RELATIONSHIP BETWEEN EFFICIENCY AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

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

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This project has been submitted for examination with my approval.

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DEDICATION

This project is dedicated to my family for support and encouragement and to all the commercial banks in Kenya.

ABSTRACT

Efficiency has become an essential emphasis in today's highly competitive business environment. Efficiency measurement determines how banks provide an optimal combination of financial services with a set of inputs. The objective of this study was to examine relationship between efficiency and financial performance of commercial banks in Kenya.

The research adopted a descriptive survey design. The population of interest for this study was all the commercial banks in Kenya. Thus it was a census survey. The study utilized secondary sources of data. In order to situate the study theoretically and generate the conceptual framework with which to work on the secondary sources was obtained from financial statements of the banks for a 5 year-period (2007-2012) and publications were also used.

From the findings, there was a fall in efficiency ratio from 2008 to 2012 in banks indicating that the banks were making considerably more than they were spending thus depicting a sound fiscal footing. The findings revealed a significant positive relationship between Return on Asset and Efficiency. In conclusion taking into consideration of the results provided, certain inputs are vital which impact on the level of efficiency of these banks. This implies steps towards efficiency of these banks include great consideration of their capital structure. Congruently, these loans could become bad hence banks have to make provisions for bad and doubtful debt; this on the other hand reduces efficiency. It is recommended for the commercial banks to think about the cost efficiency especially they are technically efficient while they are not superiors in their ROAs. Also the banks should consider efficiency and cost efficiency analysis as important factor in their profitability and risk analysis and management. Further, it is recommended for the Central Bank to take in consideration the potential improvements needed for each variable for the banking sector as a whole in order to assume more advisory and regulatory role.

TABLE OF CONTENTS

DECLARATION ..... **ii**
ACKNOWLEDGEMENT ..... **iii**
DEDICATION ..... **iv**
ABSTRACT ..... **v**
LIST OF TABLES ..... **viii**
LIST OF ABBREVIATIONS ..... **ix**
CHAPTER ONE: INTRODUCTION **1**
1.1 Background of the Study 1
1.1.1 Efficiency of Commercial Banks 3
1.1.2 Financial Performance 6
1.1.3 Relationship between Efficiency and Financial Performance 7
1.2 Research Problem 9
1.3 Objective of the Study 11
1.4 Value of the Study 11
CHAPTER TWO: LITERATURE REVIEW **13**
2.1 Introduction 13
2.2 Theoretical Review 13
2.2.1 Cost management and Efficiency Theory 13
2.2.2 Real Options Theory 15
2.2.3 Theory of Constraints 16
2.3 Empirical Review 18
2.4 Summary of Literature 24
CHAPTER THREE: RESEARCH METHODOLOGY **26**
3.1 Introduction 26
3.2 Research Design 26
3.3 Target Population 26
3.4 Data and Data Collection Techniques 26
3.5 Data Analysis 27
3.5.1 Model 27

3.5.2 Ratio Analysis of Performance 27
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS 29
4.1 Introduction 29
4.2 Descriptive Statistics 29
4.2.1 Annual averages of key bank statistics 29
4.3 Correlation Analysis 31
4.4 Regression Analysis 32
4.4.1 Regression equation 34
4.5 Discussion of findings 35
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS ... 38
5.1 Introduction 38
5.2 Summary of Findings 38
5.3 Conclusions 40
5.4 Recommendations 41
5.5 Suggestions for Further Research 43
5.6 Limitations of the study 43
REFERENCES 44
APPENDIX I: LIST OF BANKS 49

LIST OF TABLES

Table 4.1: Annual averages..... 29

Table 4.3 Descriptive statistics for Return on Assets..... 30

Table 4.5: Descriptive statistics for Efficiency Ratio..... 31

Table 4.6: Pearson's Correlation Coefficient Matrix..... 32

Table 4.7Model Summary..... 33

Table 4.8: ANOVA[b]..... 34

Table 4.9: Coefficients..... 34

LIST OF ABBREVIATIONS

ABC	-	Activity Based Costing
CAMEL	-	Capital, Asset Quality, Management, Earnings and Liquidity
COS	-	Cost of Sales
ER	-	Equity Ratio
ES	-	Efficiency Structure
GDP	-	Gross Domestic Product
JIT	-	Just in Time
MA	-	Management Accounting
MP	-	Market Power
R&D	-	Research and Development
ROA	-	Return on Asset
ROE	-	Return on Equity
SC	-	Staff costs
SMA	-	Strategic Management Accounting
SPSS	-	Statistical package for Social Science
TOC	-	Theory of Constraints
TOC	-	Theory of Constraints
TQM	-	Total Quality Management

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Efficiency has become an essential emphasis in today's highly competitive business environment. This study is aimed at defining efficiency and discussing the philosophies that underpins efficiency. Over the past 25 years, we have seen a significant shift in the cost accounting and management accounting (Maher and Deakin, 1994, Günther 1997 and Götze, 2004). This shift is the result of an increasing competitive environment due to the introduction of new manufacturing and information technologies, the focus on the customer, the growth of worldwide markets, and the introduction of new forms of management organization (Blocher et al, 1999).

Productivity and quality are the watchwords of today's business competitions. Companies are not only measuring productivity and insisting on improvements but also insisting that quality means to bring to market products that satisfy customers, improve sales and boosts profits. With greater competition the banking environment defined by cost, quality and time issues, there exists a prevalent conviction that conventional accounting based measures of organizational performance are outdated (Nixon, 1998). Hence, there are moves to adopt newer techniques due to greater needs to be more responsive to investor and customer needs. It is urged that the traditional approaches of the managerial accounting have limited evidence of technical development in response to the major changes in manufacturing technology. Management accounting was confined to financial reporting. Consequently, there was a need for developing a management

accounting project oriented towards the strategic accounting rather than the management control process.

The idea of efficiency of a production unit was first introduced by Farell (1957), under the concept of "input oriented measure". According to Farell, a technical efficiency measure is defined by one minus the maximum equiproportionate reduction in all inputs that still allows continuous production of given outputs. Technical efficiency is linked to the possibility of avoiding wasting by producing as much outputs as the use of input allows it (output oriented measure), or by using as less as input that the production objective plans it (input oriented measure). This efficiency is measured by comparing observed and optimal values of production, costs, revenue, profit or all that the production system can follow as objective and which is under appropriate quantities and prices constraints.

Efficiency measurement is one aspect of investigating a firm's performance. Efficiency can be measured in three ways; maximisation of output, minimisation of cost, and maximisation of profits. In general, efficiency is divided into two components (Kumbhakar and Lovell, 2003). A firm is regarded as technically efficient if it is able to obtain maximum outputs from given inputs or minimise inputs used in producing given outputs. The objective of producers here is to avoid waste.

According to Koopmans (1951) ''a producer is considered technically efficient if, and only if, it is impossible to produce more of any output without producing less of some other output or using more of some inputs.'' On the other hand, allocative efficiency relates to the optimal combination of inputs and outputs at a given price. The objective of producers might entail the following: to produce given outputs at minimum costs; to

utilise given inputs so as to maximise revenue; and to allocate inputs and outputs so as to maximise profit. This technique of production is widely known as economic efficiency where the objective of producers becomes one of attaining a high degree of economic efficiency (cost, revenue or profit efficiency).

Theoretically, competition is good because it ensures that the costs of production are minimised and at the same time it promotes efficiency (Nickell, 1996). Increased competition could force banks to operate more efficiently in order to survive. It forces the banks to produce products and provide services that are most demanded by the customers. If they can provide services demanded efficiently and with the least cost, there is no reason why they cannot make more profits. Otherwise, they will make losses and possibly go out of business.

