

**CUSTOMER INFORMATION SHARING AND THE PERFORMANCE OF SELECTED
COMMERCIAL BANKS IN KENYA.**

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DECLARATION

DECLARATION BY STUDENT

This research project is my original work and has not been presented for degree award in any university. No part or whole of this work may be reproduced or transmitted in any other form without the prior permission of the author and/or Kenyatta University.

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

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DEDICATION

To my dear husband Robert Nyaronge, daughter Michelle and sons Nuru & Ushindi. I am grateful for your love, support and encouragement during my MBA studies.

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I thank the almighty God for giving me the impetus to do the MBA studies. I wish to express my gratitude to my supervisor Professor Clifford Machogu for his invaluable guidance. Special thanks also go to the finance group of 2015; for their moral support during my MBA studies.

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DEFINITION OF OPERATIONAL TERMS

Amortization –	This is when a debt is paid off with a fixed repayment schedule in regular instalments over a period of time.
Banking Sector -	For the purpose of this study, this term implies to Commercial Banks, other Non-banking financial institutions and mortgage companies licensed to operate business in Kenya
Credit Risk -	This is the chance that one will not be able to honour their obligations the principal /interest or according to terms in a credit agreement.
Credit Culture -	This refers to all those factors that create a lending environment that encourages a certain code of lending behavior.
Credit Score-	A credit score refers to the measure of credit risk established from a credit report using a standard formula.
Credit History	This is the information on a person’s credit profile, like identity, credit accounts and loans, bankruptcies and late payments and recent inquiries.
Customer Information Sharing -	This is a process that allows credit providers to exchange customer information.
Exposures –	It is the total amount of credit extended to a borrower by lender. The magnitude of credit exposure indicates the extent to which the lender is exposed to the risk of loss in the event of the borrower’s default.

- Loan Portfolio Management-This entails the right to receive payments or the obligation to make payments on demand or at some future date on account of the immediate transfer of goods or money another.
- Non-Performing Loan - This is a loan which is not being serviced as agreed upon. Usually has been in arrears for 3 months.
- Performance - This is the accomplishment of given task measured against preset known standards
- Performing Loan - This is a loan which is being repaid according to the terms agreed upon.
- Rescheduling This is when an amortized loan is restructured due the borrower's inability to meet the original payment schedule.
- Single Client - This is a person who holds exposures from the same financial institution and its subsidiaries. They control other clients through a voting right of at least 25%.

ACRONYMS & ABBREVIATION

CBK	-	Central Bank of Kenya
CIS	-	Credit Information Sharing
CRB	-	Credit Reference Bureau
DTM	-	Deposit Taking Microfinance
FI	-	Financial Institutions
HELB	-	Higher Education Loans Board
KCB	-	Kenya Commercial Bank
KPLC	-	Kenya Power and Lighting Company
KCIS	-	Kenya Credit Information Sharing
NPA	-	Non-Performing Assets
NPLs	-	Non-performing Loans
NIM	-	Net interest margin
PAR	-	Portfolio at Risk
PCR	-	Public Credit Registries
ROE	-	Return on equity
ROA	-	Return on asset.
SACCO	-	Savings and Credit Cooperative Organization
SPSS	-	Statistical Package for Social Sciences
TAT	-	Turnaround Time

ABSTRACT

Commercial banks play a very important role in the economic resource allocation on an economy by taking deposits from customers and then lend thus acting as an intermediary. Therefore it is of essence for commercial banks to remain profitable. In the wake of the banking crises in the last decade, Credit Reference Bureaus have been introduced in the Kenyan banking sector to facilitate the concept of credit information sharing, to mitigate information asymmetry and credit risk. In Kenya, there are three licensed Credit Reference Bureaus, namely; CRB Africa which was licensed in 2010, Metropol Ltd licensed in April 2011 and Credit info Credit Reference Bureau Limited which was licensed in May, 2015. This study therefore sought to establish the relationship between customer information sharing and the performance of selected commercial banks in Kenya. The specific objectives of the study were to establish the effect of customer's credit report on the performance of commercial banks in Kenya, the effect of the customer information on the performance of commercial banks in Kenya and finally the effect of portfolio at risk on the performance of commercial banks in Kenya. This study was a quantitative research that adopted a correlational research design. The population consisted of all the listed commercial banks in the country; Kenya and the credit reference bureaus licensed as at 31st Dec 2013. The Kenyan Banking Sector is currently made up of about 50 financial institutions with 44 of these being commercial banks between the periods 2011 to 2015. Cooper and Schindler (2003) argue that a sample size of between 10-30% of the target population can be adequate for generalization of the research findings to the study provided the sample is scientifically determined. Thus stratified proportionate random sampling technique was used to select the sample of 20 commercial banks and data was analyzed using both qualitative and quantitative methods and explanation given in prose. The banks were selected based on level of precision, the level of confidence, and finally the degree of variability in the attributes being measured. The data that was extracted included: bank supervision annual reports, the number of credit reports requested by commercial banks in Kenya, portfolio at risk, ROA, ROE and NIM from published reports. The sources were chosen because of the credibility as the data on loans defaulting and credit information request have been verified by the central banks on-site and off-site inspections. The researcher utilized time series empirical data on the variables. Data analysis was descriptive as well as regression analysis. The regression model was found to be well specified and found that credit information sharing positively and significantly influenced banks' profitability. The study shows a very strong positive relationship between customer information sharing and the performance of commercial banks in Kenya. In addition, the findings indicate that there was no strong relationship between the characteristics of borrowers and the performance of loans of commercial banks in Kenya. The study recommends that an open system needs to be enhanced to allow financial institutions as well as non-bank entities retailers, telecom and utility companies access to this information so as to know which clients to serve and what differential price to charge to cover the risks. To ease customer information sharing, it should be accessible easily and at no cost.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The banking sector is an integral part of the Kenyan economy and has been a major driver in the growth and expansion of the country's economy. This economy has grown tremendously over the past decade, it is estimated to have grown by 4.9% in the first quarter of 2015, and most notable of these is the contribution of the financial sector (CBK, 2015). The financial sector, is one of the sectors under the financial services that is depended upon to see the realization of Kenya's Vision 2030. (CBK, 2010; CBK, 2008). The Kenyan Banking Sector is currently made up of about 50 financial institutions with 44 of these being commercial banks. The financial sector contribution of to the economic growth in Kenya has been growing progressively from 3.7% of GDP in 2009 to 9.2% of GDP in 2013 (Ndung'u, 2014). The financial sector has a twofold impact; one is the fundamental role it plays in the economy through development activities and two is the allocation of resources to the public and other organizations engaged in development through lending of funds & non-fund base advances. However, it is important to note that this sector is limited in capacity due to non-performing loans. (Aurangzeb, 2012).

Non-performing loans are mainly due to lack of customer information sharing which has been one of the key factors that has a direct impact on ROA, ROE and NIM. There have been many challenges in Kenya since 1986 culminating in major bank failures including the failure of 37 banks as at 1998 following the crises of; 1986 - 1989, 1993/1994 and 1998. A very interesting aspect of these crises was the fact that they originated from non-performing loans (Kithinji & Waweru, 2009; Nelson & Victor, 2009). The more recent cases being the charterhouse bank, Dubai Bank and Imperial Bank. The introduction and adoption of customer information sharing was quite timely and necessary as it allows credit providers to exchange customer information

(Kithinji & Waweru, 2009). The asymmetric information on credit markets makes it difficult to distinguish between high quality and low quality borrowers. Therefore by sharing information, banks may learn about good and bad borrowers (Martin, Tullio, & Marco, 2007).

Performance is vital and integral to the purpose, vision, mission and being of any organization. It is basically the measure and indicator of the organizations essence and as such its worth. Every organization has its own way and methods to show how it is performing and for banks, the two most commonly used measures of performance are profitability and growth. Profitability could be viewed as the best measure of a commercial bank because it includes both the two maximization of revenues and cost minimization (Anita, 2001). There a number of ways that a bank can use to measure its performance including: ROA, ROE and NIM, (Murthy and Shree, 2003). If commercial bank fails to meet the laid down objective then it fails in its mandate.

Commercial banks have in the past been placed under statutory management mainly because they have failed to meet the minimum core capitalization threshold and more importantly because of poor management of loan portfolios (Trandafir, 2010). This could be attributed to the fact that at the end of 2000 Kenya had a very high ratio of non-performing loans as compared to other African economies like Zimbabwe which was at 24%, Nigeria at 11% and South Africa at 3% (CBK, 2010).

