bank Supervision Reports. The study was also limited to the degree of precision of the data obtained from the secondary source. While the data was verifiable since it came from the CBK publications, it nonetheless could still be prone to these shortcomings.

The study was limited to the impact of internet banking on cashflow of commercial bank in Kenya. For this reason other financial institution like Insurance companies, MFI and Banks that had not adopted internet Banking could not be incorporated in the study.

The study was based on a five year study period from the year 2009 to 2013. A longer duration of the study will 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.

5.5 Suggestions for Further Studies

The study sought to determine the impact of internet banking on cashflow of commercial bank in Kenya, a study should be done on the impact of internet banking on financial performance of commercial bank in Kenya

From the findings and conclusion, the study recommends and in-depth study to be carried out on the challenges facing adoption of internet banking by commercial banks in Kenya. This will help to allow more insight not only on the factors that hinder the adoption of interne banking.

There is need to explore the challenge's facing the use of internet banking by consumers as this will give an insight on what commercial banks need to do to increase the use of internet banking by commercial banks.

In order to better understand the role of internet banking on commercial banks, there is need to conduct a study on the impact of internet baking on the banks market share.

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APPENDICES

Appendix I: Data

DATA For 2009

Banks	Cashflow	BD	Size	ROA	Wages	IB
Kenya Commercial Bank Ltd	0.215	1.342	0.872	0.027	0.900	0.096
Barclays Bank of Kenya Ltd	0.183	1.387	0.637	0.114	0.959	0.057
Standard chartered bank	0.148	1.773	1.057	0.144	0.670	0.006
Co-operative bank	0.091	1.140	0.346	0.018	0.940	0.013
CFC Stanbic Bank Ltd	0.124	1.670	0.904	0.126	0.945	0.035
Equity Bank Ltd	0.072	1.620	0.963	0.094	0.974	0.006
Commercial Bank of Africa Ltd	0.101	1.310	0.761	0.077	0.970	0.072
National Bank of Kenya Ltd	0.049	1.350	1.028	0.034	0.943	0.145
Citibank N.A.	0.217	1.317	1.303	0.272	0.940	0.033
Diamond Trust Bank	0.236	1.897	1.183	0.187	0.832	0.349
NIC Bank Ltd	0.081	1.518	0.541	0.091	0.622	0.035
I&M Bank Ltd1	0.091	2.337	0.862	0.138	0.823	0.028
Prime bank	0.202	1.776	1.067	0.263	0.912	0.036
Bank of baronda	0.225	1.544	1.701	0.221	0.892	0.115
Bank of Africa	0.196	1.960	0.809	0.215	0.946	0.018
Bank of India	0.052	1.136	1.370	0.092	0.922	0.035
Imperial bank	0.222	1.177	1.079	0.186	0.968	0.100
Eco bank	0.102	1.307	0.716	0.124	0.877	0.022
Family bank	0.343	1.173	1.204	0.342	0.937	0.067
Chase bank	0.004	1.753	1.097	0.053	0.560	0.016
Fina bank	0.239	1.270	0.870	0.124	0.922	0.083
ABC Bank	0.001	1.594	0.942	0.072	0.969	0.013
Development bank of Africa	0.048	1.546	0.762	0.101	0.967	0.263
Gulf Africa	0.210	1.440	1.203	0.049	0.934	0.019
Habib AG Zurich	0.002	2.036	1.198	0.217	0.933	0.007
K-Rep Bank	0.091	1.954	0.747	0.236	0.713	0.064
Giro	0.130	1.079	0.532	0.081	0.587	0.169
Consolidated Bank	0.017	1.076	0.612	0.091	0.834	0.239
Guardian Bank	0.130	1.632	0.903	0.202	0.904	0.072
Fidelity Bank	0.026	1.581	1.629	0.225	0.871	0.066
Victoria Commercial Bank	0.005	1.594	0.942	0.072	0.969	0.013
Habib Bank	0.056	1.546	0.762	0.101	0.967	0.263
Southern Credit Banking Corporation	0.018	1.440	1.203	0.049	0.934	0.019
Equatorial Commercial Bank	0.003	2.036	1.198	0.217	0.933	0.007
First Community Bank Ltd	0.020	1.954	0.747	0.236	0.713	0.064
Credit Bank Ltd	0.044	1.079	0.532	0.081	0.587	0.169
Trans-National Bank Ltd	0.003	1.076	0.612	0.091	0.834	0.239
Middle East Bank Ltd	0.367	1.274	0.259	0.275	0.953	0.239
Paramount Universal Bank Ltd	0.326	1.087	0.848	0.059	0.850	0.001
Oriental Commercial Bank Ltd	0.194	1.697	0.959	0.061	0.961	0.048
Dubai Bank Ltd	0.177	1.086	1.034	0.071	0.922	0.210
UBA Kenya Bank Ltd	0.134	1.192	1.330	0.023	0.925	0.002