1.1.1 Efficiency of Commercial Banks

Efficiency refers to the degree of a process (or set of processes) whether it relates to the level of success of processing within an organization, the cost effectiveness of a market, or the erosion of income by expense. Efficiency measurement determines how banks provide an optimal combination of financial services with a set of inputs. On the one hand, one is asking oneself bank capability to efficiently and technically produce, financial services for economic agents. On the other hand, banks as financial companies look for profitability. Therefore, they are constrained from achieving maximum profit, due to regulatory restrictions (minimum reserve, capital adequacy requirements, etc). Their management has substantial control on the cost of inputs, whereas the output side is beyond their control (Worthington, 1998).

The financial sector has an important role to play in the economic development process. Financial institutions are the main intermediation channels between saving and investment in a country. The best financial systems limit, quantify, gather and negotiate all operation risks, and incite the savers to invest, by offering them a proportional payment to the scale of the incurred risks. Financial intermediaries when they are efficient allow mobilizing saving from diverse sources and allocate it to more productive activities, what benefits not only investors and beneficiaries of the investments but also the whole economy (Gulde, Patillo and Christensen, 2007). Indeed, a banking system which efficiently channels financial resources to productive use is a powerful mechanism for economic growth (Levine, 1997).

A commonly used ratio that bankers use to measure the overall cost effectiveness (or the operational efficiency) of an organization is the cost/income ratio (expense/income ratio or, as often termed in the US, the efficiency ratio). This is a measure that broadly expresses the total operating costs incurred by an organization as a percentage of its operating income. The costs of keeping the bank the same would include maintenance of existing systems or operational methods that are often of no incremental value to an organization so these should be commoditized and kept as low as possible to increase efficiency. The costs of changing the bank could include costs for new products, or new delivery channels for existing ones, and these costs can be linked to the income that they generate. Kenyan banks are presently under intense competition to improve efficiency and transform banking service delivery into networks encompassing traditional branches, automated tellers, telephone banking and the Internet. Because no template exists to guide this transformation, they have experimented by process reengineering, closing

underperforming branches and introducing new and cheaper ways of banking (Kumbhakar, and Lovell, 2003).

Size matters substantially in the banking system and small banks are coming under pressure as competitive pressures build up, especially as supply of treasury bills continues to dry up as source of revenue. In addition, the banks' reliance on government securities as a steady stream of revenues appears to have potentially crowded out the private sector. Reduction in net treasury bill issuance has reduced the dependence of banks upon government securities as a source of low-risk, high-yielding assets, which has lead to increased competition, as banks have had to identify new lending opportunities and expand their customer base in order to generate income. The study recognizes that resources are scarce and we cannot afford to waste them. There is a need for banks to be productive so that they can provide better service in light of constraints and attract more customers.

The evaluation of commercial bank efficiency/ performance has been approached from a variety of dimensions. Efficiency/performance evaluation of banks has used a variant of ratio analysis among several banks using a number of financial ratios (e.g. return on assets, return on investments). Basically, financial ratios can measure the overall financial soundness of a bank and the operating efficiency of its management. These ratios promise to provide valuable information about a bank's financial performance when compared with previous periods and for peer ranking. The main weakness of ratio analysis is that there is a lack of agreement on the relative importance of various types of input or output. A bank may appear to be performing well even if it is poorly managed on certain of these

dimensions, as long as it compensates by performing particularly well on other dimensions (Sherman and Gold, 1985).

Furthermore, the financial ratio also fails to consider the value of management actions and investment decisions that will affect future as opposed to current performance. It is a short-run measure and may be inappropriate for describing the actual efficiency of a bank in the long run (Oral and Yolalan, 1990). A sophisticated understanding of an organization's cost structure can go a long way in the search for sustainable competitive advantage, this point is emphasized by Shank and Govindarajan (1993.) who define efficiency as: The managerial use of cost information explicitly directed at one or more of the four stages of strategic management; formulating strategies, communicating those strategies throughout the organization, developing and carrying out tactics to implement the strategies, and developing and implementing controls to monitor the success of objectives.

1.1.2 Financial Performance

According to Allen and Rai (1996), financial performance can be defined as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. The performance measurement concept indicates that employees can increase the value of the firm by; increasing the size of a firm’s future cash flows, by accelerating the receipt of those cash flows, or by making them more certain or less risky.

There are many different ways to measure financial performance, but all measures should be taken in aggregation. Some of the indicators of financial performance are return on equity, liquidity ratios, asset management ratios, profitability ratios, leverage ratios and market value ratios.

1.1.3 Relationship between Efficiency and Financial Performance

According Palepu and Healy (2008) a firm may produce a relative high profit margin by adopting the efficiency management. Efficiency strategy helps firms to produce the standard, high-volume product or service at the most competitive price to customers, it also help to create higher financial performance for firms competing in the emerging economies, such as China, India etc, as firms can gain a relative advantage because of their lower costs in labor recourse and manufacture (Aulakh et. al, 2000). Laitinen & Toppinen (2006) in their report, found out the cost-management indicators, statically, explain better on the short-term financial performance, than value- added creation, which has an effect on long-term financial performance and turnover growth in the future. They conclude that, cost-efficiency is a prerequisite for the business, and the latest worldwide economic recession is just the best example to confirm the validity.

Performance assessment of companies has been the subject of numerous studies, and several discussions in accounting and management have focused on the matter that which of the performance assessment criteria is more valid. Some people believe that there is no ideal criterion to measure the performance, but, by contrast, there are several assessment methods and each method has some major shortcomings. If such methods are applied to measure the performance and to determine the companies' value, they will not definitely be able to find out the real value of companies.

However, performance evaluation of companies is a necessity and it has to be done through using accepted criteria which consider different aspects of limitation on activities and the possibility of taking advantages of facilities (Healy, 1998) Generally, the performance measurement criteria are divided into two groups: financial and non-financial criteria (Spigelman, 1994). Non-financial criteria induce production, marketing, administrative, and social criteria while financial proportions are the examples of techniques proposed as financial criteria. Some financial researchers suggest applying combined (financial and non-financial) criteria. However, using such criteria is quite complicated due to the difficulty of determining the type of the criteria, the kind of their correlation, and the weight of each of the criteria (Bacidore et.al, 1997).

It is important to consider the approach and the purpose of performance assessment since different people and groups with different approaches and aims may assess companies' performance and use the results in making their own decisions. Assets' owners, managers, creditors, and public and governmental organizations are the examples of such groups. These people have different views both on the definition of performance assessment and on the performance results of profit units. For instance, managers notice the operation analysis, resources management, and making profits, assets' owners pay attention to the information on the profitability of commercial units, return on stock, and market reactions, and credit institutes consider the information about the liquidity and financial leverage of commercial units.

Moreover, performance evaluation of companies is a necessity and it has to be done through using accepted criteria which consider different aspects of limitation on activities

and the possibility of taking advantages of facilities (Healy, 1998). Financial variables have been applied to measure the performance and efficiency of companies. Moreover, the relationship between the financial variables has been studied in order to reach the results that can encourage managers to apply such concepts and criteria for representing a real and precise view of enterprises' performance.

1.2 Research Problem

Accounting information plays a vital role in determining the most appropriate strategic direction for the organization. It guides managerial actions, motivates behaviors, and supports and creates the cultural values necessary to achieve an organization's strategic objectives (Ansari et al. 1997). In particular, efficiency information (both financial and nonfinancial information) is a critical type of information to the success of the company. For this reason, the role of cost accounting and management has expanded. Accountants are now participants on multifunctional management teams. For this reason the role of cost accounting and management has expanded. Accountants are now participants on multifunctional management teams.

