

**THE EFFECT OF ELECTRONIC RETAIL PAYMENT SERVICES ON
FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

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DECLARATION

This research project is my original work and has not been submitted for the award of a degree in any other university.

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DEDICATION

This project is dedicated to my family members for the support and encouragement that they offered through this journey. A special dedication to my husband George Matoke, and my two sons Eden Okello and Malik Ombaba

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ABBREVIATIONS

ATM	Automated Teller Machine
CBK	Central Bank of Kenya
DOI	Diffusion of Innovation
EU	European Union
ICT	Information and Communication Technology
IT	Information Technology
POS	Point of Sale
PBT	Profit Before Tax
ROA	Return on Assets
ROE	Return on Equity
US	United States

ABSTRACT

Payment is one of the most essential services carried out within the banking industry, essentially, they account for a significant portion that pertains the operational costs and revenues. Besides, they are equally related to an augmented market share of banks, especially through credit provision. The goal/objective of this research is to establish the effect of electronic retail payment services on the financial performance of Commercial Banks in Kenya. This research was carried out based on various theories, which entails the Schumpeter theory of innovation, Coase theorem and diffusion of Innovation theory. The target population for the present study comprised of the forty-three commercial banks for a time of five years from 2011 to 2015. This study maximised on the secondary data of the banks as registered with the Central Bank of Kenya. The data included return on assets for commercial banks and the volume of transactions done through ATMs, Bank Agents and mobile banking over a given period. It also utilised the data on the number of as ATMs and Agents recruited by banks. The natural logs of the independent variables were used in the regression equation. The study revealed that the average ROA for all commercial banks was 2.6099, the average number of transactions for all commercial banks was 7, 207,348, the average number of ATMs for all commercial banks was 50, while the average number of number of agents for all commercial banks was 204 agents. The findings established that the adoption/use of electronic retail payment services has improved the performance in the banking industry through ensuring its productivity and efficiency is greatly improved. Electronic retail payment services have brought about a positive effect on the overall operations within the banking industry through making work easier for the management as well as the employees since it has been found to be the most effective and efficient service. Essentially, the adoption of such electronic retail payment services has greatly improved the prosperity of the Kenyan commercial banks. Indeed, the clients can now carry out most of the transactions outside the working hours, for instance, they can make withdrawals and still attend to their needs; the Central Bank of Kenya introduced the electronic retail payment systems guideline, which has intensely assisted the key players within the banking industry by making this type of payment services more effective. The study recommends that commercial banks need to invest heavily in technology as this will highly affect their financial performance. The Central Bank of Kenya, which is the regulator of the banks, also needs to monitor keenly the banks operations to ensure they are as par the set standards. The banks systems should be very secure to reduce chances of fraud occurring.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Essentially, an operational payment infrastructure is necessary in enhancing market efficiency to strengthen the financial systems and act as a stimulant to consumer confidence while facilitating economic interactions in the market (BIS, 2003). According to Hasan, Schmiedel, and Song (2012), effective payment services bear a substantial effect on the performance of banks generally. Notably, such services favour-lending, investments, and acts as stimulants to the economy. Particularly, the technological advancements that have given birth to the electronic payment services have greatly boosted consumer confidence in the banking system. Infrastructural changes in the payment systems have brought about significance changes within the banking sector such as gaining of the massive traction around it as everyone angles to partake of the benefits inherent in the system (Humphrey, Willeson, Bergendahl, & Lindblom, 2006).

Technological advancements remain the greatest traction behind the evolution in the financial market structures. With increased consumption of technology in the banking sector, new financial instruments in the retail payments continue to make banks more attractive. Major developments have taken over the retail payments, and through the emergence of innovative electronic payments instruments that are gradually replacing the paper based instruments, the banking system progressively changes its image (Scholnick, Massoud, Saunders, Carbo-Valverde, & Rodríguez-Fernández, 2008). Columba (2009) asserts that the distribution network for payment services attract many people to the bank,

hence increasing revenue for the bank. Kemppainen (2003) contends that effective payment infrastructure is crucial in assisting banks to institute long-term connections with their clients, as both private and corporate consumers seek to invest in the banks to tap into the tremendous benefits attached to the system.

In recent years, the payment services in Kenya have witnessed massive transformation as the industry partakes of the new wave in the Information and Communication Technology (ICT) advancements. The banks in Kenyan have, thus increasingly embraced ICT to expand their service provision through models such as the e-payments (CBK, 2012). According to CBK (2008), the banking business environment was continuously changing due to the robust ICT platforms. They predicted a possible down streaming to retail market and that banks will continue to design aggressively new products that leverage on ICT to remain competitive.

1.1.1 Electronic Retail Payment Services

A payment infrastructure consists of a network of interrelated entities that accelerate data exchange between systems to initiate, sanction, and expedite cash transfer between two parties (Scholnick et al., 2008). An efficient payment system accomplishes these tasks at a relatively low cost to the parties involved. Payment systems come in various forms, as driven by the needs of clients, to facilitate economic transactions. Payment structure can broadly be put into two categories: high value payment systems and the retail payment system (Scott, 2015).

Retail payments are transactions made by several of individual clients. This covers business to business, individual to business and person-to-person payments. It involves a wide range of payment instruments, including point-of-sale payment instruments and those used for remote transactions. It also makes extensive use of private networks, such as automated clearing houses or credit card companies (BIS, 2003).

According Rogers (1995), retail payment intensity is measured using the number of retail transactions to show volume of country level of retail payments business. The number of payment equipments such as ATM (Automated Teller Machine), POS (Point of Sale), and level of usage of both internet and mobile banking determine the level of adoption.

1.1.2 Financial Performance

As a term, financial performance is viewed in general to mean the overall financial health of a firm usually over a period, and is sometimes used in comparing similar firms within the same industry (Gilbert, Meyer, & Vaughan, 2000). Financial performance indices are viewed under the lenses of an acronym known as CAMELS. “CAMELS” denotes the five components of the condition of a bank that are evaluated to in a market assessment. The components include Capital Adequacy, Asset value, Management, Earnings, and Liquidity as well as the Sensitivity of the bank to the market risks. (Gilbert et al., 2000). The CAMEL assessment ensures a bank stays within a healthy condition that sanctions its positioning in the market (Akram & Hamdan, 2010). Particularly, its ability to help assessors in reviewing the different facets of a firm based on rich data foundations such as fiscal statement, funding mechanisms, macroeconomic statistics, budgetary allocations, and cash flows (Barr et al. 2002). Critics hold that the CAMEL rating of a

firm is highly confidential, entrusted only to senior management to help in projecting the corporate strategies (Hirtle & Lopez, 1999).