1.1.1 Customer Information Sharing

Exchange of information among lenders is crucial for faster decision making and taming of nonperforming loans. The asymmetric information on credit markets makes it difficult to distinguish quality borrowers. Therefore by sharing information, banks may learn about those good and bad borrowers (Martin, Tullio, & Marco, 2007). In an effort to address these challenges

and a strong desire to end if not prevent further failure of commercial banks, the information sharing system, through Credit Reference Bureau was initiated after gazette of the Credit Bureau Regulations on 2007. These new regulations made it compulsory for all the lending institutions licensed under the Banking Act to share customer information on nonperforming loans (CBK, 2008). A credit reference agency or Credit Bureau basically complements the role of commercial banks in providing financial services by aiding lenders make informed and reliable decision concerning credit worthiness of a customer (Andrew, Nataliya, Margaret & Giovanni, 2006). They are tasked with collecting, managing and disseminating relevant details to lenders. This in turn helps to reduce the exposure therefore reducing the risk faced by commercial banks.

Bureaus receive, aggregate and disseminate data on request to commercial banks as credit reports (Barron & Staten, 2003; Bassim, 2008). The banks in turn do credit assessment and rating to qualify borrowers. In Kenya the CBK has licensed three credit reference bureaus; Metropol, CRB Africa Ltd and Credit information credit reference Bureau Kenya Limited. CRBs are important in the aspect that they help in sharing information on default among banks (Gitahi, 2013). They eliminate fraudulent borrowers – those with the aim of borrowing from different financial institutions with the intention of defaulting and by providing commercial banks with credit reference to say Prospective foreign investors; and also to identify honest/credible borrowers based on known history and character. CRBs aid commercial banks by distinguishing performing applicants from the nonperforming applicants thereby reducing the risk of bad debts (Powel, 2004).

Stiglitz & Weiss (1981), indicated that unsatisfied agents are borrowers. Asymmetric information leads to credit rationing, as lenders cannot distinguish between high quality and low quality borrowers. However, this dominate view is not without criticism. In particular, However, De

Meza and Webb (1987), feel otherwise. According to them, that asymmetric information in credit markets can lead to the inverse result, which is an excess of credit 'over lending'. Banks can gather private information and treat it (Freixas and Rochet, 1999).

Because banks manage money and deposit accounts, they own information on firms' accounts (Diamond and Rajan, 2001). However, despite this information, relationships between firms and bankers are not perfect. According to Freixas and Rochet 1999, Banks suffer from informational asymmetries such that evolution of interest rates or prices for that matter cannot clear the credit market. Likewise, with a fringe of unsatisfied agents, non-walrassian equilibrium arises.

1.1.2 Financial Performance

The three most widely used measures of performance for commercial banks include ratios like; ROA, ROE and NIM, (Murthy and Shree, 2003; Alexandru et al., 2008). ROE is a financial ratio that shows how much profit an organization has made in regard to the shareholder equity invested. ROE is the earnings of the shareholders in return for what they invested in the organization. It represents the rate of return earned on the funds invested in the bank by its stockholders. ROE touches on effectively utilization shareholder's money by the management. High return on equity means an organization has a higher opportunity to generate income internally thus stands a better chance to maximize profit. In a more technical view ROE is the ratio of Net Income after Taxes divided by Total Equity Capital (Khrawish, 2011). The higher the ROA of an organization the more efficiency in resource utilization and the more the income generated (Wen, 2010). Finally we have the NIM variable which is defined as the net interest income divided by total earnings assets (Gul et al., 2011). It is the a percentage of the earnings on loans in a specific time period and other assets less the interest paid on borrowed funds

divided by the average amount of the assets on which it earned income in that period of time (the average earning assets). High net interest margin mean high profit. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions (Khravish, 2011).

The two most commonly used measures of performance for most organizations are profitability and growth. Profitability being the ability of an organization to earn returns in relation to the margin of sales, proportion of capital investment and assets used. Diamond, (2007) are of the perception that profit indicates if one's earnings are substantially more than it pays in terms of interest. Profitability can be said to be the best measure of a commercial bank because it includes both the two maximization of revenues and cost minimization. In a study carried out by Onuonga (2014) it was established that profitability is positively affected by the loan to total assets and loan loss provision to total loan. Growth is equally dependent on the same premise of revenue maximization and cost reduction expenses this is to say that when an organization is experiencing a continuous increase in its profits then it is in a position to comfortable pay its shareholders and that their share price will mostly likely grow upwards (Ngetich, 2011).

There are a number of ways in which commercial banks can measure their growth and profitability. The three most widely used include ratios like; ROA, ROE and Net Interest Margin NIM, (Murthy and Shree, 2003). ROE is a financial ratio that shows how much profit an organization has made in regard to the shareholder equity invested. ROE is the earnings of the shareholders in return for what they invested in the organization. It represents the rate of return earned on the funds invested in the bank by its stockholders. ROE touches on effectively utilization shareholder's money by the management. High return on equity means an organization has a higher opportunity to generate income internally thus stands a better chance to

maximize profit. In a more technical view ROE is the ratio of Net Income after Taxes divided by Total Equity Capital (Khrwish, 2011). Khrwish (2011) terms the ROA as a ratio of Income to its total asset and defines it as a measure of how management can generate income by putting to use the assets of the organization. It basically is the efficiency in resource utilization for income generation. This means that the higher the ROA of an organization the more efficiency in resource utilization and the more the income generated (Khrwish, 2011). Finally we have the NIM, that is the measure of the difference between what the bank pays out to lenders and what it generates as income.

The NIM is a percentage of the earnings on loans in a specific time period and other assets less the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that period of time (the average earning assets) (Gul et al., 2011). The cost of commercial banks' intermediation services and efficiency is measured by NIM, i.e. the difference between the interest cost and interest income. High net interest margin mean high profit. However, according to Khrwish, (2011), higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions.

1.1.3 The commercial Banks in Kenya

The banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted. The CBK, which falls under the Minister for Finance docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system (PWC, 2012). The banking sector as at 31st December 2015 comprised of 52

financial institutions, 42 of these are commercial banks, one mortgage institution and nine are Deposit Taking Micro Finance Institutions (DTMs). The banks in Kenya are either locally or foreign owned. We have 31 locally owned banks while the other 11 are foreign owned (CBK, 2015).

The banks have a common forum, Kenya Bankers Associations (KBA) which takes care of members interests and acts as a forum of interaction. The banking sector has also gone under dynamic changes with the development of Agency banking in the local operations; a good number of Automated Teller Machines (ATM) located conveniently across the market clientele (Price Waters Coopers, 2012). The latest development in the banking sector is the newly created alliances with telecommunication firms, notable Mpesa and Mshwari affiliation to Kenya Commercial Bank (KCB) and Commercial Bank of Africa (CBA); Airtel money with Airtel communications. Each of these Banks is struggling to reach the clientele conveniently and aggressively (CBK, 2014).

The banking sector in Kenyan has over the past few years enjoyed exponential growth in deposits, assets, profitability and products offering, mainly attributed to automation of services and branch network expansion both locally and regionally. Technological innovations are key drivers of growth in the modern society. Some banks invest in research and development activities to create new products and new techniques, while others try to acquire latest technology from the market (CBK, 2014). Kenya's banking industry continues to face challenges. The banking system is still fragmented, with many small banks serving specific niches, but also contributing to competition in the sector. The outreach of the banking system is still limited with a wide population being either under banked or unbanked. With only 20 per cent of Kenya's population banked, there is need for banks to strategize and reach more of the

unbanked, which would constitute a big business growth as opposed to regional. To this end, banks have continued to employ different competitive strategies (CBK, 2014).