Employing efficiency initiatives on companies will more likely bring in a positive effect on companies financial performance by promoting aggressive cost reduction initiatives, developing and continuing sustainable efficiency programs and also it will help the management in understanding the short-term and long-term effects of cost reduction initiatives and efficiency programs. Efficiency is not only efficiency but also can increase revenues, improve productivity and customer satisfaction, and at the same time improve the strategic position of the company. The key concept that managers should view costs must be viewed by looking simultaneously at the value they provide, hence there will be

a positive growth of the listed companies which will eventually lead to the achievement of an acceptable level of profitability and ultimately deliver attractive returns to shareholders. In addition, going forward, companies practicing Efficiency will reduce costs across the functional areas including operations & informational technology, human resource, finance & accounting and procurement.

Very few local studies have been done. Bisher (2011) examined the relationship between size and financial performance of commercial banks in Kenya. The study recommended an incorporation of other performance factors, including efficiency to give a clearer picture on the effects of this key factor in addition to the factors considered in this study. Githinji (2010) examined the relationship between financial performance and camel rating of commercial banks in Kenya. From the findings of the study it was concluded that although CAMEL Model is used to measure financial performance of banks by regulators, no one factor in CAMEL Model is able to capture the wholistic efficiency of a bank. Ongore (2013) examined determinants of Financial Performance of Commercial Banks in Kenya. The study utilized capital adequacy, asset quality, management efficiency and liquidity management

The research gap experienced is that the existing efficiency approaches only consider certain individual contributions and therefore focus on specific aspects of it with little relation to financial performance (Siegel & Sorenson, 1999). Those that relate the efficiency approaches to financial performance do so but are only limited to either the previous year performances or to the performance to their competitors. Also, the efficiency approaches fail to realize the need to be updated to cope up with global orientations such as International Human Resources Management.

Furthermore, Palepu and Healy (2008) suggest that the whole process of efficiency should enable a company to develop competitive intelligence in order to predict the next moves in the industry. However, their study fails to realize that completion remains as an ever increasing challenge that cannot be bottled but can only be sharpened. No company can ever experience ultimate competitive intelligence, only a glimpse. Likewise, they mention that diversified operations within a company will gear the company towards competitive greatness; however this conflicts with the laws of economic where significant impact of risk will wholly affect the financial performance of the business in this ever volatile economy. Therefore in this study we aimed to establish the effects of efficiency on the financial performance. Therefore the question: ‘‘Does Efficiency affect the financial performance of commercial banks in Kenya?

1.3 Objective of the Study

To examine relationship between efficiency and financial performance of commercial banks in Kenya.

1.4 Value of the Study

The outcome of the research is most beneficial to managers of commercial banks in Kenya as it provides some perspective to see the how value of their decision and financial performance are related. The study is important and beneficial to various parties involved in the banking system, participants in policy making in a way that they come up with functional rules and policies which will enhance stability in the financial sector and reduce costs of operations. Further, elaborations are made to understand the market power of the sector.

To the researchers, this study helps to understand the concepts of efficiency on financial performance and develop a deep insight on how to apply to their responsibility area and also to get extensive approaches to the concept of efficiency. It also makes some statistical contribution to the previous studies or knowledge gaps. Academically, this study brings forth the importance of the banking industry in the economy and the need to enhance growth through better management of bank portfolios as this research tries to establish growth sustainability in banking industry. The research highlight problems associated with empty growth in relation to operation efficiency. The findings might help bank managers to understand the underlying reasons for their banks' inefficient performances. This study highlights the importance of encouraging increased efficiency throughout the banking industry in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of the literature relevant to the purpose of the study. It starts with the theoretical framework cost management and efficiency theory, real options theory and theory of constraints have been focused. In addition, the chapter presents information on determinants of financial performance as well as the empirical review.

2.2 Theoretical Review

2.2.1. Cost management and Efficiency Theory

Efficiency and efficiency theory posits that managers plan and control expenditures by arming themselves with better information on when and where costs occur and what costs add to the value of a product. In the "traditional model of cost behavior", costs are classified as either fixed or variable and variable costs change proportionately with changes in the activity driver (Steliaros, 2006). In the second model, managers deliberately adjust resources in response to changes in volume. While efficient production specifies the optimal combination of inputs for a given level of output, several factors may intervene to preclude or limit resource adjustments. These factors are hypothesized to lead to "sticky" cost behavior in which costs adjust asymmetrically; more quickly for upward than for downward demand changes.

A key factor in determining whether adjustment occurs is the cost of adjustment itself. For example, increasing labor inputs may require search, recruitment, and training costs while decreasing these same inputs might require severance payments. When adjustment

costs are present, managers weigh the costs of releasing (adding) resources when activity decreases (increases) against the alternative of not adjusting. Adjustment occurs if the adjustment costs are more than compensated by incremental profits associated with producing efficiently at a new level of output (Kallapur & Eldenburg, 2005).

Adjustment costs may be a property of the production function, as in the example of labor adjustments, or they may arise if managerial incentives diverge from those of the firm. For example, if an individual manager experiences loss (gain) of status or position when the number of his subordinates decreases (increases), his decisions about reducing (increasing) labor resources may be colored by private adjustment costs (Hamermesh,1995). In cases in which manager's compensation, job satisfaction or other rewards are linked to span of resource control, agency theory predicts that private adjustment costs motivate managers to grow faster than they shrink. Thus, a theory (or theories) about individual adjustment costs could be used to motivate tests of asymmetric cost behavior. In that case, one basis for the null hypothesis would be that adequate management controls and appropriate competition within the firm for scarce resources prevent this influence of individual managers from being manifest in sticky (asymmetric) cost behavior for the firm (Moel & Tufano, 2002).

Aside from the costs of adjustment, uncertainty about future events creates another impediment to adjustment. With certainty about the future level of demand, managers can easily calculate a payback period for recouping adjustment costs associated with re-establishing the optimal resource level for future output. Adjustment occurs when the new level of demand is expected to be sustained and/or adjustment costs are modest. With uncertainty about future demand this calculation becomes more difficult. In

particular, while adjustment costs may be certain, the period in which they will be recovered is uncertain (Steliaros, 2006). Indeed, part of the uncertainty is that in the future, the need for new and different adjustments may be indicated. In many circumstances significant uncertainty favors the "do nothing" alternative; however, it is important to note that this choice is itself cost management. Moreover, like firm-level adjustment costs, theory does not support the thesis that uncertainty is associated with asymmetric adjustment that favors upward versus downward activity changes.

Finally, no consideration of the effect of adjustment costs on efficiency decisions is complete without considering how managers evaluate losses incurred from producing with a suboptimal mix of resources. In a perfectly competitive market, failure to adjust would cause the firm to face higher costs than competitors who adjusted (or who entered the market with new, optimized production technology and capacity) while receiving identical (market) prices (Anderson etal., 2003).

2.2.2 Real Options Theory

The strong analogy between financial options and some of "real" projects and assets belonging to a firm, so giving the start for the development of valuation model based on financial options' pricing techniques (Myers, 1977).

A real option is the right and not the obligation, to make a potentially value– accretive decision if – and only if – the market conditions will become favorable. A very useful example is that of a Research and Development (R & D) project. A firm valuing such a project knows that uncertainty it must face with relation not only to the R&D, but to the market conditions also. At the moment of valuation, market conditions are usually very uncertain. Nevertheless such an uncertainty is not necessary detrimental for the value of

the R&D project. Indeed, the firm will not be forced to undertake the investment for marketing the new product, if market conditions prevailing at the end of R&D will be unprofitable. On the contrary, the firm has managerial flexibility consisting in the opportunity to avoid any further investment, so limiting its losses to the R&D's costs.