According to Ahmad, Raza, Amjad, and Akram (2011), financial performance in the majority of financial institutions can be evaluated through a combination of monetary ratios examination, budgetary standardisation or a blend of these methodologies. Measuring the viability of commercial banks points at various ratios such as Return on Equity, Return on Asset and Net Interest Margin (Caruntu & Romanescu 2008). Khrawish (2011) explains that Return on Equity signifies the rate of return netted on the assets invested in a bank by its shareholders. Return on Asset measures the aptitude of a bank to create income through the clients' assets in their hands. Other factors for measuring performance include market share, growth scales, stakeholder satisfaction, competitive positioning, as well as the productivity (Bagorogoza & Waal, 2010).

Sundgren and Schneeweis (2004) hold that accounting measures only seek to capture the historical aspects of a firm's performance, hence the need to employ more infinite tools and instruments for evaluation. Brillhoff (2004) goes further to suggest that these measures have greater likelihood of generating bias since they are codified to managerial manipulation as well as the differences in accounting techniques adopted by firms. Despite the precincts of accounting based processes, they nonetheless offer the best indications for a firm's overall performance.

1.1.3 Retail Electronic Payments Services and Financial Performance

Income for banks arises largely from non-interest activities and lending. In practice, the retail services rendered by the banks directly impact their non-interest incomes, for instance revenue charged on paying for services. Bolt and Humphrey (2007) note that banks have experienced large revenues from various activities within the banking system. Payment services are necessary aspects of the banking system and they account for a significant portion of the revenues earned by the firms. Revenue earning is backbone of banking business as it significantly helps banks to increase their market share to remain competitive (BIS, 2003). According to BCG report (2009), payments through the banks are ideal for growth of the sector since they form the bedrock of capital for the firms.

New payment technologies that take the form of electronic methods have not only reduced the settlement time but also the financial costs of processing client payments (Humphrey et al., 2006). The shift from the traditional paper based payment systems to electronic methods has substantially reduced the cost of operations for banks. The combination of the sophisticated payment methods and the reduced cost of operations attributed to the shift focus from the traditional payment methods to electronic payments techniques will positively impact the financial performance in the banking system (CEC, 2008).

Retail payment equally impacts lending capacity of the clients because it attracts more deposits from the clients. Consequently, banks can earn interest on both the credit and the debit balances as well, which arise from making payments or withdrawals. A befitting

retail payment scheme can attract more clients to borrow from the banks by expediting the refund (Stiroh & Rumble, 2006). Furthermore, interest for the banks may be linked with non-interest revenue due to the potential in cross selling various products to a single customer.

1.1.4 Commercial Banks in Kenya

Various Acts such as the Companies Act as well as the Central Bank of Kenya Act, Banking Act as well as other prudential guidelines govern the banking system in Kenya. Liberalisation for the Kenyan banking sector took place in 1995, which witnessed the lifting of exchange controls. The Central Bank formulates and implements the monetary policy. As the regulatory authority, the Central Bank also fosters liquidity, solvency and ensures the efficacy of the monetary system in the country. In Kenya, there are 86 forex bureaus, 43 commercial banks, 14 currency remittance providers, 12 microfinance banks, 3 credit reference agencies and 1 mortgage finance establishment. Review of the annual report shows that the Banking Sector in Kenya performance improved for the fiscal year 2015 as compared to 2014. Asset increment stood at 3.6 from 3.0 trillion Kenya shillings while the Gross Profit rose to 76.7 from 71.0 billion Kenya shillings (CBK, 2015).

The modernisation of the National Payment Framework in Kenya began in 1998 with the full automation of the Nairobi Clearing House. In 1999, the evidence act was amended to provide for electronic documents. In 2002, CBK act 4d1 was amended to enable banks to implement policies that promote efficient and effective payment. The Mpesa, which changed the landscape of payments, was born in 2007, shortly after the Kenya communications amendment act 2008 was enacted.

1.2 Research Problem

Payment services are the essential within the banking industry and they account for a significant portion of operational costs and revenues. Besides, they are equally related to an augmented market share of banks, especially through credit provision (Creyghton, Storz, Rutstein, Mohr, & Grealish, 2009). Hasan et al. (2012) contend that robust payment services are necessary in assisting the banks in establishing enduring relationships with their clients.

In Kenya, the banking industry exhibits smaller market orientation and has a penchant of fulfilling customer needs with little consideration to their interests. Consumers in Kenya experience long queues, transaction errors, and insecurity as well as network failures (Joseph, McClure, & Joseph, 1999). These concerns have greatly lowered the perception of the consumers on the quality of the service rendered by the banks, hence reducing their credibility, which in turn impacts on profitability. The emergence of new technologies and competitors put a demand on the banks to align themselves with the skills necessary to keep them relevant and competitive in the market (Joseph et al., 1999).

There are several studies carried out both globally and locally relating to consumption of electronic retail payment services. According to Berger (2003) the technological advancements within the banking system, entails online payments and electronic as well as information exchanges, have augmented productivity and activity in the market. In their analysis, Hasan et al. (2012) scrutinised the connection between service provision and performance in the EU market and established that banks do well in the markets with

advanced retail payment infrastructures. Locally, Ngumi (2013) examined the adoption of electronic exchange systems by the Kenyan banks and notes that the new methods of transactions made possible by adopting e-commerce have made it easier to reach many clients and tailor products with the end result being high revenue stream for the banks. Okiro (2013) explored the influences of Mobile banking and the Internet as well on the overall financial performance, hence concluded that both enhanced financial performance for banks.

There is evidence that several studies have been conducted on retail payments, however most of them have concentrated on retail payment equipment as opposed to retail payment services with few studies focussing on the payment systems. Consequently this research aims at closing the gap by determining the relationship between the overall performance of Kenya Commercial Banks as well as the electronic retail payments services.

1.3 Research Objective

To ascertain the impact of electronic retail payment services on the overall financial performance of Commercial Banks in Kenya.

1.4 Value of the Study

The research shall be valuable to Bank staff who will gain insight into the strategic, financial, marketing and operating activities of the organisations they work for especially where they are dealing with the mass market .Whilst their jobs may concentrate on a few aspects of the business, many will appreciate a view of the wider picture, and how it all fits together.