1.2 Statement of the Problem

Kenyan commercial banks have experienced many banking challenges since 1986 culminating in major bank failures. This is attributed to non-performing loans due to limited customer information sharing within the sector. Mumi (2010), reviewed the impact of credit reference bureau in financial institutions in Kenya; Sigei (2010), researched on evaluating the effectiveness of credit reference bureau in Kenya. The case of KCB; Nganga (2011), carried out a study on stakeholder perception of Credit Reference Bureau service in Kenya credit market and Gaitho (2010), reviewed the role of Credit Reference Bureau on credit access, a survey of commercial banks in Kenya and finally Gitahi (2013), reviewed the effect of CRB on the performance of commercial banks. Although profitability has increased consistently among most commercial banks (CBK, Report, 2015), it is not clear as to whether this increase in profit is attributable to customer information sharing. Various studies in Kenya such as Gaitho (2013), Kipyego & Wandera(2013) and Shisia, et al.(2014) have in turn been carried out regarding the new phenomena of CRBs in the Kenyan banking sector and the main focus has been on how the CRBs and information sharing have influenced the performance of the banks. Limited information exist on how information sharing has affected the performance of commercial banks in Kenya. There are scarce studies dealing with this aspect and hence this study aims to fill this gap and add to the body of knowledge by empirically unfolding financial performance areas most affected by credit information sharing.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to establish the relationship between customer information sharing and the performance of selected Commercial Banks in Kenya.

1.3.2 Specific Objectives

- i. To establish the effect of Customer's credit report on the performance of selected Commercial Banks in Kenya.
- ii. To establish the effect of Customer Information on the performance of selected Commercial Banks in Kenya.
- iii. To establish the effect of Portfolio at Risk on the performance of selected Commercial Banks in Kenya.

1.4 Research Questions

- i. How does Customer Credit Report information affect the performance of selected Commercial Banks in Kenya?
- ii. How does the Customer Information affect the performance of selected Commercial Banks in Kenya?
- iii. How does Portfolio at Risk affect the performance of selected commercial banks in Kenya?

1.5 Significance of the Study

The findings of this study will form a basis for information to banking industry in Kenya on benefits of customer information sharing. It will also serve as business re-engineering tool towards making faster and more accurate credit decision which in turn yields value addition in providing financial solutions. This research will help as a framework and basis in making decision and in particular as a road map towards engaging a sustainability tool of growth, efficiency in other sectors such as Kenya power, water companies, Counties businessmen, Higher education loans board (HELB), deposit taking microfinance (DTM) savings and credit corporations (SACCOs) and also in other services such as recruitment and other credit providers. In addition this study will also be of significance to academicians as it provides a background for further studies.

Banks can improve their knowledge of borrower's credit history by exchanging information about their customers,

The study will be an additional source of information for financial institutions. The study will seek also to make recommendations on areas of future research which is of paramount importance to scholars.

1.6 Scope of the Study

The scope of the study comprised of 20 listed commercial banks in Kenya. The study was focused on customer information sharing and the performance of selected commercial banks in Kenya.

1.7 Limitations of the Study

The study was limited to customer information sharing and the performance of selected commercial banks in Kenya. The study therefore was limited to commercial banks only within Kenya and to the relation of customer information sharing to performance vis a vis other factors such as management and organization culture. The study was based on secondary data, which was collected from annual financial reports of the commercial banks. The financial statements tend to be influenced by accounting policies which differ from one bank to another making distorting data uniformity. However, audited reports were used to overcome this through the use of acceptable accounting adjustments. Some of the key variables were reported as net amounts. In this case accounting adjustments were performed to ensure uniformity. The contemporary nature of this study was a limitation in that prior available research on credit information sharing mainly focused on macro-economies limiting the possibility of adequate comparison of research results.

1.8 Organization of the Study

This project is structured as follows: the foregoing chapter one provides the research background, the statement of the problem, research objectives and questions, significance of the study, scope, and the limitations encountered in the course of the study. Chapter two presents the theoretical framework of the study and the literature review on customer information sharing and performance of commercial banks in Kenya, as well as their determinants and last but not least a conceptual framework. Chapter three captures the methodology employed including; the research design, target population, sample design, data collection and data analysis. The study findings and their interpretation are presented in chapter four; while chapter five has conclusions of the study and the policy implications.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presents the theoretical foundations of customer information sharing among commercial banks and financial performance. Further, it presents empirical literature and conceptual framework.

2.1 Theoretical Review

This study was guided by the following theories: the credit rationing theory, information sharing theory and the moral hazard and adverse selection theory.

2.1.1 Theory of financial intermediation

This theory suggests that one key function of relationship banking is to overcome information asymmetry between the lender and the borrower. Repeated interaction enables lenders to produce information about the creditworthiness of borrower (Levine, Loayza & Beck, 2000). This information view of relationships banking provides a strong rationale for the widely observed discretion of loan officers in credit assessments. The incorporation of soft information about a client's creditworthiness in credit analysis requires a rating process in which loan officers can complement financial statement analysis with qualitative information. The current theories of economic role of financial intermediaries build on the economics of imperfect information that began to emerge during the 1970's with the seminal contribution of (Scholtens & Van Wensveen,2000). These financial intermediaries exist because they can reduce information and transaction costs that arise from an information asymmetry. They thus assist the efficient functioning of markets and any factors that affect the amount of credit channeled through financial intermediaries can have significant macro-economic effects. Hence this theory provides a basis on which the various commercial banks retrieve and share information regarding credit

information, customer profile and portfolio risk so that the effect on performance of the banks is established.

2.1.2 Credit Rationing Theory

This is one of the key theories of information sharing. The credit rationing theory was introduced by Freimer and Gordon (1965) and later Stiglitz and Weiss (1981) comprehensively advanced the theory. They later came up with a model which tried to show how credit rationing can be an equilibrium feature of the market. The assumption here was that the rationed borrower would be willing to obtain the funds at an interest rate higher than the one charged by the lender. The lender turn will not be willing to lend the extra funds, as the higher rate would imply lower expected profits. There exists excess demand for credit at the equilibrium rate of interest. It is therefore equilibrium rationing. They indicated that if banks charge the same interest rate to all borrowers, because they cannot distinguish between high risk clients from the low risk ones credit rationing occurs, because screening clients perfectly is too expensive. This theory is helpful when it comes to the landing institutions minimizing the portfolio at risk.

2.1.2 Information Sharing Theory

Under this theory, clients do not want to (strategically) default, because this will be publicly known: when default information is shared, borrowers will face an increase interest rates and a decrease in access to finance not only by the current bank, but by the rest of banks in the market - the so called disciplinary effect (Padilla and Pagano, 2000). Secondly, it is believed that information sharing may provide borrowers with higher incentives to perform due to availability of information to competitor banks. Borrowers are happy to perform better because they no longer fear being held- up by the lender-monopolist (Padilla and Pagano, 1997). By sharing

information, banks may learn about those good and bad borrowers of the competitor banks who (exogenously) switched from the previous banks. Gehrig and Stenbacka (2001), on the other hand, identify the negative side of information sharing. Rather than starting with ex-ante informational advantage, their adverse selection model considers a two-period competition with symmetric knowledge in period one. In their location model, when banks have less incentives to acquire information for too many customers in period one, when they know they will have to compete away rents on them by sharing information in period two. They show that if information about borrowers' true becomes known to other banks, second-period competition will be higher and first-period interest rates will have to go up. As a result, information sharing can lead to welfare losses. However, they assume that all characteristics about true types can be revealed to the outside bank. However, information sharing provides the screening bank with more informational advantage, will safeguard it from competition. Advanced screening technology, therefore, will increase returns from screening. Hence this theory provides a basis on which the various commercial banks share information regarding credit information, customer profile and portfolio risk so that the effect on performance of the banks is established.

2.1.3 Moral Hazard and Adverse Selection Theory

Moral hazard occurs when a party with more information about its actions or intentions behaves inappropriately from the perspective of the party with less information. It is a situation whereby the risk that a party to a transaction has not entered into the contract in good faith or has provided misleading information about his/her assets, liabilities or credit capacity, or has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles. It implies a voidable contract between two parties whereby; party taking the risk to a transaction knows more about its intentions than the party carrying the consequences of the risk.

According to Myerson (2011), challenges of dishonesty in banks and other financial institutions were common at thus leading to financial crisis. Modern banking depends on advanced information economics which was not available when the traditional Keynesian and monetarist theories were first developed (Freixas and Rochet 1999). In modern macroeconomic theory economic growth rate depends, crucially, on the efficiency of financial institutions. Therefore, it is necessary to consider new models that can apply the microeconomic theory of banking to the macroeconomic theory of business cycles. Customer information sharing will be important to banks by availing information on customer hence reducing the moral hazard and therefore increasing the efficiency of commercial banks.