Literature on Return on turnover (Amram and Kulatilaka, 1999; Copeland and Antikarov, 2003) points out that the value of a real option depends on the degree of managerial flexibility available to the firm and on the risk of the project. For investment project featuring high risk and high flexibility, the option value is at the maximum. The rationale for this is that managerial flexibility can protect the firm against a negative evolution of market conditions, without weakening the possibility to take advantage of the positive evolutions. In the Return on turnover context, uncertainty is essential for a real option to have value. Indeed, in a certain world no option could have value: a decision-maker could be able to rightly plan the future since the beginning of the project. The combination of uncertainty with flexibility determines the asymmetry of a real option's payoffs. At the time the real option could be struck, the probability distribution of value is cut at the level of the exercise price. In fact, for values lower than the strike price (e.g. the cost for building the plant) the option will not be exercised.

2.2.3 Theory of Constraints

The theory of constraints (TOC) is a systems-management philosophy developed by Eliyahu (1995). The fundamental thesis of TOC is that constraints establish the limits of performance for any system. Most organizations contain only a few core constraints. TOC advocates suggest that managers should focus on effectively managing the capacity and capability of these constraints if they are to improve the performance of their

organization. Once considered simply a production-scheduling technique, TOC has broad applications in diverse organizational settings (Luehrman, 1998).

The theory of constraint focuses its attention on constraints and bottlenecks within the organization, which hinder speedy production. The main concept is to maximize the rate of manufacturing output i.e. the throughput of the organization. This requires examining the bottlenecks and constraints which are defined: A bottleneck is an activity within the organization where the demand for that resource is more than its capacity to supply (Flint, 2000).

A constraint is a situational factor, which makes the achievement of objectives more difficult, and then it would otherwise be. Constraints may take several forms such as lack of skilled employees, lack of customer's orders or the need to achieve a high level of quality product output. Using above definition, therefore, a bottleneck is always a constraint but a constraints need not be a bottleneck (Innes, 1998).

Theory of constraints challenges managers to rethink some of their fundamental assumptions about how to achieve the goals of their organizations, about what they consider productive actions, and about the real purpose of cost management. Emphasizing the need to maximize the objectives & revenues earned through sales theory of constraints, focuses on understanding and managing the constraints that stand between an organization and the attainment of its goals (Beverley, 1996). The financial professional, playing a pivotal role in theory of constraints implementation, uses management accounting to focus on identifying, analyzing, and reporting key events and opportunities affecting the organization. Emphasizing the development and maintenance of core management information sources within an organization, management accounting

serves as the basis for integrating the diverse sources of data available to decision makers (King, 2008).

2.3 Empirical Review

A few studies had been conducted to investigate the impact of bank deregulation on competition, efficiency and performance. The issues addressed were centred on whether deregulation had increased competition, improved efficiency and performance. There is a consensus view that deregulation had enhanced competition. But a mixed result was found on efficiency and performance. In the case of the US banking industry, for example, there was evidence that deregulation did not change efficiency (Elyasiani and Mehdian, 1995). A study by Bauer et al. (1993) found little change in average inefficiency, but productivity over the period had deteriorated, which they attributed to deregulation and increases in competition. They, however, did not examine the differences in efficiency and productivity among banks of different sizes and they had excluded the very small banks.

A number of studies on Spanish banks also focused on efficiency and performance during the deregulation period. Among others are Grifell-Tatje and Lovell (1997), and Lozano (1997, 1998). The most important finding that is worth highlighting is that the efficiency and productivity of Spanish banks have not improved during the deregulated phase. Worse still, after the deregulation phase, the studies showed a reduced efficiency among Spanish savings banks (Khumbakar et al., 2001). The findings tend to suggest that the Spanish banks performed badly in terms of efficiency because the banks found it difficult to adjust themselves to the increased competition as a result of the deregulation.

A recent study by Isik and Hassan (2003) on Turkish banks also showed an increase in their efficiency. They attributed the increase in efficiency to improved resources management practices. In addition, the finding showed that the efficiency gaps between private banks and public banks have also been narrowed. Perhaps, the successful story of banking deregulation in Turkey, which triggered better efficiency, could be due to the support of small and medium industry, and commercial businesses to the Turkish banking industry.

Meanwhile, depending on the types of ownership, the empirical results of the impact of deregulation on banking efficiency and productivity in developing countries are varied. Bhattacharya et al. (1997) focused their study on the efficiency of three different kinds of ownership (private, public and foreign) of Indian commercial banks. Public-owned banks were found to be the most efficient but somehow demonstrated temporal decline in efficiency. This was followed by foreign banks, which had temporal increase in efficiency. Privately owned banks were the least efficient banks and the pattern did not significantly change over the 1986-1991 period.

A more organized study of bank performance started in the late 1980's (Olweny and Shipho, 2011) with the application of Market Power (MP) and Efficiency Structure (ES) theories. The MP theory states that increased external market forces results into profit. Moreover, the hypothesis suggest that only firms with large market share and well differentiated portfolio (product) can win their competitors and earn monopolistic profit. On the other hand, the ES theory suggests that enhanced managerial and scale efficiency leads to higher concentration and then to higher profitability. According to Nzongang and

Atemnkeng in Olweny and Shipho (2011) balanced portfolio theory also added additional dimension into the study of bank performance. It states that the portfolio composition of the bank, its profit and the return to the shareholders is the result of the decisions made by the management and the overall policy decisions. From the above, it is possible to conclude that bank performance is influenced by both internal and external factors.

The overall financial performance of banks in Kenya in the last two decade has been improving. However, this doesn't mean that all banks are profitable, there are banks declaring losses (Oloo, 2010). Studies have shown that bank specific and macroeconomic factors affect the performance of commercial banks (Flamini et al. 2009). In this regard, the study of Olweny and Shipho (2011) in Kenya focused on sector-specific factors that affect the performance of commercial banks. Yet, the effect of macroeconomic variables was not included. According to Ongore (2011), the concept of ownership can be defined along two lines of thought: ownership concentration and ownership mix. The concentration refers to proportion of shares held (largest shareholding) in the firm by few shareholders and the later defines the identity of the shareholders. The dominant shareholders have the power and incentive to closely monitor the performances of the management. This in turn has two further consequences in relation to firm performance. On the one hand close monitoring of the management can reduce agency cost and enhance firm performance.

Bisher (2011) examined the relationship between size and financial performance of commercial banks in Kenya. The objective of the study was to determine the relationship between Bank size and financial performance of commercial banks in Kenya. The study

specifically aimed at determining the relationship between bank size factors, namely, total deposits, total loans, and total assets, and financial performance, and went further to investigate the relationship between branch network size and financial performance. The study adopted the descriptive design. correlation analysis, and multiple and simple linear regressions were applied to secondary data collected from available financial statements of all the 43 commercial banks in existence in Kenya as at 31st December, 2011.

The main findings of the study established strong correlations between all the studied factors of Bank Size. Total Deposits, Total Loans, Total Assets and Branch Network Size were all found to be correlated. The relationship between three of the size variables, namely, Total Loans, Total Deposits, and Total Assets and the Financial Performance of commercial banks were all found to be weak but statistically significant. Total Deposits and Total Assets had relatively stronger effects on Financial Performance compared to Total Loans. Number of relationship was found between Branch Network Size and Financial Performance for commercial banks in Kenya. The recommendations from the study include the need for bank policies that give greater importance to the determination and monitoring of individual branch and head office unit financial performance. Further studies that incorporate other performance factors, including branch cost efficiency is recommended to give a clearer picture on the effects of this key factor in addition to the factors considered in this study

Githinji (2010) study involved relationship between financial performance and camel rating of commercial banks in Kenya. The purpose of CAMELS ratings is to determine a bank's overall condition and to identify its strengths and weaknesses in Financial,

Operational and Managerial aspects. Despite the use of CAMEL Model by regulators to assess financial performance of banks, inefficiencies in performance have been experienced. This study was an explorative study. It focused on banks registered by the Central bank of Kenya. Both primary and secondary data was be used; questionnaires and audited Financial statements. The study used statistical data analysis methods in addition to the use of computer softwares: SPSS and Microsoft Excel. From the findings of the study it was concluded that although CAMEL Model is used to measure financial performance of banks by regulators, no one factor in CAMEL Model is able to capture the holistic efficiency of a bank. It can also be argued that no one CAMEL rating factor taken separately from the others can influence the financial performance of a bank. Therefore the CAMEL Model rating factors should be considered together as a combination and are inter-related.