It will be valuable to the senior managers of financial institutions who will appreciate the informative, provocative and constructive overview of the retail payment systems, the role they play in determining the retail payment equipment to be adopted as well as their impact on the financial performance in the Kenyan market. The research findings will equally be important to executives in the banking industry as they develop their strategies for an enhanced performance

Moreover, the research is precious to future scholars, researchers and upcoming entrepreneurs who would like to supply technological services to the banking sector. It will act as a source of reference where it can be used to project the future developments.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The section derives its foundation from the research problems and presents literature as presented by other researchers and scholars as is relevant for this study. It specifically presents the theories on which the study is anchored, empirical review and chapter summary.

2.2 Theoretical Framework

According to Trochim (2006), theoretical frameworks are necessary in studies because they guide research, and helps in determining the variables and the statistical relationships that permeate the focus of a study. The researcher is directed by theoretical literature to clearly view the variables of the study as well as providing the direction for examining the data, and assists in choosing the appropriate research design. The theories evaluated in the research included the Coase theorem, Schumpeter theory of innovation, and diffusion of Innovation theory.

2.2.1 Schumpeter's Theory of Innovation

Schumpeter (1954) asserts that, entrepreneurs create an opportunity for new profits with their innovations. New products that enter the market due to innovation decrease the demand of the older ones, lower their cost, and ultimately displace them. The theory contends that whenever entrepreneurs innovate and become prosperous; competitors in the market promptly imitate and adopt the characteristics so as to benefit from the super normal profits thus reducing the profit margin. However, before the supply equates

demand a new innovation emerges to begin the business cycle over again. With invention on one hand, innovation and entrepreneurship on the other, he argues that entrepreneurs seek out the activities which generate the values that expand and transform the cyclical flow of income as well. Schumpeterian competition creates imitators who emulate their competitors as well as steers the innovation, thus encouraging investment, and leading to a boom. Porter (1992) supports this theory and argues that improvement is important for a nation's long-run competitive advantage and economic growth as well. However, critics like Solow (2007) criticized the Schumpeterian theory of innovation as the leading endeavour to capture a complete socioeconomic arrangement in a few grand simplifications.

In the context of retail payments services, innovative payment systems will profit society greatly. As Berger (2003) notes, these systems are beneficial because of their capacity to lower costs and facilitate transactions. The prospective ease of money transfers will increase the purchasing power and expand the market substantially.

2.2.2 Coase Theorem

The analysis of the economics and regulation of the electronic retail payment services requires a consistent framework within which the costs and paybacks of different retail payment instruments, and the costs and benefits of regulations imposed on them, can be evaluated. The theorem postulates that private transactors, in the absence of transaction costs and acting in their best self-interest, tend to reach transactions and asset distribution that maximise their combined private welfare. One of the central ideas derived from the Coasian reasoning is that transaction cost includes the direct cost of performing a transaction and costs arising from the asymmetry of knowledge between the transacting

parties (Coase, 1960). Critics say that the Coase theorem is instructive; it assumes that costless trading promotes adeptness in the market (Ellickson, 1991).

In the context of the retail payment services, the two classes of costs i.e. the direct costs and the information asymmetry costs, are manifested in various ways. Direct costs of retail payment instruments to transacting parties include the cost of creating the physical payment instruments and information asymmetry costs (Coase, 1960). According to Singh and Zandi (2010), eliminating the frictions and costs in industry would guarantee an efficient payment infrastructure that readily induces trade transactions.

2.2.3 Diffusion of Innovation Theory

Rodgers (1995) brought up the Diffusion of Innovation Theory to document how the society receives, spread as well as adopt new ideas. This theory primarily explains how communication channels as well as the opinion leaders usually shape the data adoption processes. The originator of this theory proposed a raft of issues including the first process and five-stage models of implementing and adopting innovative ventures in organisations. These are compatibility, relative advantage, complexity, and observability as well as trial ability. Moore and Benbasat (1991) utilised this theory in their work to measure the numerous perceptions inherent in the adoption of information technology (IT) tools. One of the perceived strengths of DOI is that it perfectly documents the conditions in which people willingly decide to adopt a new system (Gallivan, 2001). However, critics of this model contend that it was forwarded for a more general course, as it derives its foundation from voluntarily adopted decisions that may not necessarily capture the art (Fichman, 1997).

In the context of the electronic retail payment services, the theory seeks to upsurge the availability of payment means, ease transactions, and augment efficiency in payments processing. According to Columba (2009), empirical studies show a reduction in the cost of transaction owing to massive distribution of electronic money transfer systems such as ATMs and POS.

2.3 Determinants of Financial Performance

The causes of profitability within the banking system are either the internal or the external factors. According to Zimmerman (1996), the internal factors of profitability in the banking system are influenced by the management policy and the decisions made internally. The external determinants on the other hand consist of those events exterior the bank's establishment which are not influenced by internal decisions (Datta, 2012).

According to Karlyn (1984), capital adequacy relates to capital-deposit and the primary risk is vested on depository withdrawals. Arguably, this ratio denotes the book value of capital investment attached to bank. Notably, the 1993 Basel treaty enshrined capital ratio to risk adjustment mechanisms. The accord holds that capital must exceed or be equal to about four percent of the risk weighted on assets.

Grier (2007) asserts that credit risk is amongst the determinants of the welfare of the commercial bank. As the market feature, credit risk depends on the quality of the assets and has the direct impact on the operations of commercial bank. Despite Loan portfolios being the most significant asset for the banks, the greatest risks faced by the banks are of

non-performing loans (NPL). According to Frost (2004) the asset worth indicators highlight the use of the non-performing loans ratios as well as bad loans provisions made.

Management quality according to Datta (2012) explores the capability of the management of the banking institutions to identify, evaluate, and regulate the risks in their undertakings to ensure a safe, rigorous, and efficient system. Rudolf (2009) notes that liquidity articulates the degree to which financial institutions are capable of fulfilling their obligations to the clients. Banks have nurtured a culture of making money through mobilising short-term investments at low interest rates while lending their funds for long-term at slightly higher rates. Both liability and asset liquidity risk affect bank performance.

According to Grier (2007), earning capacity which is our main focus keeps the banks in sound conditions in the market. Other than reflecting the quantity and trend in earnings, the rating highlights other factors that may affect sustainability of earnings. She opines that consistent profit must be pursued because it builds confidence in terms of the banks ability to absorb and provide for loan losses. There are various pointers of profitability mainly return on equity, gross margin, interest-spread ratio return on assets and earning spread ratio. The Commercial Banks that operates the profit margin and the net profit margin are commonly used as the profitability indicators. Notably, the changes of the exchange rates can adversely affect earnings and the market share of financial institutions. Therefore, numerous financial institutions consider interest rate changes as bearing certain market risks.