City Finance Bank Ltd	0.272	1.458	1.202	0.221	0.934	0.091

DATA For 2010

Banks	Cashflow	BD	Size	ROA	Wages	IB
Kenya Commercial Bank Ltd	0.021	1.577	0.787	0.015	0.909	0.048
Barclays Bank of Kenya Ltd	0.054	2.782	0.609	0.083	0.957	0.067
Standard chartered bank	0.177	1.078	1.107	0.148	0.640	0.060
Co-operative bank	0.152	2.209	0.331	0.091	0.950	0.069
CFC Stanbic Bank Ltd	0.244	2.270	0.870	0.124	0.922	0.083
Equity Bank Ltd	0.065	1.594	0.942	0.072	0.969	0.013
Commercial Bank of Africa Ltd	0.104	2.546	0.762	0.101	0.967	0.263
National Bank of Kenya Ltd	0.063	1.440	1.203	0.049	0.934	0.019
Citibank N.A.	0.230	2.036	1.198	0.217	0.933	0.007
Diamond Trust Bank	0.120	1.954	0.747	0.236	0.713	0.064
NIC Bank Ltd	0.114	1.086	1.034	0.071	0.922	0.210
I&M Bank Ltd1	0.144	1.192	1.330	0.023	0.925	0.002
Prime bank	0.018	1.458	1.202	0.221	0.934	0.091
Bank of baronda	0.126	1.853	1.807	0.125	0.621	0.130
Bank of Africa	0.094	1.604	0.814	0.096	0.708	0.017
Bank of India	0.181	1.327	0.651	0.196	0.941	0.032
Imperial bank	0.055	1.438	1.101	0.052	0.923	0.070
Eco bank	0.279	1.832	1.070	0.222	0.947	0.186
Family bank	0.141	1.442	0.683	0.102	0.879	0.089
Chase bank	0.378	1.891	1.511	0.343	0.869	0.035
Fina bank	0.092	1.048	0.958	0.004	0.580	0.004
ABC Bank	0.023	1.732	1.276	0.063	0.927	0.012
Development bank of Africa	0.063	1.721	1.677	0.363	0.793	0.103
Gulf Africa	0.156	1.954	0.747	0.236	0.713	0.064
Habib AG Zurich	0.186	1.079	0.532	0.081	0.587	0.169
K-Rep Bank	0.166	2.553	1.483	0.207	0.799	0.355
Giro	0.154	0.843	0.841	0.101	0.558	0.045
Consolidated Bank	0.044	1.079	0.532	0.081	0.587	0.169
Guardian Bank	0.003	4.076	0.612	0.091	0.834	0.239
Fidelity Bank	0.018	1.604	0.814	0.096	0.708	0.017
Victoria Commercial Bank	0.035	1.397	0.809	0.085	0.651	0.130
Habib Bank	0.100	2.383	0.829	0.188	0.877	0.026
Southern Credit Banking Corporation	0.144	1.192	1.330	0.023	0.925	0.102
Equatorial Commercial Bank	0.018	1.458	1.202	0.221	0.934	0.191
First Community Bank Ltd	0.001	1.594	0.942	0.072	0.969	0.113
Credit Bank Ltd	0.048	1.546	0.762	0.101	0.967	0.263
Trans-National Bank Ltd	0.210	1.440	1.203	0.049	0.934	0.019
Middle East Bank Ltd	0.326	1.087	0.848	0.059	0.850	0.201

Paramount Universal Bank Ltd	0.194	1.697	0.959	0.061	0.961	0.048
Oriental Commercial Bank Ltd	0.177	1.086	1.034	0.071	0.922	0.210
Dubai Bank Ltd	0.273	2.383	0.829	0.188	0.877	0.026
UBA Kenya Bank Ltd	0.231	2.361	1.611	0.286	0.837	0.105
City Finance Bank Ltd	0.235	1.124	0.567	0.151	0.932	0.056