Oloo, O. (2010) examined the relationship between operational efficiency and growth of commercial banks in Kenya. The research aimed to examine whether the efficiency structure hypothesis holds true for Kenyan commercial banks. The research design was descriptive research design with a quantitative approach in order to generate in-depth information from secondary data as obtained from central bank of Kenya. The research was concentrated in the recent performance of commercial banks in Kenya between the periods of 1998 to 2007. The research consisted of 42 commercial banks operating in Kenya under license by the Central Bank of Kenya. This study used accounting data of individual banks drawn from the years 1998 – 2007. The time period was selected considering that it offers recent time series observations and it constitutes a period of major changes for the Kenyan banking system. This study aimed to investigate

the relationship between growth and operational efficiency as a performance measure of commercial banks in Kenya. Correlation coefficient r, was used to establish the association and strength of the relationship. The study found that there was a fairly weak positive correlation between efficiency and growth of banks in Kenya. Efficiency of commercial banks explains only 9.4% of the variance in bank growth as measured by annual percentage rate of growth of earning assets. This implies that the more efficient commercial banks are, the more they grow in terms of their annual growth of earning assets. The results point to the fact that growth in commercial banks is significantly influenced by their efficiency in advances. The study recommended that the strategies used by other efficient banks in deposit mobilisation are recommended to the other banks which wish to expand as rapidly as the more efficient ones.

Ongore (2013) examined determinants of Financial Performance of Commercial Banks in Kenya. It utilized CAMEL approach to check up the financial health of commercial banks. The explanatory study was based on secondary data obtained from published statements of accounts of all commercial banks in Kenya, CBK, IMF and World Bank publications for ten years from 2001 to 2010. In this study 37 commercial banks were considered. The secondary data used in this study were obtained from the statements of the commercial banks, CBK, IMF and World Bank database. The data collected using data collection sheet were edited, coded and cleaned. Then the data was analyzed using Microsoft Excel and econometric views (eviews) software. A multiple linear regression model and t-statistic were used to determine the relative importance (sensitivity) of each explanatory variable in affecting the performance of banks.

The relationship between bank performance and capital adequacy and management efficiency was found to be positive and for asset quality the relationship was negative. This indicates that poor asset quality or high non-performing loans to total asset related to poor bank performance. Thus, it is possible to conclude that banks with high asset quality and low non-performing loan are more profitable than the others. The other bank specific factor liquidity management represented by liquidity ratio was found to have no significant effect on the performance of commercial banks in Kenya. This shows that performance is not as such about keeping high liquid asset; rather it is about asset quality, capital adequacy, efficiency and others. The direction and effect of macroeconomic variables on the performance of commercial banks in Kenya was inconclusive. It was found that GDP had a negative correlation with ROA and NIM and positive with ROE. Moreover, the relationship was not significant. This shows that inflation affects negatively the profitability of commercial banks in Kenya for the period under study. Thus, it is possible to state that the effect of macroeconomic variables on the performance of commercial banks in Kenya for the year 2001 to 2010 was inconclusive.

2.4 Summary of Literature

As much extensive research has been done on efficiency, it still remains in its infancy. Researches and studies; are still in an early exploratory stage and have not yet developed a consistent theory for efficiency. Although efficiency has moved from a traditional role to a strategic role, it is understood in different ways in the literature. In addition, Efficiency has been discussed from many aspects in the literature. The existing conceptual approaches only consider certain individual contributions and therefore focus on specific aspects of efficiency. Thus, the study introduced a comprehensive conceptual

framework for efficiency that covers the concept, the concerns and objectives, the principles, the analysis fields & activities, the objects, the instruments and the key support factors of efficiency.

Efficiency literature lacks a comprehensive framework that covers the concept, the objectives, the principles, the analysis fields & activities, the objects, the instruments and the key support factors to meet different operational challenges that firms encounter from time to time and at different stages of development. Further research is needed to enhance the suggested framework for efficiency. Future research should explore the organizational issues of the efficiency. In addition, the suggested framework for Efficiency can be operationalized and thus used in empirical research. This requires future study that provides empirical evidence for the suggested framework for efficiency. Finally, continuous research efforts will contribute to further studies that develop a consistent theory for efficiency.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The aim of this chapter is to provide an understanding of the research methodology applied in the study. This chapter concerns the various steps that facilitated the execution of the study to satisfy the objectives of this study. These steps included the research design, population of interest, data collection instruments and procedures and data analysis.

3.2 Research Design

The research adopted a descriptive survey design, which according to Mugenda and Mugenda (2003) is a study undertaken in order to ascertain and be able to describe the characteristics of the variables of an interest in a situation. It aimed to establish the relationship between efficiency and financial performance. The objective of the study is to identify the effects of efficiency on the financial performance of commercial banks.

3.3 Target Population

The population is an aggregate of all that conform to a given characteristic (Mugenda and Mugenda, 2003). The population of interest for this study was all the 43 commercial banks in Kenya. Thus it was a census survey.

3.4 Data and Data Collection Techniques

The study utilized secondary sources of data. In order to situate the study theoretically and generate the conceptual framework with which to work on the secondary sources was

obtained from, financial statements of the companies of 5 years (2007-2012) and publications were also used. The financial data was obtained from the annual reports.

3.5 Data Analysis

This involves examining what had been collected and making deductions and inferences, Kombo and Tromp (2006). Qualitative data was analyzed using content analysis techniques, for quantitative, descriptive statistics percentages and frequencies were derived and used. Data analysis was done using the facilities for descriptive methods on the Statistical Packages for Social sciences (SPSS). Presentation was by use of tables, percentages and means; it is possible to lay out the different findings from the analyzed data.

3.5.1 Model

A simple regression equation was used in the study. It offered the value of R^2, which was used to indicate how well the model was performed. The equation was as follows:

$ROA = B_0 + B_1E + e$

Where ROA = Return on Assets which depict financial performance

B_0 is a constant; B1, is the coefficient, E is the Efficiency while e is the error term.

3.5.2 Ratio Analysis of Performance

a) *Return on Assets (ROA)*

ROA is the product of the profit margin and asset utilization ratios. The profit margin measures how effectively the bank turns a Shilling of revenue into a Shilling of bottom

line profits. Salaries are a major component of non-interest expense and may be a problem if noninterest expense to operating income being too high. Additional breakdowns for each component of these categories may be desirably better. If this ratio appears to be too low the analyst will first wish to see if the provision for loan losses is too high.

$$ROA = \frac{\text{Net Income}}{\text{Average Total assets}}$$

b) Efficiency ratio

Efficiency ratio evaluates the overhead structure of a financial institution. The efficiency ratio gives us a measure of how effectively a bank is operating. Not all banks calculate efficiency ratio the same way. If the efficiency ratio is getting lower, it is good for the bank and its shareholders.

$$ER = \frac{\text{Noninterest Expense}}{\text{Total Revenue}}$$

F-test was tested for joint significance of all coefficients and t-test for significance of individual coefficients. T-test was interpreted based on p significance value. A value greater than .05 means that the variability in the two conditions is about the same. It means that the variability in the two conditions is not significantly different, while a value less than 0.05 mean that there is significance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis and interpretation. The objective of the study was to determine the relationship between efficiency and financial performance of commercial banks in Kenya. Secondary sources included financial statements for a period of 5 years (2008-2012) and including internet resources, and publications. Data on efficiency and financial performance (ROA) was collected from all the banks in Kenya.