2.4 Empirical Studies

Krishna (2015) used descriptive research design to ascertain effects of Information Technology (IT) on banking industry in India. She examined the various technological developments within the Indian Banking sector that have been attributed to ICT in 2015 in form of Telephone banking, ATMs, Mobile and on-line banking. The studies reveals that use of ICT results into lower costs, however, the impact on profitability is constantly inconclusive, due to the possibility of effects that results from a huge demand of skilled labour, trustworthiness of the competition in financial services as well as changes in the information system.

Gutu (2014) using descriptive research design examined the effect of the Internet technology on the performance of the banks in Romania. The study sample consisted of 11 banks analysed between 2003 and 2013. The independent variables consisted of early adopting banks, number of internet users, and online advertising. The results showed that Internet revolution brought importance to both the customers and banks as well. Therefore, the banks reduce the costs of labour and branches through automating most of their activities while clients reduce the time and money spent on the activities that involves banking. From the study, it was clear that the three variables had a positive influence on the performance. However, such effect was too low to conclude that Internet technology has a vital effect on performance. The conclusion was that internet technology had no impact on Romanian banks.

Hasan et al. (2012) used descriptive survey research design to track an integrated and comprehensive view of the significance of IT on the retail payments for the performance of banking institutions. The researchers examined the retail payment services across 27 European Union markets. They document a rich relationship in regions with better retail payment transaction systems such as ATMs and POS. Generally, technology greatly impacts the way the financial institutions conduct their business. IT facilities guarantee a broad range of alternative and options that make the market viable for business.

In their study, Al-Smadi and Al-Wabel (2011) used the survey research designed to examine the impact of IT on the Jordanian banking sector. Their study entailed a survey of 15 Jordanian financial institutions between the year two thousand and two thousand and ten. The accounting data was used to gauge the performance of banks as well as regressed on relevant variables using the OLS regression. Their study reveals that the use of IT had a positive influence on the general performance of Jordanian banks.

Gichungu and Oloko (2015) studied the Relationship between the Financial Performance Innovations of Commercial Banks in Kenya. Using used descriptive survey research design, they sampled 43 commercial banks for a period of five years 2009-2013. Using the linear multiple regression to ascertain the connection between the variables they concluded that the innovations of Bank have a positive influence on commercial banks' financial performance.

Okibo and Wario (2014) using the descriptive survey research methodology, examined a random group of selected banks in Kenya to examine the impacts of e-banking on growth of client base. The research used purposive sampling to select three banks and stratified random sampling approach to ensure equal representation. They focused their study on services provided by the banks, availability of services, level of education and adoption, and the issues surrounding e-banking. They concluded that e-banking has influenced the development of the client base for the banking institutions in Kenya, by improving the accessibility of banking services to a larger populace in the nation.

Using descriptive survey research design, Ngumi (2013) conducted a research study to determine the impacts of innovative practices on the profitability of the Kenyan Commercial banks. The study sampled all the 43 commercial banks across the region and applied various linear regression scrutinies to investigate the statistical implication of several independent variables allied to the system. The results indicated that innovations in the banking system have greater influences on profitability of the financial institutions in Kenya.

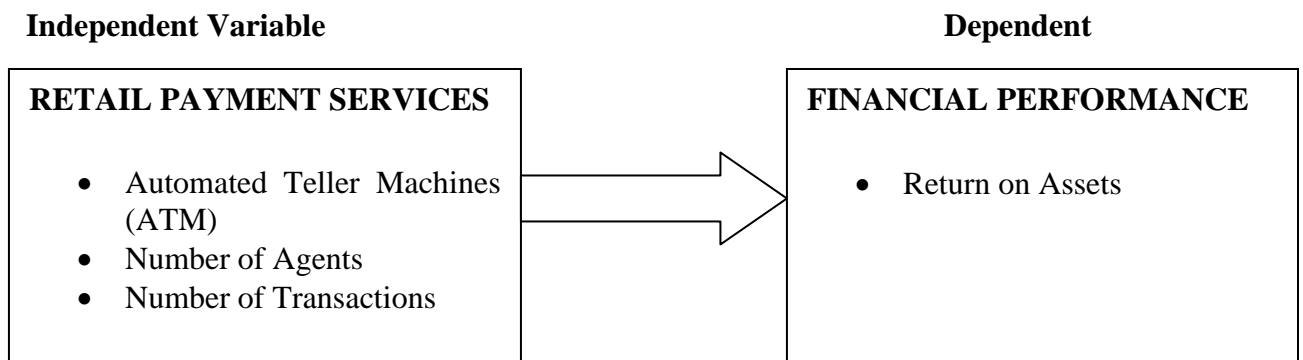
Okiro (2013) explored the effects of Mobile and Online banking in the Kenyan market. The research work used descriptive and qualitative study design, which was consistent with the objective intended in establishing the effects of e-banking infrastructure in the Kenyan institutions. The study population was 61 commercial institutions in Kenya. The study concluded that Internet banking has enhanced financial performance for banks.

Mobile banking besides being bedevilled by many challenges still positively contributes to financial performance.

Ndung'u (2011) analysed the Impact of mobile phone money in Kenyan banking industry between 2007 and 2011. The study documents that within just four years of mobile banking services transactions have been tremendous. It notes that mobile banking services resulted in reduced transaction costs and greatly increased access to banking services in Kenya hence improved performance in the sector. A survey done by Central Bank in 2008 shows a steady increase in the consumption of e-banking techniques such the ATM, EFT, online banking, mobile bill payments and credit card utilisation in the Kenyan market (CBK, 2008).

2.5 Conceptual Framework

Figure 2.1: Conceptual framework



According to Smyth (2004), a conceptual context is a research tool aimed at helping the researchers in creating awareness and understanding of the topic of study as well as articulating it. The conceptual framework of this research piece shows the impacts of electronic retail payment services on the financial performance of Commercial Banks in Kenya. The study conceptualizes that electronic retail payment services influence the

financial performance of commercial banks if other factors i.e. network coverage, reliability of services, availability of services and adoption of the new technology remain constant.