The Adverse Selection theory was coined by Stiglitz et al (1981) and is based on two main aspects; firstly, that lenders cannot distinguish between borrowers of different degrees of risk, and secondly; that loan contracts are subjects to limitation. This theory assumes are based on the feeling that borrowers repay loans only when they have the means to do so. Interest rates will affect the profitability of low risk borrowers, causing them to drop out of the application pool. This leads to an adverse compositional effect—higher interest rates increase-the average riskiness of the applicant pool at a very high Interest rates, the only applicant are borrowers who could potentially generate very high return. Since lenders' preference over project risk, the assumption in this theory is that raising interest rates may not interest rate may not raise enough to guarantee borrowers secure credit, when funds are limited. Borrowers with collateral obtain competitive credit, have incentives to work harder, and earn more income as a result. Information sharing can motivate borrowers to repay loans, when the legal environment makes it difficult for banks to enforce credit contacts. In this model borrowers repay their loans because they know that defaulters will be blacklisted, reducing external finance in future (Klein 1982).

Pagano and Jappelli 1993 argue that if banks exchange information about their client's credit worthiness, they can assess also the history of non-local credit seekers. This is because each bank has private information about local credit applicants, but has no information about non-local applicants. This therefore sets a ground on which such sensitive information can be accessed and used to make decisions that are paramount to the commercial banks.

2.2 Empirical Review

Empirical evidence from various studies indicates that sharing information enhances the performance of commercial institutions. Analysis of CBK data confirms that CIS has greatly improved the performance of banks by reducing TAT on loan appraisal and the cost of lending to high risk customers.

2.2.1 Customer Credit Report

Using information it gets from lenders, CRB builds an individual's credit history on different loans such as mortgage, credit cards and other loan agreements. The lenders using a credit reference agency in this case the CRB, will check the credit history of the applicant and view the track record as regards repayment of loans (Kiage, et al, 2015). The term 'credit score' implies a numerical measure of credit risk calculated from a credit report using a standardized formula (Barron & Staten, 2003; Bassim, 2008). It is only achieved in full file comprehensive reporting credit markets; this is because it can only be computed once all the credit information on a consumer has been provided by all credit providers (KCISI report, 2014). A positive score is characterized by frequently paid bills, lack of defaults on outstanding balances, the use of not more than 25% of a consumer's available credit among others. On the other hand, a negative credit score is characterized by late payments, bankruptcy, fraud charges, liens and foreclosures

(Kiage, Musyoka & Willy, 2015). A credit score is generated from a credit report sourced from credit bureaus (Sinclair, 2005). Credit score is very important to the lending institution because it assists them in making decision on whether or not to give the applicant a loan or not (Jose, 2001). In the Kenyan market, scores often range from 300 to 900 with most consumers falling in the 600 to 800 range. If a consumer does not pay a creditor, their score drops. On the other hand if payments are made regularly and promptly, his or her score rises (KCISI report, 2014).

According to Kallberg and Udell (2003), exchange credit information is a valuable in assessing borrower quality therefore formal information exchange added economic value. They examined whether credit information in general and business credit information in particular, a valuable mechanism for solving information problems in lending? The study analyzed on the value of private sector credit information focused on the value added by information exchange as at the individual credit decision-making level. Data for the study came from Dun and Bradstreet (D & B) data base on firms in the retailing SIC group with the objective to analyze whether data was informative with respect to assessing borrower quality. A total sample of 2,723 firms consisting of 241 failed and 2482 non-failed firm was used. Three-forty of these samples were used to estimate the model and the remainder was used as a holdout validating sample. The value of exchange generated information was tested in a stepwise logic regression where the dependent variable reflected the probability that the firm will not fail. Variables that indicate borrower quality were used to estimate the logic model. The value of exchange generated information went beyond information that was otherwise available to lenders.

In her comprehensive study on credit information sharing, bank characteristics and credit market performance in Kenya with the specific objectives of the study to determine the effect of credit information sharing on credit market performance in Kenya, Muthoni (2014) concluded that

presence of credit information sharing significantly reduced default rates and increases credit availability among financial institutions in Kenya. To achieve this objective, descriptive and explanatory research designs were employed with the collected data analyzed using descriptive statistics (describe and summarized data), inferential statistics and content analysis. A census of 43 commercial banks in Kenya was conducted with both primary and secondary data collected for a period of five years between 2008 and 2012. Data on defaults rates and credit availability were gathered from the bank supervision department at CBK. Panel data regression models and RE model was used to establish whether introduction of credit information sharing has had an impact on the credit market performance and to estimate the effect of credit information and to estimate the effect of credit information sharing and bank characteristic on default rates in Kenya respectively. Results showed that the presence of information significantly reduced the defaults rates.

Munee (2013) conducted a research on the effect of credit information sharing on the financial performance of commercial banks in Kenya. The findings and analysis revealed that a positive relationship exists between credit information sharing and financial of commercial banks thus banks need to build a very strong information sharing premises, which will enhance the existing management policies and hence improve the financial performance by reducing the proportion of non-performing loans. The study used regression analysis to establish the relationship between NPLs and total number of entries at the CRBs per year per bank and the Return on assets. A forecasting model was developed and tested for accuracy in obtaining predictions. The finding of the study indicate that the model was moderately significant NPLs and total number of entries to the CRBs as an independent variable was linearly related with the dependent variable (Financial

performance of commercial banks as measured by ROA) thus multiple linear regression was used.

Nyangweso (2013) in his research, the relationship between credit information sharing and loan performance—case of commercial banks in Kenya found that credit information sharing affects loan performance and if banks undertakes credit referencing during credit appraisal process then loan default rate will decrease. To arrive at this, data on aggregates number of credit reports requested, monthly weighted average lending interest rate and total loans advanced by forty two commercial banks were collected for the period January 2008 to May 2013. The population of the study comprised 43 commercial banks and two CRBS. The research involved the use of regression analysis of loan performance as measured by default rate as the dependent variables while number of credit reports requested by commercial banks, aggregate number of credit reports requested by customers aggregate number of customer inquiries due to adverse actions by financial intuitions and commercial banks' monthly weighted average lending rates were the independence variables. The t-statistics and R-squared were used to determine the magnitude of relationship between the dependent variable and independent variable. In the aggregate, lending is increased, leading to greater credit market growth, rising productivity and greater capital stock.

Dong (2009) carried out a Study on the effect of creditor information sharing and creditor protection in solving the asymmetric information friction in bank cross-border consolidation decision. The study collected data on the number of banks cross-border consolidation in period 1990 to 2007 across 58 countries. The data set Djankov et al., (2007) was utilized to measure credit information sharing mechanism and creditors' rights index. Bank regulation and supervision variables were used as control while macroeconomic factors and characteristics between the target and acquires countries were controlled for. The gravity –type model with Tobi

regression was used and it was found that the existence of information sharing institutions could increase the probability of a country's bank to be international targets.

Kerage and Jagongo (2014) in a study on credit information and performance of commercial banks in Kenya concluded that the breadth of credit market is associated with information sharing that is there is positive relationship between credit information sharing and the performance of the banking sector the relationship is that as the banks share credit information sharing about the borrowers, their respective performance will improve. Results of the study indicate that 87% of the variation in profitability of commercial banks is explained by NPLs, volume of loans, level of interest rate and operation cost. NPLs have a negative relationship with performance of commercial banks. A unit increase in non-performing loans will lead to 22.6% decrease in profitability. The findings were that loan performance as measured by loan default rate is negatively related to performance of commercial banks which is in tandem with the findings of Brown (2007). A forecasting multiple regression model was developed and tested for accuracy in obtaining prediction NPLs portfolio, level of interest rates, volume of lending and operating costs as an independent variable was linearly related with the dependent variable profitability.

2.2.2 Customer information

The key to banks profiling their customers on the basis of demographic characteristics is to maximize on their clients repayment performance (Han, 2008). High repayment rates are indeed largely associated with benefits both for the financial institution and the borrower. They enable the financial institution to cut the interest rate it charges to the borrowers, thus reducing the financial cost of credit and allowing more borrowers to have access to it (Kon and Storey, 2003).