4.2 Descriptive Statistics

4.2.1 Annual averages of key bank statistics

Table 4.1: Annual averages

Year	Return on assets (%)	Efficiency (kshs)
2008	2.89	0.67
2009	2.45	0.68
2010	3.32	0.68
2011	3.97	0.69
2012	4.65	0.69
Total Average	**3.456**	**0.682**

From the data, the average Return on assets was usually on the rise for the five year period to 2012 accompanied by a similar rise in efficiency. As can be noted, there is a general increment for ROA from 2.89 in 2008 to 4.65 in 2012, the efficiency ratio values were similar in 2009 and 2010. From the findings, it can generally be deduced that

Return on assets for the banks rose concurrently with a rising efficiency over the 5 year period.

Table 4.2 Descriptive statistics for Return on Assets

Year	Minimum	Maximum	Mean	Std. Deviation
2008	0.75	6.53	3.21	1.85
2009	-12.61	6.96	2.86	3.32
2010	-10.53	896	3.54	3.691
2011	0.75	10.86	4.15	3.04
2012	-2.63	11.98	4.69	3.42
Total Average	-4.854	186.466	3.69	3.0642

The findings as depicted in table 4.3 shows that the lowest value for ROA as -12.63 in year 2009 while the maximum was 11.98 in 2012, with the highest mean value of 4.69 in 2012. Additionally a high standard deviation is an indication of variation in financial performance for the responding banks. However a consistent rise in ROA values from 2009 depicts that the bank's financial performance has been fine over the last 3 years in Kenyan market.

Table 4.3: Descriptive statistics for Efficiency Ratio

	Minimum	Maximum	Mean	Std. Deviation
2008	0.53	0.76	0.69	0.0481
2009	0.53	0.76	0.69	0.0472
2010	0.52	0.74	0.68	0.0494
2011	0.51	0.74	0.68	0.0484
2012	0.51	0.74	0.67	0.0476
Total Average	0.52	0.748	0.682	0.04814

From the findings, the lowest efficiency ratio value for all the banks was 0.51 in 2011 and 2012 while the highest was 0.76 in 2008 and 2009. In addition there is a fall in the mean value from 0.69 in 2008 to 0.67 in 2012. This fall in efficiency ratio from 2008 to 2012 in banks indicate profitability. Banks desire a lower efficiency ratio because this means that the bank is making considerably more than it is spending and is therefore on sound fiscal footing.

4.3 Correlation Analysis

To quantify the strength of the relationship between the variables, the study used Karl Pearson's coefficient of correlation. The Pearson product-moment correlation coefficient (or Pearson correlation coefficient for short) is a measure of the strength of a linear association between two variables and is denoted by *r*. The Pearson correlation coefficient, *r*, can take a range of values from +1 to -1.

A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value less than 0 indicates a negative association, that is, as the value of one variable increases the value of the other variable decreases. Pearson's Correlation Coefficient was carried out and the results obtained are presented in table 4.6 below.

Table 4.4: Pearson's Correlation Coefficient Matrix

	ROA	E
ROA	1	
E	0.363**	1

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

The findings revealed a significant positive relationship between Return on Asset and Efficiency(r = .363**, P-value < 0.05), thus, implying that Efficiency influences financial performance in Kenyan commercial banks.

4.4 Regression Analysis

Regression analysis is the statistical technique that identifies the relationship between two or more quantitative variables: a dependent variable, whose value is to be predicted, and an independent or explanatory variable (or variables), about which knowledge is available. The technique is used to find the equation that represents the relationship between the variables. Regression analysis is used to understand the statistical dependence of one variable on other variables. The technique can show what proportion of variance between variables is due to the dependent variable, and what proportion is due to the independent variables. The relation between the variables can be illustrated

graphically, or more usually using an equation. The study adopted a simple linear regression guided by the following model:

$ROA = B_0 + B_1E + e$

Where ROA = Return on Assets which depict financial performance

B_0 is a constant; B1, is the coefficient, E is the Efficiency while e is the error term.

$\mathbf{e_t}$ = Error term

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363[a]	.132	.101	2.57967

a. Predictors: (Constant), E

In this case, the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R2 equals 0.132, that is, efficiency explain 13.2% of the variance in financial performance.

Table 4.6: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.277	1	28.277	4.249	.049[a]
	Residual	186.331	28	6.655		
	Total	214.609	29			

a. Predictors: (Constant), E

b. Dependent Variable: ROA

In this case, the significance value of the F statistic is 0.049 indicating that the predictor variable (efficiency) explain a variation in financial performance and that the overall model is significant

Table 4.7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.738	6.853		-1.567	.128
	ER	20.653	10.019	.363	2.061	.049

a. Dependent Variable: ROA

4.4.1 Regression equation

Based on regression coefficients results the regression equation can be written as follows;

$ROA = -10.738 + 20.653E + e_t$

Regression analysis reveals the extent to which efficiency significantly predicts the financial performance. The superiority in prediction is determined by a beta coefficient of 20.65. The findings suggest that to attain a proper financial performance, Kenyan commercial banks need to consider the measures of efficiency as the accounting determinants.

4.5 Discussion of findings

From the findings, there was a general increment for return on assets (financial performance) from 2008 to 2012; and consequently the efficiency. Hence return on assets for the banks rose concurrently with a rising efficiency over the 5 year period. Efficiency strategy helps firms to produce the standard, high-volume product or service at the most competitive price to customers, it also help to create higher financial performance for firms competing in the emerging economies, such as China, India etc, as firms can gain a relative advantage because of their lower costs in labor recourse and manufacture (Aulakh et. al, 2000). Laitinen & Toppinen (2006) in their report, found out the cost-management indicators, statically, explain better on the short-term financial performance, than value- added creation, which has an effect on long-term financial performance and turnover growth in the future. They conclude that, cost-efficiency is a prerequisite for the business, and the latest worldwide economic recession is just the best example to confirm the validity.

From the findings, there was a fall in efficiency ratio from 2008 to 2012 in banks indicating profitability. Banks desire a lower efficiency ratio because this means that the bank is making considerably more than it is spending and is therefore on sound fiscal footing. Previous findings have shown that for all banks, low efficiency leads to high

overhead net interest margins that are higher in low-income countries. Cross-country research has found that banking market efficiency is negatively correlated with inflation, corruption and concentration (Detragiache, Gupta, and Tressel, 2005).

In addition, the findings revealed a significant positive relationship between Return on Asset and Efficiency($r = .363^{**}$, P-value < 0.05), thus, implying that Efficiency influences financial performance in Kenyan commercial banks. Many research works have been carried out on evaluating determinants of commercial banks efficiency. In these works, some showed geographical deregulation as having an impact on bank operation. The banking industry is highly regulated. Theoretically those regulations increase bank's operation cost and decrease competition and efficiency within the industry. According to Kalish and Gilbert (1973), who tested whether regulations affect the operating efficiency of banks by using a bank efficiency index, they hypothesized that operational efficiency has a positive relationship with the degrees of current competition and a negative relationship with the degrees of potential competition in the industry. The statistical results may suggest a significant effect on banking industry for current potential competition. This means that regulations causing banks to produce services and products at excessive cost have no significant influence on bank operational efficiency

Additionally, employing efficiency initiatives will more likely bring in a positive effect on companies financial performance by promoting aggressive cost reduction initiatives, developing and continuing sustainable efficiency programs and also it will help the management in understanding the short-term and long-term effects of cost reduction initiatives and efficiency programs.