DATA For 2011

Banks	**Cashflow**	**BD**	**Size**	**ROA**	**Wages**	**IB**
Kenya Commercial Bank Ltd	0.107	2.054	0.953	0.021	0.900	0.018
Barclays Bank of Kenya Ltd	0.043	1.768	0.538	0.054	0.953	0.077
Standard chartered bank	0.173	1.108	1.057	0.177	0.632	0.009
Co-operative bank	0.275	3.449	0.271	0.152	0.945	0.135
CFC Stanbic Bank Ltd	0.059	1.006	0.915	0.244	0.904	0.238
Equity Bank Ltd	0.061	1.539	0.966	0.065	0.966	0.017
Commercial Bank of Africa Ltd	0.071	1.074	0.922	0.104	0.949	0.231
National Bank of Kenya Ltd	0.023	1.732	1.276	0.063	0.927	0.000
Citibank N.A.	0.221	1.355	1.264	0.230	0.919	0.006
Diamond Trust Bank	0.125	1.672	2.025	0.120	0.623	0.013
NIC Bank Ltd	0.096	1.653	0.609	0.028	0.683	0.549
I&M Bank Ltd1	0.085	2.872	0.682	0.091	0.782	0.259
Prime bank	0.188	0.601	0.981	0.205	0.561	0.019
Bank of baronda	0.286	2.353	1.792	0.322	0.840	0.028
Bank of Africa	0.151	2.459	0.612	0.181	0.938	0.045
Bank of India	0.067	2.160	1.146	0.055	0.906	0.030
Imperial bank	0.363	1.549	1.104	0.279	0.903	0.214
Eco bank	0.052	4.977	0.695	0.141	0.858	0.037
Family bank	0.339	1.749	1.525	0.378	0.856	0.012
Chase bank	0.134	0.845	1.048	0.092	0.566	0.012
Fina bank	0.027	1.697	0.959	0.061	0.961	0.048
ABC Bank	0.114	1.086	1.034	0.071	0.922	0.210
Development bank of Africa	0.144	1.192	1.330	0.023	0.925	0.002
Gulf Africa	0.018	1.458	1.202	0.221	0.934	0.091
Habib AG Zurich	0.126	1.853	1.807	0.125	0.621	0.130
K-Rep Bank	0.094	1.604	0.814	0.096	0.708	0.017
Giro	0.077	1.397	0.809	0.085	0.651	0.130
Consolidated Bank	0.034	1.383	0.829	0.188	0.877	0.026
Guardian Bank	0.272	1.361	1.611	0.286	0.837	0.005
Fidelity Bank	0.187	1.954	0.747	0.236	0.713	0.064
Victoria Commercial Bank	0.091	1.079	0.532	0.081	0.587	0.169
Habib Bank	0.138	1.076	0.612	0.091	0.834	0.239
Southern Credit Banking Corporation	0.263	2.632	0.903	0.202	0.904	0.072
Equatorial Commercial Bank	0.221	1.581	1.629	0.225	0.871	0.066

First Community Bank Ltd	0.215	1.327	0.651	0.196	0.941	0.032
Credit Bank Ltd	0.092	1.438	1.101	0.052	0.923	0.070
Trans-National Bank Ltd	0.186	1.832	1.070	0.222	0.947	0.186
Middle East Bank Ltd	0.091	1.140	0.346	0.018	0.940	0.013
Paramount Universal Bank Ltd	0.124	1.670	0.904	0.126	0.945	0.035
Oriental Commercial Bank Ltd	0.072	1.620	0.963	0.094	0.974	0.006
Dubai Bank Ltd	0.101	1.310	0.761	0.077	0.970	0.072
UBA Kenya Bank Ltd	0.063	1.721	1.677	0.363	0.793	0.003
City Finance Bank Ltd	0.156	1.954	0.747	0.236	0.713	0.064