2.6 Summary of Literature Review

This section of the study developed an empirical as well as a theoretical orientation of past researchers' undertakings on retail payments systems and financial performance. It looked at the various theories advancing retail payment systems and measurements of financial performance. From the literature reviewed here in, it is apparent from various authors, such as Hasan et al. (2012), Humphrey et al. (2006), Kozak (2005), and Berger (2003), that electronic retail payment services that have better IT infrastructures positively impact the performance of banks in the market. The majority of the authors from whom this paper derives its foundation seem to agree unconditionally that there exist a tremendous transformational effect in the electronic retail payment services on the performance of bank and operational efficiency. The ICT infrastructure for the banking system in Kenya has also enhanced concentration of retail equipment for the financial systems, hence greater productivity and research in the industry. It is apparent that studies in the electronic retail services and retail payment are robust. However, from the locally literature reviewed, whereas there are exist specifics to Kenya, the emphasis has been on Retail payment equipment e.g. Internet, Mobile and POS banking to the performance of commercial banks, most studies have omitted the wholesome role played by electronic retail payment services on the same. This research, therefore, seeks to take care of the existing gap in literature through studying the impacts of electronic retail payment services on the performance of commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The present chapter details the collection of data, processing of data as well as its analysis methods. The chapter also discusses the instruments to data collection instruments as well as the procedures and the study sample and target population. According to Zikmund, Babin, Carr, and Griffin (2010)'s affirmations, research methodology must have the capacity to explain the technical procedures to enhance concept and understanding of the project. The paper achieves its objectives by addressing the sample designs, data collected and analysed in the process. Duttweiler (2009) notes that research methodology passes out as a general principle that offer itself as a guide for the research.

3.2 Research Design

According to Dawson (2002), the tenacity of this chapter is relevant since it is the central to describing and justifying the chosen methodology as well as the methods of research. Polit and Beck (2003) designate research design as a necessary tool owing to its ability to document the overall plan for tracking down answers to the concerns being examined. The ability of the research design to handle certain difficulties encountered in the research process makes it a necessary aspect of any study. Lavrakas (2008) labels the descriptive survey scheme as the methodical research technique for data collection. It utilises instruments such as open-ended or closed-ended questions, interviews, and observations. Descriptive design was used to measure, analyse, compare and interpret data to understand the impacts of electronic retail payment services on commercial banks in Kenya.

3.3 Target Population

Kothari (2004) designates a population in terms of all the items used in a study as its constituents or ingredients. However, Polit and Beck (2003) asserts that the population consists of the aggregate of the individuals or entities to which the research is made. The target population for the present study comprised of the all the forty-three commercial banks for a certain time of about five years between two thousand and eleven and two thousand and fifteen.

3.4 Data Collection

This study maximised on the secondary data of the past fiscal performance of the banks as registered with the Central Bank of Kenya. Dawson (2002) outlines that data collection consists of gathering of the relevant pieces of information. According to Polit and Beck (2003), secondary research encompasses using of the information obtained from a previous research to assess new hypotheses and use new relationships. Secondary analysis of an existing data in a research study is necessary because of its efficiency and frugality. The data covered a period of five years. Secondary data was found from the banking supervision and yearly reports from central bank. The data included return on assets for the commercial banks and volume of transactions done through ATMs, Mobile banking and Bank Agents over a given period. Besides, the study also utilised the data on the number of as ATMs and bank retail agents. The natural log of the independent variables was used in the regression equation.

3.5 Data Analysis

Upon successful data collection, the researcher sorted and coded the data in preparation for data analysis. Besides, the research employed quantitative analysis to analyse the

collected data. Additionally, the research utilised data analysis software i.e. Statistical Packages for Social Sciences (SPSS). Furthermore, the scientist used multiple regression analysis to test statistical significance and to show the association existing between the dependent variables and independent variable namely Natural log of No of ATMS, Natural log of No of Agents, and Natural log of No of Transactions.

3.5.1 Analytical Model

The following regression equation was used to illustrate the relationship:

$$Y_i = \alpha_0 + \beta_1 \text{TRAN}_i + \beta_2 \text{ATM}_i + \beta_3 \text{AGENTS}_i + \epsilon_t$$

Where:

Y_i was financial performance measures (Return on Assets)

TRAN_i was the Natural log of number of Transactions

ATM_i was the Natural log of number of ATMs

AGENTS_i was the Natural log of number of Agents

α₀ = Estimated worth of Y when the variables were zero rated

β = Associated volatility of projected Y value

ε_t = Error term represents the combined effects of the omitted variables

3.5.2 Test of Significance

In my study, ANOVA and coefficient of determination (R^2) was applied to measure how precise the regression line comes close to the actual data. Correlation Coefficient roughly documented as the *R* factor is a quantity of the power and bearing of the linear linkages between two variables. The study used statistical Package for social science to determine the nature and strength of the connection between Retail banking payments and financial performance of the Kenyan commercial banks.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter, data analysis, results, and discussion, presents data analysis and interpretation. The objective of the research was to determine the impact of electronic retail payment services on the financial performance of Commercial Banks in Kenya. The data was collected from all the banks. The data sources included financial statements, annual statements for a period of 5 years (2011-2015) as well as other publications. The data collected was for 42 banks with the exclusion of charter house bank. The data for 2015 additionally omitted imperial and Chase bank. Data was collected based on the variables of the study, that is Financial performance depicted by Return on Assets; total number of transactions in an year; number of ATMS in an year as well as number of agents implemented in an year.

4.2 Descriptive Statistics

Descriptive statistics are the measurements that explain the general nature of the data under research. They define the nature of response from primary data and/or secondary data. Descriptive statistics for this research include standard deviation, mean, minimum and maximum. Descriptive data analysis was done on the Return on Assets; total number of transactions in a year; number of ATMS in a year as well as number of agents implemented in a year. The descriptive statistics results are tabulated below

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	43	-7.54	7.15	2.6099	2.67291
Number of Transactions	43	.00	46720467.00	7207348.8605	10496365.83344
Number of ATMs	43	.00	536.88	50.1220	126.10685
Number of Agents	43	.00	3586.20	204.2791	708.68886

Based on the findings in Table 4.1 above, the average ROA for all commercial banks was 2.6099 with the lowest being -7.54 and the highest being 7.15. The average number of transactions for all commercial banks was 7, 207,348 transactions with the lowest being 0 and the highest being 46,720,467. The average number of ATMs for all commercial banks was 50 with the lowest being 0 and the highest being 536. While the average number of number of agents for all commercial banks was 204 agents with the lowest being 0 and the highest being 3,586 agents

4.3 Inferential Statistics

The research, therefore, applied general Linear Model to establish the predictive power of the relationship between electronic payment systems and commercial bank financial performance Kenya. This included Analysis of Variance, regression analysis, coefficient of determination, and the Model.