Improving repayment rates might also help reduce the dependence on loan subsidies of the financial institution which would improve sustainability. Kano, Uchida, Udell, and Watanabe(2006) argued that high repayment rates reflect the adequacy of financial institutions services to clients needs. This measure calculates self- sufficiency ratio, capital adequacy, asset quality, liquidity and earnings quality. Wanjiru (2013), stated that depending with the type of borrower some of the information shared include: the credit history, credit score, demographic information, consumer statements, payment profile information, frauds, forgery, cheque kiting, false declarations , receiverships, bankruptcy and liquidation, credit default and late payments, use of false securities and misapplication of borrowed funds. When a customer or client fills out a loan application form, the lender usually checks their credit history or credit score (KCISI report, 2014).

Demographic Information shows an individual's name, current and previous addresses, phone number, date of birth and current and previous employer's details. The accuracy is mainly dependent on an individual filling out forms correctly and completely each time he or she applies for credit. Account information provides detailed information on each credit agreement including the date an account was opened. Its due date, credit limits or loan amount balance, monthly payments and payments patterns during the past several years. This information both positive and negative comes from various credit providers. Payment Profile Information summarizes the number of accounts on a customer's profile , the status of these accounts i.e. whether they are up to date/satisfactory or in arrears of 30 days, 60 days or 90 days, and if delinquent loans exist. The information in this section of the report plays a crucial role in determining whether a customer will receive credit and on what terms credit will be granted. (Jose, 2001). Kalberg and Udell

(2003) also point out that information exchange from multiple sources improves the precision of the signal about the quality of the borrower.

Mpunga (2008) did a study in Tanzania on effect of borrowers' characteristics influence on credit risk, he found income levels of a business are an essential factor in the determination of the level of credit worthiness of a customer. Businesses with a high level of income have the ability to save and further utilise the excess reserves in the acquisition of loan security. Ozdemir and Boran (2008) did a study in Canada on factors affecting loan default among small business borrowers, he showed that when a loan is not repaid, it may be a result of the borrowers' unwillingness and/or inability to repay, he recommend that the banks should monitor borrowers and select the clean borrowers from defaulters and monitor them to make sure that funds are utilised for the intended reason.

Mumi (2011) did a study in Kenya on the impact of credit referencing practices on lending in financial institutions. The findings indicated that majority of the respondents agreed that inadequate information systems concerning referencing affected market segmentation and credit referencing. The study concluded that that there was inadequate information systems concerning referencing which affected market segmentation and credit referencing. The study recommended that financial firms should adopt adequate information sharing systems on credit referencing.

2.2.3 Portfolio at risk

The rise in number of non-performing loans in Kenya has seen poor performance of banks, leading to banks going under or being put on receivership, as seen in the cases of Dubai Bank in 2015, and Imperial Bank (Ndi, 2010). It is important to acknowledge that without the lending or credit function, these commercial banks will hypothetically run out of business (Osayeme, 2000).

However, they need to have information on the potential borrowers. In the financial sector all nonperforming loans are provided for and must be declared as an expense at the end of the trading period (Greenidge & Tiffany, 2010).

Effective loan portfolio management requires to intelligently manage customer credit lines, which is a function of the CRB (Gatuhu 2011). According to Brearley & Myers (2006), it is the approach an institution adopts in order to maintain an optimal level of credit to ensure its effective management. Nzotta (2004) points out that the performance of commercial banks is subject to among other factors loan portfolio management because the failure of deposit banks is greatly influenced by the quality of the risky assets which is determined by the quality of credit decisions.

Turner and Varghese (2007) observed that credit bureaus help to solve a problem that is inherent in lending: imprecise knowledge of a borrower's likelihood of repaying. The lender must instead infer the risk profile of the borrower. Incorrect assessments result in two symmetrical problems. Low-risk borrowers are mistaken as high-risk and high-risk borrowers are mistaken as low-risk. Consequently, low-risk borrowers face high interest rates that act as subsidies for high-risk borrowers. These rates price many low-risk borrowers out of the market. On the other hand, high-risk borrowers receive subsidies and are hereby drawn into the market. Average prices go up to reflect the disproportionate presence of high-risk borrowers, and delinquency rates are higher. In response, lenders ration loans in a way that given two individuals with identical risk profiles and preferences, one will receive a loan and another will not. The study concluded that credit referencing drastically reduces the levels of default. Credit Information sharing reduces information asymmetry and thus by reducing information asymmetry between lenders and

borrowers, credit registries allow loans to be extended to safe borrowers who had previously been priced out of the market, resulting in higher aggregate lending (Pagano and Jappelli, 1993).

Reducing the risk of loan default has received an increasing attention as a central activity of commercial banks. One of the approaches adopted by lenders in an attempt to reduce incidences of default is enhanced credit assessment process. Credit assessment process involves assessing the credit worthiness of the applicants. This process requires in depth analysis in order to reduce potential loan defaulters. Effective credit assessment therefore plays a very important role in the overall management of credit risk (Saunders & Wilson, 1999).

Wairimu (2013) studied the effect of credit references bureaus on the level of non-performing loans in commercial banks in Kenya. She shows that banking competition for borrowers strengthens the positive effect of information sharing on lending. When credit markets are competitive, information sharing reduces informational interest charged and increase banking competition, which in turn leads to increased lending. Information sharing can also create incentives for borrowers to perform in line with banks' interest. Klein (1992) shows that information sharing can motivate borrowers to pay their loans, when the legal atmosphere makes it difficult for banks to implement credit agreements. In his model borrowers repay their loans because they know that defaulters will be blacklisted, reducing external finance in future.

CIS therefore improves the banks' knowledge of applicants and allow for more precise prediction of repayment probability and let the lenders to better target and price their loans, easing adverse selection problems.

Thirdly, credit bureaus work as a borrower discipline device: every borrower knows that if he defaults his reputation with all other potential lenders is ruined, cutting him off from credit or making it more expensive, (Pagano and Jappelli, 2005). This makes borrowers to repay and

reduces the moral hazard and bad debts that may lead to shareholders losing their share capital. Information sharing therefore increases ROE. Information asymmetries exist because some lenders fail on their part to observe the relevant characteristics and action of potential borrowers and thus do not have a proper way of learning about them. Information brokers (CRB) thus come in play to bridge this gap by availing information voluntarily supplied other members. Information sharing is important because: it may increase the competition within credit markets (Jevgenijs&Mehnaz, 2006), it improves efficiency in the allocation of credit, increase volume of lending and may also have policy implications (Pagano & Jappelli, 1993). This enables commercial banks to increase their returns, increase volume of lending, reduce defaults and improve their policies and this leads to better financial performance.

Various studies have been conducted all over the world that point out credit information sharing as a way of mitigating risk in the credit markets. Jappelli & Pagano (1999) use international data set on private CBs and public credit registries to test the theory that information sharing among lenders attenuates adverse selection and moral hazard therefore increasing lending and reducing default rates. The study looks at several factors which include: whether prior to 1994, private CB existed; the sharing of black information (negative information regarding borrowers) only; the sharing black and white information (positive information about the borrower); private CBs and Public Credit Registries (PCRs). The study finds that bank lending is about twice as large in countries where information is shared irrespective of the type of information exchanged. The breadth of credit markets is thus associated with information sharing. In countries where information is shared, there is lower than average loan loss provision and credit risk. Default rates are negatively correlated with information sharing indicators and thus mitigated by both public and private information sharing. Also, information sharing through both private CBs and

PCRs has the same impact and in fact where private credit registries already exist, PCRs are less likely to be established. Additionally, rise in credit reference bureaus is affected by mobility of borrowers, the degree of banking completion, the stringency of privacy laws and the degree of protection of creditor rights.

2.3 Summary of Literature and Research Gaps

In order to have evidence of success in any financial institution we have to mitigate risk strategically (Scholtens et al, 2000). Customer Information sharing has acted as a linkage between credit access and economic development through affordable credit to more Kenyans by reducing collateral requirements and reaching out to more SMES who have a good credit record. The SME sector has been pinpointed as an important driver to the industrial development of this country and the vision 2030. Therefore it's necessary for credit providers to share both negative and positive information. Sharing of negative information only is punitive to customers as it may not be reflective of their true credit worth (KCISI report, 2014).

Sharing information about borrower' have important effects on credit because it improves the bank's' knowledge of applicants' characteristics which helps in prediction of their repayment probabilities, it reduces the informational rents that banks could otherwise extract from their customers and it can operate as a borrower discipline device as well as eliminating borrowers' incentive to become "over-indebted" by drawing credit simultaneously from many banks without any of them realizing (Padilla & Pagano, 2005).