DATA For 2012

Banks	**Cashflow**	**BD**	**Size**	**ROA**	**Wages**	**IB**
Kenya Commercial Bank Ltd	0.127	2.155	0.898	0.107	0.905	0.043
Barclays Bank of Kenya Ltd	0.214	1.766	0.664	0.043	0.954	0.002
Standard chartered bank	0.244	1.178	0.849	0.173	0.626	0.071
Co-operative bank	0.367	4.274	0.259	0.275	0.953	0.239
CFC Stanbic Bank Ltd	0.326	1.087	0.848	0.059	0.850	0.001
Equity Bank Ltd	0.194	1.697	0.959	0.061	0.961	0.048
Commercial Bank of Africa Ltd	0.177	1.086	1.034	0.071	0.922	0.210
National Bank of Kenya Ltd	0.134	1.192	1.330	0.023	0.925	0.002
Citibank N.A.	0.272	1.458	1.202	0.221	0.934	0.091
Diamond Trust Bank	0.207	1.853	1.807	0.125	0.621	0.130
NIC Bank Ltd	0.101	1.604	0.814	0.096	0.708	0.017
I&M Bank Ltd1	0.148	1.397	0.809	0.085	0.651	0.130
Prime bank	0.273	1.383	0.829	0.188	0.877	0.026
Bank of baronda	0.231	1.361	1.611	0.286	0.837	0.005
Bank of Africa	0.235	1.124	0.567	0.151	0.932	0.056
Bank of India	0.102	1.112	1.114	0.067	0.892	0.018
Imperial bank	0.063	1.721	1.677	0.363	0.793	0.003
Eco bank	0.156	1.954	0.747	0.236	0.713	0.064
Family bank	0.186	1.079	0.532	0.081	0.587	0.169
Chase bank	0.124	1.076	0.612	0.091	0.834	0.239
Fina bank	0.151	1.632	0.903	0.202	0.904	0.072
ABC Bank	0.035	1.581	1.629	0.225	0.871	0.066
Development bank of Africa	0.006	1.327	0.651	0.196	0.941	0.032
Gulf Africa	0.072	1.438	1.101	0.052	0.923	0.070
Habib AG Zurich	0.145	1.832	1.070	0.222	0.947	0.186
K-Rep Bank	0.144	1.192	1.330	0.023	0.925	0.002
Giro	0.018	1.458	1.202	0.221	0.934	0.091
Consolidated Bank	0.126	1.853	1.807	0.125	0.621	0.130
Guardian Bank	0.094	1.604	0.814	0.096	0.708	0.017
Fidelity Bank	0.077	1.397	0.809	0.085	0.651	0.130
Victoria Commercial Bank	0.034	2.383	0.829	0.188	0.877	0.026

Habib Bank	0.272	2.361	1.611	0.286	0.837	0.005
Southern Credit Banking Corporation	0.187	1.954	0.747	0.236	0.713	0.064
Equatorial Commercial Bank	0.091	1.079	0.532	0.081	0.587	0.169
First Community Bank Ltd	0.059	1.006	0.915	0.244	0.904	0.238
Credit Bank Ltd	0.061	1.539	0.966	0.065	0.966	0.017
Trans-National Bank Ltd	0.071	1.074	0.922	0.104	0.949	0.231
Middle East Bank Ltd	0.023	1.732	1.276	0.063	0.927	0.061
Paramount Universal Bank Ltd	0.221	1.355	1.264	0.230	0.919	0.006
Oriental Commercial Bank Ltd	0.125	1.672	2.025	0.120	0.623	0.013
Dubai Bank Ltd	0.096	1.653	0.609	0.028	0.683	0.549
UBA Kenya Bank Ltd	0.085	1.872	0.682	0.091	0.782	0.259
City Finance Bank Ltd	0.129	1.571	1.261	0.177	1.421	0.413

DATA For 2013

Banks	**Cashflow**	**BD**	**Size**	**ROA**	**Wages**	**IB**
Kenya Commercial Bank Ltd	0.177	0.972	0.972	0.127	0.492	0.106
Barclays Bank of Kenya Ltd	0.159	0.898	0.737	0.214	0.450	0.157
Standard chartered bank	0.164	0.565	1.157	0.244	0.316	0.106
Co-operative bank	0.207	0.464	1.157	0.367	0.207	0.002
CFC Stanbic Bank Ltd	0.185	1.311	1.004	0.326	0.588	0.135
Equity Bank Ltd	0.140	1.296	1.263	0.194	0.594	0.016
Commercial Bank of Africa Ltd	0.129	2.571	1.261	0.177	1.421	0.413
National Bank of Kenya Ltd	0.241	1.263	1.128	0.134	0.560	0.135
Citibank N.A.	0.241	0.658	1.503	0.272	0.482	0.134
Diamond Trust Bank	0.166	2.553	1.483	0.207	0.799	0.355
NIC Bank Ltd	0.154	0.843	0.841	0.101	0.558	0.045
I&M Bank Ltd1	0.159	1.569	0.962	0.148	0.693	0.023
Prime bank	0.134	0.397	1.167	0.273	0.413	0.236
Bank of baronda	0.283	1.256	1.801	0.231	0.627	0.215
Bank of Africa	0.174	0.395	1.309	0.235	0.474	0.028
Bank of India	0.035	1.355	1.264	0.230	0.919	0.006
Imperial bank	0.006	0.901	1.570	0.102	0.582	0.045
Eco bank	0.072	2.580	1.298	0.063	0.836	0.210
Family bank	0.145	2.802	1.079	0.186	0.766	0.100
Chase bank	0.033	1.478	0.716	0.124	0.596	0.022
Fina bank	0.349	0.816	1.877	0.151	0.571	1.761
ABC Bank	0.035	1.086	1.034	0.071	0.922	0.210
Development bank of Africa	0.028	1.192	1.330	0.023	0.925	0.002
Gulf Africa	0.036	1.458	1.202	0.221	0.934	0.091
Habib AG Zurich	0.115	1.853	1.807	0.125	0.621	0.130
K-Rep Bank	0.018	1.604	0.814	0.096	0.708	0.017
Giro	0.035	1.397	0.809	0.085	0.651	0.130
Consolidated Bank	0.100	2.383	0.829	0.188	0.877	0.026