Regression analysis revealed the extent to which efficiency significantly predicts the financial performance. The superiority in prediction is determined by a beta coefficient of 20.65. The findings suggest that to attain a proper financial performance, Kenyan commercial banks need to consider the measures of efficiency as the accounting determinants. The findings are in tandem with a study by Isik and Hassan (2003) on Turkish banks which showed an increase in their efficiency. They attributed the increase in efficiency to improved resources management practices.

Oloo (2010) found that efficiency of commercial banks explains only 9.4% of the variance in bank growth as measured by annual percentage rate of growth of earning assets. The current findings indicated that efficiency explain 13.2% of the variance in financial performance. This implies that the more efficient commercial banks are, the more they grow in terms of their annual growth of earning assets as well as the financial performance. The results point to the fact that growth in commercial banks is significantly influenced by their efficiency in advances. Therefore, the strategies used by other efficient banks in deposit mobilization are recommended to the other banks which wish to expand as rapidly as the more efficient ones.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusion and recommendations. The aim of the study was to examine the relationship between efficiency and financial performance of commercial banks in Kenya.

5.2 Summary of Findings

Performance assessment of companies has been the subject of numerous studies, and several discussions in accounting and management have focused on the matter that which of the performance assessment criteria is more valid. Some people believe that there is no ideal criterion to measure the performance, but, by contrast, there are several assessment methods and each method has some major shortcomings. If such methods are applied to measure the performance and to determine the companies' value, they will not definitely be able to find out the real value of companies.

However, performance evaluation of companies is a necessity and it has to be done through using accepted criteria which consider different aspects of limitation on activities and the possibility of taking advantages of facilities (Healy, 1998) Generally, the performance measurement criteria are divided into two groups: financial and non-financial criteria (Spigelman, 1994). Non-financial criteria induce production, marketing, administrative, and social criteria while financial proportions are the examples of techniques proposed as financial criteria. Some financial researchers suggest applying combined (financial and non-financial) criteria. However, using such criteria is quite

complicated due to the difficulty of determining the type of the criteria, the kind of their correlation, and the weight of each of the criteria (Bacidore et.al, 1997).

With regards to the bank philosophy or culture there are various classifications, Islamic and commercial banks as well as foreign versus local. The difference between Islamic banks and commercial banks should be tested to identify the statistical significance. For analysis concerning the superiority of the average of efficiency score for commercial banks, the results suggest that the high scores of the banks came from the excessive or heavy use of Other Earning Assets (OEA) which is mainly represented by investments in stock of other economic entities and investments. The high technical efficiency of the banks is the result of utilizing the money available to the banks as they are keeping their balances (current and deposit accounts) with the other banks to the minimum level.

This policy of keeping the outside balance to the minimum may be fruitful in regards to Efficiency, however it could reflect the local attribute of these banks with limited diversity of services, that means it has no branches outside the country, which should be taken in consideration when thinking of risk analysis and risk management. Another important factor that must be highlighted at this point is that, the current and deposit accounts held in the other banks have interest revenue.

Regarding the ROA the research found that efficient banks are characterized by relatively larger ROA, efficient banks had an average of ROA amounted to 0.45 while inefficient banks had an average of ROA of less than 0. The findings can not imply that efficient banks have an average size higher than inefficient banks. On the other hand the

considerable standard deviation of the efficient banks group indicates that there are extreme values (small and large sizes) within the group.

In order to verify the statistical significance of the efficiency score difference between efficient and inefficient in regards to ROA and, the results would suggest that difference is statistically insignificant

Moreover, performance evaluation of banks is a necessity and it has to be done through using accepted criteria which consider different aspects of limitation on activities and the possibility of taking advantages of facilities (Healy, 1998). Financial variables have been applied to measure the performance and efficiency of banks. As can be noted, the relationship between the financial variables reaches the results that can encourage managers to apply such concepts and criteria for representing a real and precise view of enterprises' performance.

5.3 Conclusions

From the findings, the estimated scores efficiency for banks in Kenya ranges on the average of between 67 to 69% efficient. The efficiency average is gotten sum of efficiency score divided by number of sampled banks over a period of study. Taking into consideration of the results provided, certain inputs are vital which impact on the level of efficiency of these banks. Often, these inputs/outputs include; share holders equity (input), loans (output) and Deposit with other banks. This implies steps towards efficiency of these banks include great consideration of their capital structure, and interest yielding investments that is deposits with higher interest margin with other banks

and loans. Congruently, these loans could become bad hence banks have to make provisions for bad and doubtful debts; this on the other hand reduces efficiency.

The evolution of ROA of most banks in Kenya is only mildly volatile and high on average, as the findings depict. The research indicates that the banks had an average ROA of 2.69% in 2009 compared to ROA of 4.55 % in 2012. 2012 had very high financial performance in consideration on average and across period of study. Therefore it will be interesting for banks to carefully study the loans they make ensuring credit worthiness of borrowers, in this case, provisions for such loans going bad will be reduced and steps towards full efficiency will be attained.

The above policy recommendations are considered with an unchanging environmental impact since the work did not go further into the environmental impact on banks efficiency. The results obtain from this study is in line with some previous study of like topic. Exemplary situation is work by Detragiache, Gupta and Tressel, (2005) which concluded banking efficiency is negatively correlated to inflation, corruption and concentration; hence efficiency is always lower than will be predicted. The overall conclusion is that efficiency greatly and significantly and positively influences financial performance in Kenyan commercial banks.

5.4 Recommendations

From the findings several recommendations are made that depict strategies for the banks in order to benefit from the high efficiency scores and potential improvement for the technically inefficient banks. First, the banks management should take care about the improvement of the scale efficiency as well as pure technical efficiency and the potential

improvements that come from the analysis results of this research in order to improve the efficiency the inefficient banks.

It is recommended for the commercial banks to think about the cost efficiency especially they are technically efficient while they are not superiors in their ROAs. Also the banks should consider efficiency and cost efficiency analysis as important factor in their profitability and risk analysis and management. Further, it is recommended for the Central Bank to take in consideration the potential improvements needed for each variable for the banking sector as a whole in order to assume more advisory and regulatory role.

In addition, it is recommended for the Central Bank to adopt the new evaluation methods like the mode used in order to get new insights about the banking sector and its efficiency, strength and weaknesses of the commercial banks in Kenya; this will help in putting up the proper policies and regulations for the banking sector. It is also recommended for the commercial banks in Kenya (especially which have a several branches) to adopt the efficiency versus ROA model approach for measuring the relative efficiency of the branches, the results will be more impressive and accurate because in this case, there is a high degree of homogeneity among units addressed in the system in order to find their relative efficiencies. The results will enrich the top management with a lot of relevant information needed for monitoring and evaluation system and for strategic planning as well.

5.5 Suggestions for Further Research

Further research is recommended on profit efficiency and to test the relationship between the resulted scores and return on assets and, return on equity in order to draw the map for long term planning. Further, it is recommended to conduct time series study covering a wide period of time to identify the changes in efficiency for each bank and for the banking sector as a whole, and to find the reasons behind changes.

Further studies are recommended for the application of the Efficiency-ROA model for economic sectors other than banks, such as insurance companies, for new insights and strategic planning. Most of studies in the literature found that foreign banks are more efficient than local banks such as Ismail (2004), Yildirim (2002) and Matthews K. and Ismail M. (2006). Discussing the findings in the light of the other research findings assume further analysis or justifications of the research findings taking a comparison between the local and foreign banks.

5.6 Limitations of the study

The study encountered several limitations. First, some banks do not disclose some data especially on sensitive information regarding their profitability because of the suspicion that their information would fall in the hands of their competitors. In addition, time and resources allocated to this study could not allow the study to be conducted as deeply as possible in terms of other predictor variables for financial performance.