4.3.1 Correlation Analysis

The research applied the Karl Pearson's coefficient of correlation as a way of quantifying the magnitude of the relationship between the variables. Notably, the Pearson product-moment correlation coefficient ascertains and deduces the strength and magnitude of a linear association between two variables and is denoted by r , *which* can take a range of values from +1 to -1. In the numbering, a value of 0 shows that there is no relationship between the two variables. However, a value greater than 0 shows a positive relationship – they are directly proportional such that an increase in the value of one variable increases the value of the other variable. More to the point, a value less than 0 shows a negative correspondence – they are inversely proportional such that an increase in the value of one variable decreases the value of the other variable.

The sole purpose of the Pearson's coefficient was for verification, that is, to ascertain the existence or non-existence of linear association between and among the electronic retail payment systems variables with financial performance. The findings are presented as follows:

Table 4.2: Pearson’s Correlation Coefficient Matrix

	Number of Transactions	Number of ATMs	Number of Agents	ROA
Number of Transactions	1			
Number of ATMs	.395**	1		
Number of Agents	0.13	.381**	1	
ROA	.350**	.613**	.543*	1

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

Results from Table 4.2 above reveal that there is a vital positive relationship between Number of Transactions and financial Performance ($r = .350^{**}$, $P\text{-value} < 0.01$). This implies that Number of Transactions effected through electronic retail payment systems influence financial performance in Kenyan commercial banks.

The findings also disclosed an important positive relationship between Number of ATMs and financial Performance ($r = .613^{**}$, $P\text{-value} < 0.01$). Thus, implying that the Number of ATMs influence financial performance in Kenyan commercial banks.

The findings indicated a momentous positive relationship between Number of Agents and financial Performance ($r = .543^{**}$, $P\text{-value} < 0.01$) thus, depicting that Number of Agents influence financial performance in Kenyan commercial banks.

The results in table 4.2 above point out that there was a vital positive relationship between Number of Transactions and Number of ATMs ($r = .395^{**}$, $P\text{-value} < 0.01$). The findings infer that there is interrelationship in the different electronic retail payment services in the banking industry such a change in one electronic retail payment service affect the other. Given that the correlation among the predictive variables was not very strong, there was slight proof of multicollinearity among them, and, therefore, all the variables were integrated into the ensuing regression analysis.

4.3.2 Regression Analysis

The researcher performed a multiple regression analysis in order to test relationships among variables (independent) on the relationship between electronic retail payments systems and financial performance of banks. The researcher used the statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions for the research work.

Coefficient of determination describes the scope to which alterations in the dependent variable can be clarified by the alteration in the independent variables or the percentage of variation in the dependent variable (ROA) that is described by all the four independent variables (number of ATMs, number of transactions and number of agents).

4.3.2 Model Summary

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.866	0.749	0.731	0.116

a. Predictors: (Constant), Number of transactions, Number of ATMs, Number of agents,

Table 4.3 shows model summary of regressed variable of the study. The correlation coefficient (R) value represents the degree and impact of relationship between dependent variable and the independent variables. Coefficient of correlation ranges between -1 and 1 and in this model the coefficient of correlation is 0.866 which indicates a positive correlation between ROA, number of transactions, number of ATMs and number of agents. The R^2 is the coefficient of determination which indicates how much of the total variation in the dependent variable. The independent variable, number of transaction, number of ATMs and number of agents can describe ROA.

From the above the R^2 statistic gives the goodness of fit of the model that shows how good the regression model estimates the real data points. An R^2 of 1.0 shows that the regression line perfectly fit the data. The R^2 of this model is 0.749 which shows that the model is a good fit of the actual data. The coefficient of determination of 0.749 implies that 74.9% of the variance in dependent variable, ROA can be described by the independent variable, number of transactions, number of ATMs and number of agents.

4.3.3 ANOVA Results

Table 4.4 ANOVA of the Regression-ROA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.33	3	9.11	3.915	.028 ^a
	Residual	90.753	39	2.327		
	Total	118.083	42			

The model summary also indicates that the regression model determines the dependent variable considerably well. The F test shows the statistical significance of the regression model that was run. The $P=0.028$, which is less than 0.05 shows that, overall the regression model statistically and significantly foretells the outcome variable that is good fit for the data.

4.3.4 Coefficient of Correlation

Table 4.5: Coefficient of Correlation

Mode		Un-standardized		Standardized	t	Sig.
		Coefficients				
1		B	Std. Error	Beta		
1	(Constant)	87.215	4.932		17.683	0
	Number of transactions	0.306	0.121	0.146	2.528	0.0156
	Number of ATMs	0.781	0.279	0.126	2.799	0.0079
	Number of agents	0.665	0.243	0.045	2.736	0.0093

a. Dependent Variable: ROAs

The overall equation model for ROA, number of transactions, number of ATMs and number of agents was as follows:

$$Y_i = 87.45 + 0.306 x_1 + 0.781 x_2 + 0.665 x_3 + e$$

From the model, in any given month, the ROA will be 87.215 when all the predictor values are zero. The model indicates that when the number of transactions and Number of agents changes by one unit the ROA will increase by 0.306 and 0.665 respectively. In addition, when number of ATMs changes by one unit the ROA increases by 0.0781, and 4.932 represent the error term of the model. To test the importance of each individual variable which was based at 0.05 the t-test was carried out. The result indicates the

number of transactions and number of agents has a value of 0.0156 and 0.0093 against the ROA in the model respectively. This shows that the relationship between ROA, number of transactions and number of agents is significant. The relationship between ROA and number of ATMs recorded at rate of 0.0079, which is significant since it is less than p-value (P.0.05).

4.4 Discussion of Findings

The reason for the study was to determine the impact of electronic retail payment services on the financial performance of Commercial Banks in Kenya. Secondary data was used to assess the objective of this research piece, and the following analysis was done based on the variables of the research work.

From the results obtained, the number of transactions had a vital impact on financial performance of the commercial banks. The mean increase in the number of transactions from 10 million in 2011, later to 19 million in 2015 indicate a growth in electronic retail payment services transactions and consequently improved banks' financial performance. The findings regarding electronic retail payment services are same to findings in Kenya by Misati et al., (2010) whose research established that electronic retail payment systems had elaborated the array of services that the banking sector could provide in order to increase incomes within the industry. Markedly, Mabrouk and Mamogholi (2010)'s research in Uganda indicated same results just like that by Porteus (2006) in Tunisia - the researchers established that electronic retail payment systems helped to increase bank incomes and profitability. The study also found a noteworthy positive correlation between number of transactions and financial Performance ($r = .350^{**}$, P-value < 0.01). Clearly, the growth in electronic retail payment systems supports the outcomes of this

research work and those of other upholding studies. Since the electronic retail payment systems offer alternative service delivery options that are affordable and accessible to customers in Kenya and beyond, it has witnessed high penetration levels.