According to Brown, Jappelli, & Pagano (2007), Customer sharing information on the financial sector has attracted a lot of attention from researchers. Other researchers who have done similar or related topics include Cheng & Degryse (2010), who used cross- country regressions to assess

the impact of bank competition and credit information sharing on the efficiency of capital allocation and attenuates that credit information sharing increases bank efficiency. Various studies have been carried out in Kenya such as Gaitho (2013), Kipyego & Wandera (2013), Kipkurui (2014) and Shisia, et al. (2014) have in turn been carried out regarding the new phenomena of CRBs in the Kenyan banking sector and the main focus has been on how the CRBs and information sharing have influenced the NPLs. Kerage & Jagongo (2014) did a study on credit information sharing and the performance of the banking sector and his findings indicated a strong relation between credit information sharing and the performance of the banking sector. Wanjiru (2013) also did a study the effect of credit information sharing on the non - performing loans among commercial banks in Kenya and the results concur with literature which provides a positive effect of credit information sharing on NPLs. From this, it is clear that there is scanty systematically documented information as concern the relationship between customer information sharing and the performance of commercial banks in Kenya. Limited information exists on how information sharing has affected the performance of commercial banks in Kenya. There are scarce studies dealing with this aspect and in that regard, this study seeks to investigate the impact of CIS on the overall performance of selected Kenyan banks. This paper purposes to address this and to fill the existing gap and add to the body of knowledge by empirically.

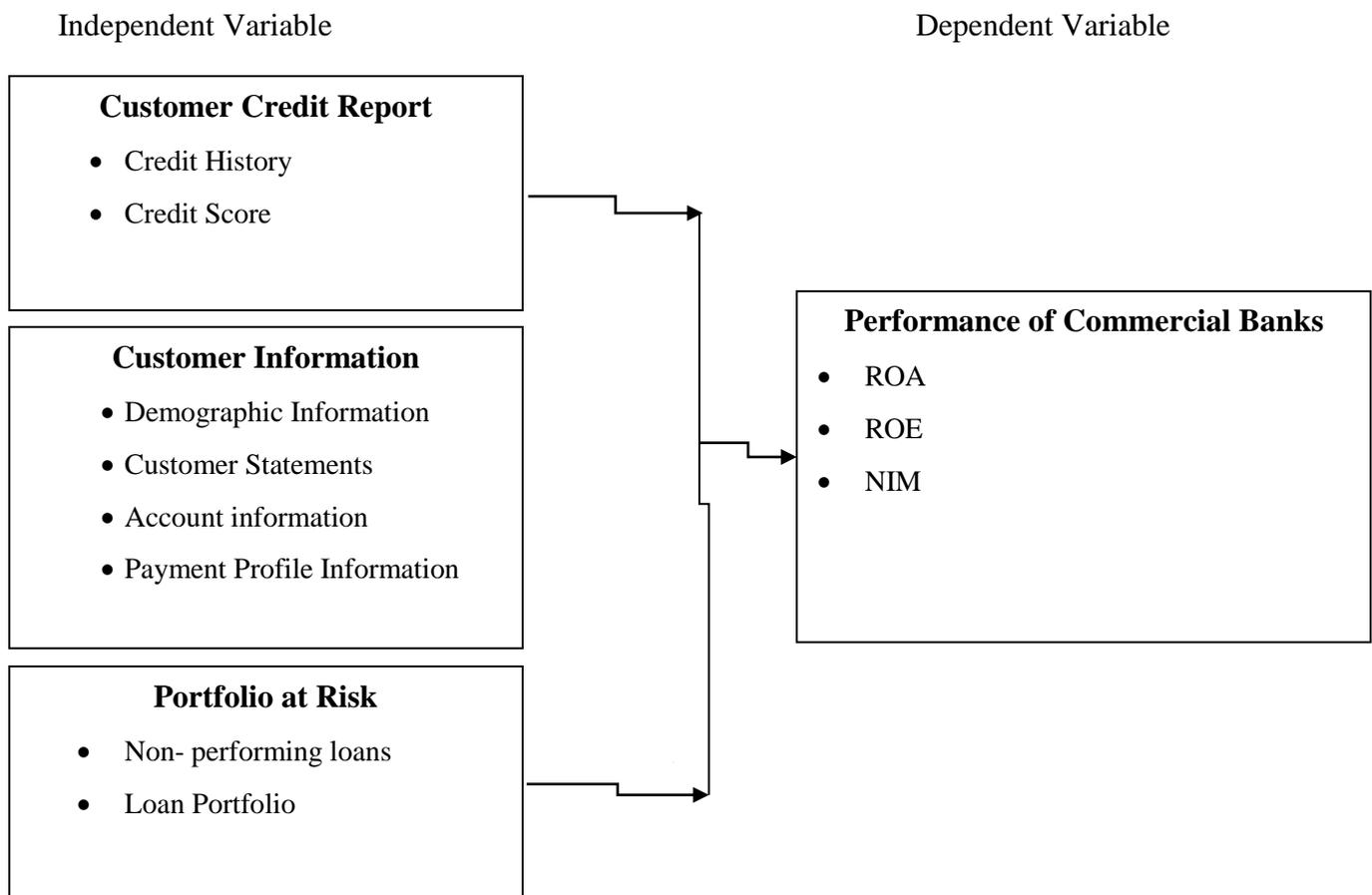
Theoretical and empirical analyses show that banks' sharing of information on borrowers helps to curtail the effects of adverse selection and moral hazard, reduces credit risk which translates to lower interest rates, makes for readier access to the market and increase the stability of the banking system (Muthoni, 2014). Kallberg and Udell (2003) shows that exchange credit information was valuable in assessing borrower quality therefore formal information exchange

added economic value. Most studies that have examined the effect of credit information sharing and credit market performance in developed credit markets, however little study has been undertaken to capture these effects in Africa and more so Kenyan credit markets. The study therefore seeks to fill this knowledge gap by establishing the effect of credit information sharing on performance among commercial banks in Kenya by focusing on credit reports, customer information and portfolio at risk since most empirical literature has concentrated on the variables independently but the current study looked at how the three variables correlate and ultimately their effect on the performance of commercial banks in Kenya.

2.4 Conceptual framework

From the literature reviewed, this study developed the following conceptual model within which to understand the relationship between customer information sharing and the performance of commercial banks in Kenya.

Figure 2.1 Conceptual Framework



Source: Researcher (2016)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design, target population, Sample size, Data Collection, Data Analysis and Analytical Model.

3.2 Research Design

This study was a quantitative research that adopted a correlational research design. The study aimed to establish the relationship between credit information sharing and the performance of commercial banks in Kenya. Credit information sharing as established by other studies was expected increase the profit of the banks. Subsequently, the return on equity ratio was also expected to increase reflecting an overall increase in the performance.

3.3 Target Population

The population consisted of all the listed commercial banks in the country; Kenya and the credit reference bureaus licensed as at 31st Dec 2013. The Kenyan Banking Sector is currently made up of about 50 financial institutions with 44 of these being commercial banks between the periods 2011 to 2015(*Appendix 1*). This population was considered enough to provide sufficient variables to assist in determining the effect of customer information sharing on the performance of selected commercial banks in Kenya. This period was relevant because it depicted the variation of the return on equity ratio (ROE), return on assets ratio (ROA) and net interest margin (NIM) after the licensing of the CRBs. The CRBs were licensed back in 2010 thus the period between 2011 and 2015.

3.4 Sample size

Cooper and Schindler (2003) argue that a sample size of between 10-30% of the target population can be adequate for generalization of the research findings to the study provided the sample is scientifically determined. Based on this a sample size of 20 commercial banks was deemed adequate for the study. Random sampling technique was used to select the banks based on level of precision, the level of confidence, and finally the degree of variability in the attributes being measured. Also the yearly data for the period 2011 to 2015 was used in this study. The study was limited to the listed banks due to lack of available data among the private commercial banks.

3.5 Data Collection Procedures

The researcher collected secondary data from the 20 listed commercial banks. The acquisition of Secondary data was from annual financial statements of the banks and other resourceful information available at the CBK and NSE secretariat for the last 5 years from 2011 to 2015. The data that was extracted included: bank supervision annual reports, the number of credit reports requested by commercial banks in Kenya, portfolio at risk, ROA, ROE and NIM from published reports. Library and desk research was also carried out by scrutinizing official reports, guides and loan performance documentation which was availed by relevant banks. The researcher also looked out for loan performance trends from written literature in the libraries and other relevant sources. The sources were chosen because of the credibility as the data on loans defaulting and credit information request have been verified by the central banks on-site and off-site inspections. The researcher utilized time series empirical data on the variables. The study period covered the year 2011-2015 and the researcher developed a schedule as in Table 3.1.