There was also limited availability of local literature with respect to efficiency and financial performance in commercial banks in Kenya which was overcome by consultation of foreign literatures and reference to other relevant locally published materials.

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APPENDIX I: LIST OF BANKS

	NAME OF THE BANK
1.	African Banking Corporation
2.	Akiba Bank
3.	Bank of Baroda
4.	Bank of India
5.	Barclays Bank of Kenya
6.	CFC Bank
7.	Chase Bank Ltd
8.	Citibank
9.	City Finance Bank
10.	Commercial Bank of Africa
11.	Consolidated Bank of Kenya Ltd
12.	Co-operative Bank of Kenya
13.	Development Bank of Kenya
14.	Diamond Trust Bank
15.	Dubai Bank Kenya Ltd
16.	Ecobank
17.	Equatorial Commercial Bank Ltd
18.	Equity Bank of Kenya
19.	Fidelity Commercial Bank Ltd
20.	Fina Bank Ltd
21.	First American Bank of Kenya
22.	Giro Commercial Bank Ltd
23.	Guardian Bank
24.	Habib Bank A.G. Zurich
25.	Habib Bank Ltd
26.	Housing Finance Co. Ltd
27.	Imperial Bank
28.	Industrial Development Bank
29.	Investment and Mortgages Bank Ltd

30.	Kenya Commercial Bank
31.	K-Rep Bank Ltd
32.	Middle East Bank
33.	National Bank of Kenya
34.	National Industrial Credit Bank Ltd
35.	Oriental Commercial Bank Ltd
36.	Paramount Universal Bank Ltd
37.	Prime Bank Ltd
38.	Prime Capital and Credit Ltd
39.	Southern Credit Banking Corp. Ltd
40.	Stanbic Bank Kenya Ltd
41.	Standard Chartered Bank
42.	Trans-National Bank Ltd
43.	Victoria Commercial Bank Ltd

APPENDIX II

DATA ON EFFICIENCY RATIO AND RETURN ON ASSETS

	Efficiency ratio						Return on Assets			
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
African Banking Corporation Ltd.	0.598	0.603	0.607	0.618	0.498	1.54	1.7	4.64	1.21	1.93
Bank of Africa Kenya Ltd.	0.510	0.514	0.518	0.529	0.410	1.02	1.14	1.33	1.09	4.7
Bank of Baroda (K) Ltd.	0.510	0.514	0.518	0.529	0.410	3.28	3.69	6.15	4.86	4.73
Barclays Bank of Kenya Ltd.	0.575	0.580	0.584	0.595	0.475	0.87	0.96	1.06	1.71	2.64
Bank of India	0.575	0.579	0.583	0.595	0.475	1.02	1.13	1.24	1.6	2.91
CFC Stanbic Bank Ltd.	0.610	0.614	0.618	0.630	0.510	1.53	1.52	1.68	1.23	2.2
Charterhouse Bank Ltd	0.599	0.603	0.607	0.619	0.499	2.32	2.55	3.32	1.95	6.36
Chase Bank (K) Ltd.	0.593	0.597	0.602	0.613	0.493	2.07	1.17	1.65	0.98	0
Citibank N.A Kenya	0.613	0.617	0.621	0.633	0.513	2.84	2.68	2.97	3.19	3.85
Commercial Bank of Africa Ltd.	0.564	0.568	0.572	0.584	0.464	1.49	1.58	0.7	0.87	1.09
Consolidated Bank of Kenya Ltd.	0.541	0.545	0.549	0.561	0.441	0.65	0.71	0.93	0.95	0.55
Co-operative Bank of Kenya Ltd.	0.581	0.586	0.590	0.601	0.481	1.82	1.88	2.73	2.47	2.68
Credit Bank Ltd.	0.555	0.559	0.563	0.575	0.455	4.6	-11.63	-11.63	0.74	-2.34
Development Bank of Kenya Ltd.	0.606	0.610	0.615	0.626	0.506	3.25	3.58	4.65	5.58	6.14
Diamond Trust Bank Kenya Ltd.	0.619	0.623	0.627	0.638	0.519	4.12	4.54	5.9	7.08	7.79
Dubai Bank Kenya Ltd.	0.593	0.597	0.601	0.613	0.493	5.24	5.77	7.5	9.01	9.91
Ecobank Kenya Ltd	0.593	0.598	0.602	0.613	0.493	6.22	6.85	8.91	10.69	11.76
Equatorial Commercial Bank Ltd.	0.587	0.591	0.596	0.607	0.487	2.14	2.35	3.06	3.67	4.04
Equity Bank Ltd.	0.510	0.514	0.518	0.529	0.410	1.34	1.48	1.92	2.31	2.54
Family Bank Limited	0.513	0.517	0.522	0.533	0.413	1.35	1.49	1.94	2.33	2.56
Fidelity Commercial Bank Ltd	0.594	0.598	0.602	0.614	0.494	5.34	5.89	7.65	9.18	10.1
Fina Bank Ltd	0.510	0.514	0.518	0.530	0.410	1.24	1.36	1.77	2.12	2.34
First community Bank Limited	0.637	0.641	0.645	0.657	0.537	3.66	4.03	5.24	6.29	6.92
Giro Commercial Bank Ltd.	0.594	0.598	0.603	0.614	0.494	4.36	4.81	6.25	7.5	8.25
Guardian Bank Ltd	0.588	0.592	0.596	0.608	0.488	5.54	6.1	7.93	9.52	10.47
Gulf African Bank Limited	0.619	0.623	0.627	0.639	0.519	1.45	1.6	2.08	2.5	2.75
Habib Bank A.G Zurich	0.537	0.541	0.546	0.557	0.437	2.37	2.61	3.39	4.07	4.48
Habib Bank Ltd.	0.605	0.609	0.613	0.625	0.505	2.35	2.6	3.37	4.05	4.45
Imperial Bank Ltd	0.610	0.614	0.618	0.629	0.510	4.56	5.03	6.54	7.85	8.63
I & M Bank Ltd	0.414	0.418	0.422	0.433	0.314	1.2	1.33	1.72	2.07	2.28

Jamii Bora Bank Limited.	0.575	0.579	0.583	0.595	0.601	0.87	0.96	1.06	1.71	2.64
Kenya Commercial Bank Ltd	0.610	0.614	0.618	0.630	0.575	1.02	1.13	1.24	1.6	2.91
K-Rep Bank Ltd	0.599	0.603	0.607	0.619	0.626	1.53	1.52	1.68	1.23	2.2
Middle East Bank (K) Ltd	0.593	0.597	0.602	0.613	0.638	1.82	1.88	2.73	2.47	2.68
National Bank of Kenya Ltd	0.613	0.617	0.621	0.633	0.613	4.6	-11.63	-11.63	0.74	-2.34
NIC Bank Ltd	0.564	0.568	0.572	0.584	0.613	3.25	3.58	4.65	5.58	6.14
Oriental Commercial Bank Ltd	0.541	0.545	0.549	0.561	0.441	1.54	1.7	4.64	1.21	1.93
Paramount Universal Bank Ltd	0.637	0.641	0.645	0.657	0.537	1.02	1.14	1.33	1.09	4.7
Prime Bank Ltd	0.594	0.598	0.603	0.614	0.494	3.28	3.69	6.15	4.86	4.73
Standard Chartered Bank Kenya Ltd	0.588	0.592	0.596	0.608	0.488	0.87	0.96	1.06	1.71	2.64
Trans-National Bank Ltd	0.619	0.623	0.627	0.639	0.519	2.32	2.55	3.32	1.95	6.36
UBA Kenya Bank Limited	0.510	0.514	0.518	0.529	0.410	2.07	1.17	1.65	0.98	0
Victoria Commercial Bank Ltd	0.510	0.514	0.518	0.529	0.607	2.84	2.68	2.97	3.19	3.85