The study findings revealed that the ATM averages for number of transactions in an year for the commercial banks rose from 2217 to 2718. It is also evident that the banks had almost a similar number of ATMs as the standard deviation is so small depicting minimal variability. The findings also disclosed a significant positive association between number of ATMs and financial Performance ($r = .613^{**}$, $P\text{-value} < 0.01$). The findings of this research piece demonstrate that banking institutions use ATMs more because of the convenience they bring forth as opposed to a platform for maximising revenue for the industry. Markedly, these outcomes are in line with previous research works carried out by Arnaboldi and Claeys (2008) in Finland, Spain, Italy and UK, Simpson (2002) in USA, Pooja and Singh (2009) as well as Molhotra and Singh (2009) in India, and Sullivan (2000) in the US. The authors/researchers all established that internet banking added value to the incomes and profitability within the banking industry.

The findings further indicated a noteworthy positive correspondence between number of agents and financial Performance ($r = .343^{**}$, $P\text{-value} < 0.01$) thus, depicting that agency banking as an electronic retail payment service influences financial performance in Kenyan commercial banks. These findings validate Sana, Mohammad, Hassan and Momina (2011)'s deductions in a research done in Pakistan, which summed up that electronic banking has positive reflections on the incomes for the banking institutions. Agboola (2006) in a research carried out in Nigeria established that EFTs do not only improve the banking industry's image, but also their profitability as well as incomes.

From the annual averages of the forty-three banks, it is evident that financial performance increased with increase in number of transactions in a year; number of agents in a year as well as number of agents implemented in a year. Thus, financial performance of the banks (depicted by ROA) also appeared in tandem with every increase and consequently in a positive relationship with electronic retail payment services. Notably, these findings/outcomes are in agreement with Pooja and Singh (2009)'s research done in India – it found out that the adoption of the Internet in banks has resulted in more profits and incomes. At the same time, Dew (2007) concluded that the use of the Internet result in more income in organisations.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter puts into fore the summary of the data findings on the impact of electronic retail payment services on the Commercial Banks' financial performance in Kenya, and the conclusions and recommendations are obtained from the findings as well. Therefore, the chapter is organised into summary of findings, conclusions, recommendations, limitations and, finally, part/area for further research.

5.2 Summary of Findings

The research found out that a steady rise in ROA values from 2011 indicates that the bank's financial performance has been very good over the last 5 years in Kenyan. A number of transactions done via electronic retail payment systems were found to have a significant impact on the commercial banks' financial performance. A noteworthy positive relationship between electronic retail payment systems and commercial banks' financial performance was also established by the study.

The research also disclosed a vital positive connection between financial performance and the number of ATMs. ATMs were found to have enhanced bank profitability and incomes, as they offer services at minimal charges at the various outlets, thus making it accessible as a platform for banking institutions to provide their services.

The study as well established a remarkable positive association between number of agents and financial performance. Moreover, the study discovered that agents give faster

transaction rates as the effects of time delay and distance are removed. Therefore, there exists more productivity per period. Furthermore, with the various agents offering services to the customer population as one system, there exist a simulated division of labour among banks together with their associated positive impacts on performance among the several outlets.

The study additionally found that there is interrelationship in the various electronic retail payment systems in the banking industry such a change in one electronic retail payment service affect the other. From the study, it was evident that financial performance increased with increase in number of number of transactions in a year; Number of ATMs in a year as well as number of agents networks implemented in a year.

5.3 Conclusion

The following deductions have made from the summary of the key findings:

The use of electronic retail payment services has improved Kenyan banking industry; it has made it more effective and productive. In addition, electronic retail payment services have a positive relationship largely on the performance banking institutions, as it make performance of workers more efficient and effective; the adoption of electronic retail payment services has boosted the fortune commercial banks in Kenya. For instance, customers can use m-banking options to access their accounts outside the normal working hours to make deposits and withdrawals in order to attend to their needs; the electronic retail payment systems guidelines that the CBK introduced help strongly in effective electronic retail payment services. With no regulation on a specific banking hall, customers can make withdrawals anywhere, at any time while using any bank ATM

machine, clients cannot surpass a certain amount while making withdrawals to allow other customers have access to funds and cash, and can as well use the electronic means to transfer money from one place to another.

The ability to offer banking services in the 24 hours in a day via the use of electronic retail payment systems has enhanced the bank client relationship; they render effective services. From the study's literature, there was a positive anticipation of the relationship between electronic retail payment services adoption and the financial performance of the banks. The results of this study is consistent with the literature of the study as it was found out that 74.9% changes in the bank's financial performance was as a result of implementation of electronic retail payment services in the form of ATMs and Agents, , as well as the number of transactions effected through the services.

The introduction of electronic retail payment services has revolutionized and redefined the means through which bank operations are carried out. Electronic retail payment services are deemed as the chief reason for the banks' success as well as their fundamental proficiencies. In conclusion, the electronic retail payment services has improved the performance of the banking industry by making banking transaction easier – it has brought services closer to its customers. Therefore, it is indispensable to argue that the various banking parameters of performance and profitability have meaningfully improved in the high technology induction age. From the foregoing analysis, the winners emerging would be fully technology-oriented banks.

5.4 Recommendations

Based on the finding there is need for various players in the banking sectors to adopt electronic retail payment services as this will enable them have a wide coverage, flexibility, and greater accessibility compared to conventional banking. Commercial banks, therefore, need to invest heavily in technology, as this will highly have a bearing on the commercial banks' financial performance. The Central Bank of Kenya, which is the regulator of the banks, also needs to monitor keenly the banks operations to ensure they are as par the set standards. The banks systems should be very secure to reduce chances of fraud occurring.

Profitability is also crucial to shareholders and the market is as well paying attention on the profitability of establishments. In this approach, any responsible and ethical effort to enhance profitability of a company will receive heartfelt appreciation from the shareholders. In retrospect, commercial banks, therefore, ought to continue adopting new technologies to help in improving their margins, hence their profitability in order to attract more investors.