Guardian Bank	0.144	1.192	1.330	0.023	0.925	0.002
Fidelity Bank	0.018	1.458	1.202	0.221	0.934	0.091
Victoria Commercial Bank	0.126	1.853	1.807	0.125	0.621	0.130
Habib Bank	0.094	1.604	0.814	0.096	0.708	0.017
Southern Credit Banking Corporation	0.077	1.397	0.809	0.085	0.651	0.130
Equatorial Commercial Bank	0.034	2.383	0.829	0.188	0.877	0.026
First Community Bank Ltd	0.272	2.361	1.611	0.286	0.837	0.005
Credit Bank Ltd	0.187	1.954	0.747	0.236	0.713	0.064
Trans-National Bank Ltd	0.091	1.079	0.532	0.081	0.587	0.169
Middle East Bank Ltd	0.035	1.581	1.629	0.225	0.871	0.066
Paramount Universal Bank Ltd	0.006	1.327	0.651	0.196	0.941	0.032
Oriental Commercial Bank Ltd	0.059	1.006	0.915	0.244	0.904	0.238
Dubai Bank Ltd	0.061	1.539	0.966	0.065	0.966	0.017
UBA Kenya Bank Ltd	0.071	1.074	0.922	0.104	0.949	0.231
City Finance Bank Ltd	0.023	1.732	1.276	0.063	0.927	0.000

Appendix II: List of Commercial Banks In Kenya As At 31st December, 2012

1 Kenya Commercial Bank Ltd

2 Standards Chartered Bank Ltd

3 Barclays Bank of Kenya Ltd

4 Co-operative Bank of Kenya Ltd

5 CFC Stanbic Bank Ltd Large

6 Equity Bank Ltd

7 Bank of India

8 Bank of Baroda Ltd

9 Commercial Bank of Africa Ltd

10 Prime Bank Ltd Medium

11 National Bank of Kenya Ltd

12 Citibank N.A.

13 Bank of Africa Kenya Ltd

14 Chase Bank Ltd

15 Imperial Banks Ltd

16 NIC Bank Ltd

17 Ecobank Ltd

18 I & M Bank Ltd

19 Diamond Trust Bank Kenya Ltd

20 Family Bank Ltd

21 Housing Finance Co. of Kenya Ltd

22 Habib Bank Ltd

23 Oriental Commercial Bank Ltd

24 Habib A.G. Zurich

25 Middle East Bank Ltd

26 Dubai Bank Ltd

27 Consolidated Bank of Kenya Ltd

28 Credit Bank Ltd

29 Transnational Bank Ltd

30 African Banking Corporation Ltd

31 Giro Commercial Bank Ltd

32 Equatorial Bank Ltd

33 Paramount Universal Bank Ltd

34 UBA Bank Ltd

35 Fina Bank Ltd

36 Victoria Commercial Bank Ltd

37 Guardian Bank Ltd

38 Development Bank of Kenya Ltd

39 Fidelity Commercial Bank Ltd

40 Charterhouse Bank Ltd

41 K-Rep Bank Ltd

42 Gulf African Bank Ltd

43 First Community Bank Ltd

44 Jamii Bora Bank Ltd

Source: Central Bank Supervision Annual Report, 2012

Appendix II: Data Collection Sheet

YEAR	PERCENTAGE INCREASE IN THE TOTAL ASSETS	REVENUE GENERATED THROUGH BANKING	TOTAL REVENUE FOR BANKING	TOTAL ASSETS	BANK DEPOSITS	WAGE	RETURN ON ASSTES (RAO)
2009							
2010							
2011							
2012							
2013							