Table 3.1 Schedule of secondary data collection

Years	Credit reports Requested by banks (millions)	Customer information (millions)	loans portfolio (millions)	Returns on equity (ROE) (millions)
2011				
2012				
2013				
2014				
2015				

3.6 Data Analysis

The collected data from the secondary sources was systematically organized in a manner to facilitate analysis. The data was analyzed using descriptive statistics as well as multiple regression model to establish the level of effect between the variables. Data analysis involved preparation of the collected data, coding, editing and cleaning of data so as to facilitate processing using SPSS package. The coded data was keyed into the SPSS program where it was developed into a database and subsequently analyzed. SPSS was preferred because it is systematic and covers a wide range of the most common statistical and graphical data analysis. Regression model was used to establish the relationship between the variables.

3.6.1 Analytical Model

Regression analysis is a statistical technique that can be used to develop a mathematical equation showing how variables are related. In regression terminology, the variable that is predicted is called dependent variable while the variable used to predict the value of dependent variable is called independent variable. Data collected was analyzed using simple regression analysis. The significance of each independent variable was tested at a confidence level of 95%. In this study, independent variables are; customer credit report, customer information and portfolio at risk. While the dependent variable was performance of the commercial banks in Kenya which was measured by ROA, ROE, and the NIM. In order to examine the customer information sharing and performance, the regression equation of the form given below was applied;

Performance = f (Customer information sharing)

$$Y = \beta_0 + \beta_1 (X_1) + \beta_2 (X_2) + \beta_3 (X_3) + e$$

Where Y= Financial Performance (dependent variable) measured by ROA,ROE & NIM

X1 = the total number of Customer credit reports per year.

X2 = the total number of Customer information reports per year

X3 = the yearly portfolio at risk

β_0 = Constant which defines performance without inclusion of independent variable.

β_1 =Regression coefficient- defines the amount by which Y is changed for every unit change in Customer Credit Report.

β_2 =Regression coefficient- defines the amount by which Y is changed for every unit change in Customer Information.

β_3 =Regression coefficient- defines the amount by which Y is changed for every unit change in Portfolio at Risk.

e = Error

3.6.2 Operationalization and Measurement of Variables

Table 3.2: Measurement of Variables

Type of Variables	Variables	Measurement
Independent	Customer Credit	<ul style="list-style-type: none">- Credit history- Credit score
	Customer Information	<ul style="list-style-type: none">- Demographic information- Customer statements- Account information- Payment profile information
	Portfolio at risk	<ul style="list-style-type: none">- Non –performing loans- Loan portfolio
Dependent	Performance	<ul style="list-style-type: none">- ROA- ROE- NIM

3.6.3 Ethical considerations

Matters concerning banking and financial status are more often regarded as confidential information hence there were some banks management that were not willing to provide full information for fear of being reprimanded for giving out information that they might consider confidential in terms of customer and bank confidentiality. However, the researcher assured the banks management and CRB of the confidentiality of the findings.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the findings on the relationship between customer information sharing and the performance of selected commercial banks in Kenya. Customer information sharing is facilitated by Credit Reference Bureaus licensed by the CBK. In Kenya, there are three licensed Credit Reference Bureaus, namely; CRB Africa which was licensed in 2010, Metropol Ltd licensed in April 2011 and Credit info Credit Reference Bureau Limited which was licensed in May, 2015. Therefore, to bring out the effect of the two variables, the data collection covered the periods between 2011 and 2015. The study adopted the use of secondary data. The information on commercial banks performance was sourced from Kenya National Bureau of Statistics (KNBS) offices while customer information sharing data was sourced from Central Bank of Kenya (CBK) and Kenya Credit Information Sharing Initiative (KCISI). The study used descriptive statistics (involving mean and standard deviation), regression analysis and mean differences through t-tests to establish the relationship between performance of commercial banks and customer information sharing.

4.2 Results analysis

The data presented below shows the number of records of the credit report and customer statements requested from CRB for the period 2011-2015. Also present is the portfolio at risk and return on equity in that particular period, this is attributed to the CBK annual reports of the years.

Table 4.3: Yearly Data from the commercial banks

Years	Credit reports Requested by banks (millions)	Customer information (millions)	loans portfolio (millions)	Returns on equity (ROE) (millions)
2011	1,021,717	6,413	16,060	282,717
2012	1,035,327	43,376	19,908	362,182
2013	1,275,522	30,776	27,477	432,178
2014	4,325,200	57,327	39,184	501,733
2015	7,545, 757	70,402	48,184	543,322
Mean	2506606.00	41658.80	30152.00	2771071.00
Standard deviation	2829729.446	24674.453	13374.426	639264.508
Maximum	1015327	6413	16060	3601412
Minimum	7545757	70402	48131	2020818

Source: Results of data analysis (2016)

As at 2011, commercial banks operating in Kenya had requested for 1,021,717 credit reports from credit reference bureaus (CRBs). During the close of 2012, the number of customer reports requested by commercial banks stood at 1,035,327, which increased by 240,195 to 1,275,522 at the end of 2013 and subsequently increased by 3,049,678 to a total of 4,325,200 at end 2014. This number increased by 3,193,557 by the end of 2015 as shown in Table 4.3.

Analyzing the data, it is shown that on average 2,506,606 customer reports were requested by commercial banks annually; though this is subject to a standard variation of 2,829,729.446.

On financial performance, Table 4.3 shows that the minimum amount of financial performance stood at Ksh. 2,020,818 million while the maximum was Ksh3,601,412 million on the return on equity (ROE). Further, the data shows that on average, the financial performance stood at Ksh 2,771,071 million in terms of Return On Equity (ROE). Before customer information sharing, was effected the financial performance of commercial banks were fairly constant or stagnated. This is evident with the skyrocketing number of customer information sharing requests against the surge on loan portfolio. However, the financial performance increased slightly with commencement of customer information sharing between 2011 and 2013 while on the contrary customer information sharing and entries rose sharply in 2014 and 2015 respectively.

4.2.1 The effect of the Customer Credit Report on the performance of Commercial Banks in Kenya

Table 4.4: Customer Credit Report on the performance of Commercial Banks in Kenya

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.785 ^a	.617	.489	456973.386	.617	4.828	1	3	.115	1.266

a. Predictors: (Constant), customer credit report

b. Dependent Variable: return on equity

Source: Results of data analysis (2016)

The study established the effect of the Customer Credit Report on the performance of Commercial Banks in Kenya, refer Table 4.4. Derived from the regression model, a correlation coefficient value of 0.785^a was established. This portrays a very strong correlation or dependence of financial performance which is in this case the return on equity on customer information

sharing. A coefficient of determination (R-square) value of 0.617 was established. This underscores the fact that customer information sharing accounted for 61.7% difference in the performance of commercial banks in Kenya, the remaining 38.3% can be explained by other factors. The findings echo those of Muneo, (2013) who conducted a research on the effect of credit information sharing on the financial performance of commercial banks in Kenya. The findings and analysis revealed that a positive relationship exists between credit information sharing and financial of commercial banks thus banks need to build a very strong information sharing premises, which will enhance the existing management policies and hence improve the financial performance by reducing the proportion of non-performing loans. The implication here is that the performance of banks particularly with regard to return on equity is highly dependent on the customer credit report sharing among the commercial banks in Kenya.

4.2.2 The effect of Customer Information on the performance of Commercial Banks in Kenya

Table 4.5: Customer Information on the performance of Commercial Banks in Kenya

Descriptive Statistics			
	Mean	Std. Deviation	N
return on equity	2771071.00	639264.508	5
Customer information sharing	2506606.00	2829729.446	5

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.903 ^a	.816	.755	316483.239	.816	13.320	1	3	.036	2.595

a. Predictors: (Constant), customer information

b. Dependent Variable: return on equity

Source: Results of data analysis (2016)

The study established the effect of Customer information on the performance of Commercial Banks in Kenya. Table 4.5 above presents a regression model. The results arrived at a correlation coefficient value of 0.903^a. This shows a strong correlation which implies the performance of commercial banks depends on not only customer information but other factors in determining the performance of the commercial banks to some extent. On return on equity and customer information sharing, a coefficient (R-square) value of 0.816 was established. This underscores the fact that customer information sharing accounted for 81.6% variation in financial performance of the commercial banks in Kenya, the remaining 18.4% can be explained by other factors. Kalberg and Udell (2003) also point out that information exchange from multiple sources improves the precision of the signal about the quality of the borrower. This would mean that the

commercial banks determination of borrowers and profiling will greatly assist the lenders to establish the credit worthiness of borrowers so that the risk of non-performing loans is minimized.