5.5 Limitations of the Study

The research used secondary data, which can be common as well as imprecise, and may not actually assist businesses in making decisions on current issues due to its historic nature. The researcher ensured that the data source had to be checked properly and multiple sources used to ensure consistency.

The study encountered the challenge of privacy with regard to disclosure of information on banks as only a few disclosures are given in financial statements to comply with

statutory requirements. The management is hesitant when it comes to exposing information which it considered as a top secret to the public. The researcher surmounted the challenge using alternative bodies that is the regulator and Kenya Bureau of Statistics to obtain the required data.

Lastly, results obtained from the study are not final in themselves as the study centred on three determinants of financial performance. In addition, data availability envisages the study elements and not any probabilistic or statistical standard. For that reason, care ought to be applied in generalizing the outcomes of the research.

5.5 Suggestions for Further Research

Future studies ought to look at the determinants of electronic retail payment services on the service quality, as the banking industry should be well acquainted with these determinants and variables to enhance their competitive advantage through use of electronic retail payment services that will eventually improve the banks performance.

Further studies can be done on the Impact of Kenya Interbank Switch (Pesalink) on the performance of commercial banks in Kenya. The industry not only perceives that implementation of the Switch will reduce infrastructure costs for the individual banks as it will allow interoperability but also enable the banks regain the market share that was lost to the Mobile Network Operators.

Studies can also be done on the effects of electronic retail payment services to risk profile of banks. With increased incidences of online frauds, banks continue to incur huge losses.

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APPENDIX I: COMMERCIAL BANKS IN KENYA

1	Africa Banking Corporation Ltd (Kenya)	24	Giro Commercial Bank Ltd
2	Bank of Africa Ltd	25	Guardian Bank Ltd
3	Baroda Bank Ltd	26	Gulf African Bank Ltd
4	Bank of India Ltd	27	Housing Fin. Co. of Kenya Ltd
5	Barclays Bank of Kenya Ltd	28	Habib Bank Ltd
6	CFC Stanbic Bank Ltd	29	Habib Bank A.G Zurich Ltd
7	Charterhouse bank Ltd	30	I&M Bank Ltd
8	Chase Bank Ltd (Kenya)	31	Imperial Bank Kenya Ltd
9	Citibank N.A Ltd	32	Jamii Bora Bank Ltd
10	Commercial Bank of Africa Ltd	33	Kenya Commercial Bank Ltd
11	Consolidated Bank of Kenya Ltd	34	Sidian Bank Ltd
12	Cooperative Bank of Kenya Ltd	35	Middle East Bank Kenya Ltd
13	Credit Bank Ltd	36	National Bank of Kenya Ltd
14	Development Bank of Kenya Ltd	37	NIC Bank Ltd
15	Diamond Trust Bank Ltd	38	Oriental Commercial Bank Ltd
16	Dubai Bank Kenya Ltd	39	Paramount Universal Bank Ltd
17	Ecobank Ltd	40	Prime Bank Ltd (Kenya)

18	Equatorial Commercial Bank Ltd (Spire bank)	41	Standard Chartered Kenya (K) Ltd
19	Equity Bank Ltd	42	Trans National Bank Kenya Ltd
20	Family Bank Ltd	43	United Bank for Africa Ltd
21	Fidelity Bank Limited Ltd		
22	Fina Bank Ltd		
23	First Community Bank Ltd		

Source: CBK (2015)

APPENDIX II: FIELD DATA

	ROA	Total Number of Transactions	ATMS	Agents
ABC Bank	2.604	1 825 502	0	0
Bank Of Africa	0.598	5 600 268	28.97146	0
Bank Of Baroda	4.194	6 311 904	2.716074	0
Bank Of India	3.582	3 589 122	0	0
Barclays Bank Of Kenya Ltd	6.086	21 472 850	209.6591	0
CFC Stanbic Bank (K) Ltd	3.54	15 222 828	43.45719	0
Charter House	0	0	0	0
Chase Bank	2.202	444 988	8.148223	26.2
Citibank N.A. Kenya	7.076	0	0	0
Co - operative Bank Of Kenya Ltd	4.35	33 941 955	480.4942	4542
Commercial Bank Of Africa Ltd	3.378	17 264 914	14.48573	5
Consolidated Bank Of Kenya	0.068	1 144 806	1.810716	28.6
Credit Bank Of Kenya	0.098	866 340	0	0
Development Bank Of Kenya	1.38	1 423 272	2.716074	0
Diamond Trust Bank	4.43	16 460 456	26.25538	27.8
Eco bank	-1.315	4 393 580	45.2679	1.2

	ROA	Total Number of Transactions	ATMS	Agents
Equatorial Commercial Bank	-2.072	1 237 628	2.716074	0
Equity Bank Ltd.	7.152	32 302 097	536.8774	9043.2
Family Bank	3.3	7 302 007	9.053581	298
Fidelity Commercial Bank	1.23	1 206 688	2.716074	0
First Community Bank	1.344	1 237 628	9.053581	6.4
Giro Commercial Bank	2.69	1 516 095	0	0
Guaranty Trust Bank	1.932	3 001 249	14.48573	0
Guardian Bank	2.332	1 330 450	0	0
Gulf Bank	2.846	2 227 731	14.48573	0
Habib Bank A.G. Zurich	4.046	1 113 865	0.905358	0
Habib Bank Of Kenya	5.538	1 206 688	5.432149	0
Housing Finance	0.2118	5 445 564	4.52679	0
I&M	5.56	13 521 089	31.68753	58.2
Imperial Bank	5.605	342 415	0	0
Jamii Bora Bank	0.392	1 547 035	0	0
Kenya Commercial Bank Ltd	5.324	46 720 467	435.7011	6651.4
Middle East Bank	1.244	587 873	0	0
National Bank of Kenya	1.544	10 581 722	105.9269	308.2
NIC	4.36	13 923 318	13.58037	55.4

	ROA	Total Number of Transactions	ATMS	Agents
Oriental Commercial Bank Ltd	1.938	0	0	0
Paramount Universal Bank	1.542	928 221	0	0
Prime Bank	3.548	5 631 209	3.621432	0
Sidian Bank (Formerly K- Rep)	3.496	1 918 324	5.432149	4.6
Standard Chartered Bank	5.436	21 658 494	56.1322	0
Transnational Bank	2.86	1 021 043	4.52679	6
UBA Kenya	-7.54	618 814	31.68753	0
Victoria Commercial Bank	4.094	1 825 502	2.716074	0
Pesa point			105	0
Kenswitch			186	0

Source: Central Bank Reports