4.2.3 The effect of Portfolio at Risk on the performance of Commercial Banks in Kenya.

Table 4.6: Portfolio Risk and performance of Commercial Banks

	Mean	Std. Deviation	N
return on equity	2771071.00	639264.508	5
PAR	30152.00	13374.426	5

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1335499.464	78973.901		16.911	.000			
	PAR	47.611	2.435	.996	19.556	.000	.996	.996	.996

a. Dependent Variable: return on equity

Source: Results of data analysis (2016)

The study established the effect of the loans portfolio at risk on the performance of Commercial Banks in Kenya as shown in Table 4.6. From the coefficient model, a unit change in the loan portfolio at risk produces 47.611 changes in the performance of commercial banks in Kenya, which in this case has been measured by the returns on equity, which is the capital that banks have. These findings imply that the portfolio risk on the performance of commercial banks in

Kenya can be attributed to many other factors other than portfolio at risk. The findings are in line with those of Nzotta (2004) who points out that the performance of commercial banks is subject to among other factors loan portfolio management because the failure of deposit banks is greatly influenced by the quality of the risky assets which is determined by the quality of credit decisions.

4.3 Regression Analysis

The study analyzed linear regression to establish the relationship between customer information sharing and the performance of commercial banks in Kenya. The regression was presented as thus:

$$Y = \beta_0 + \beta_1 (X_1) + \beta_2 (X_2) + \beta_3 (X_3) + e$$

Where Y= Performance of commercial Banks (dependent variable) measured by ROE.

X1 = the total number of entries of the customer reports per year.

β_0 = Constant which defines performance without inclusion of independent variable.

β_1 =The amount by which Y is changed for every unit change in Customer Credit Report.

β_2 =The amount by which Y is changed for every unit change in Customer Information.

β_3 = The amount by which Y is changed for every unit change in Portfolio at Risk.

e = Error from Analysis of Variance (ANOVA).

Table 4.7: Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.998 ^a	.996	.983	83190.962	.996	78.398	3	1	.083	2.479

Source: Results of data analysis (2016)

The study established the regression model significance, the data of which is presented in Table 4.7. From the regression model, a correlation coefficient value of 0.998^a was established. This shows a very strong linear relationship or dependence of financial performance on customer information sharing. A coefficient of determination (R-square) value of 0.996 was established. This underscores the fact that customer information sharing accounted for 99.6% variation in the performance of commercial banks in Kenya, the remaining 0.4% can be explained by other factors such as interest rates and change in CBK policy. A Durbin Watson value of 2.479 shows that the data entered was devoid of autocorrelation among its residuals; a justification for linear regression analysis. These findings echo those of Wairimu (2013) who found out that banking competition for borrowers strengthens the positive effect of information sharing on lending. When credit markets are competitive, information sharing reduces informational interest charged and increase banking competition, which in turn leads to increased lending. Information sharing can also create incentives for borrowers to perform in line with banks' interest

4.4: Analysis of Variance (ANOVA)

Table 4.8: ANOVA

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.628E12	3	5.426E11	78.398	.083 ^a
	Residual	6.921E9	1	6.921E9		
	Total	1.635E12	4			

a. Predictors: (Constant), loans portfolio, customer credit report, customer information

b. Dependent Variable: return on equity

Source: Results of data analysis (2016)

Analysis of Variance was used to test the significance of the regression model as pertains to significance in the differences in means of the dependent and independent variables. The ANOVA test produced an f-value of 78.398 which was significant at 0.083 significance level. This depicts that the regression model indicates a significant at 95% confidence level; that is, has 2% probability of misrepresentation. Thus the findings are not significant hence the implication is that loans portfolio, customer credit reports and customer information do not have a significant effect on the Return on Equity of the respective commercial banks.

4.5: Regression Coefficients

Table 4.9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1321210.235	124875.697		10.580	.060
	Customer credit report	-.013	.025	-.057	-.509	.700
	customer information	2.625	3.609	.101	.727	.600
	loans portfolio	45.521	8.123	.952	5.604	.112

The regression equation becomes:

$$\text{Financial Performance} = 1321210.235 - 0.013 (X1) + 2.625 (X2) + 45.521 (X3) + e$$

$$p = 0.020$$

From the above regression model, a unit change in customer credit report produces a decrease of -0.013 of performance of commercial banks in Kenya. Also a unit change in customer information produces a 2.625 change on the commercial banks' financial performance in Kenya. However, the sensitive of financial performance to changes in customer information sharing is 140,509.343. This depicts that financial performance is multiplied by 1321210.235 to each unit increase in customer information sharing. A value of 2.5 of t-test was established at $p = 0.01$ showing that the relationship was significant.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The purpose of this study was to find out the effect of customer information sharing on the performance of selected commercial banks in Kenya. Its specific objective was to find out the effect of customer credit report, customer information and the portfolio at risk on the performance of commercial banks in Kenya. Profitability of most commercial banks has increased consistently over the years and it is not clear if this increase is attributable to customer information sharing. Various studies have been done on different aspects as regard to this but not much has been done with a focus on the customer credit report, customer information and the loan portfolio at risk and how they impact the financial performance of commercial banks in Kenya.

5.1.1 Customer information sharing

Customer information sharing has been on the increase since 2011 as within the year, 1,021,717 million customer credit reports were requested by commercial banks in Kenya. In the year 2012 an increase was posted as the customer credit reports requested by commercial banks rose to 1,035,327 million. On average, 2506606 customer credit reports were requested annually for the five year period. Minimum amount of financial performance stood at Ksh 2,020,818 million while the maximum was Ksh 3,601,412 million on average (Table 4.2). These shows that customer information sharing was very instrumental in enabling the banks to make decisions regarding lending.

5.1.2 Customer credit reports

The trend line of financial performance and customer credit reports shows that both variables rose together, though, customer credit reports changed at higher rate than financial performance. This is further justified by a standard variation of 2829729.446 for customer credit reports and 639264.508 for the latter. These dynamics shows that the two variables were positively related. The findings show that customer credit reports accounted for 61.7% changes in financial performance in Kenya. The study shows a very strong positive relationship between customer information sharing and the performance of commercial banks in Kenya. As the number of reports requested increase; the PAR for banks reduces and their performance increases. Table 4.5 shows that customer information sharing accounted for 81.6% changes in the financial performance of commercial banks. A t-significance value of $p < 0.001$ was established; depicting a significant difference in financial performance with customer credit reports resulting in enhanced economic growth. (Table 4.5).

5.1.3 Portfolio at risk

This was the third objective of the study that sought to establish the effect of portfolio at risk and its effect on the performance of commercial banks. The results in table 4.6 shows that a unit change in the loan portfolio at risk produces changes in the performance of commercial banks in Kenya, which in this case has been measured by the returns on equity, which is the capital that banks have. These findings imply that the portfolio risk on the performance of commercial banks in Kenya can be attributed to many other factors other than portfolio at risk.

5.2 Conclusions

The study revealed that all the banks had access to CRB, which means CRB is applied to all local banks. It was also established that most of the commercial banks obtain credit information from both Trans Union Africa and Metropol which increases transparency and hence improves on the integrity of the data provided. Due to the requirement by government institutions that all employees must meet the criteria for integrity, many clients have paid their loans; a positive effect on the banking industry. This means that the effect of CRB has been positive to improve the overall performance and profitability of the banks.

Customer Information sharing has acted as a linkage between credit access and economic development through affordable credit to more Kenyans by reducing collateral requirements and reaching out to more customers who have a good credit record. Lack of customer information sharing has been one of the key factors leading to non-performing loans and it has direct impact on the performance of commercial banks. The asymmetric information on credit markets makes it difficult to distinguish between high quality and low quality borrowers. Therefore by sharing information, banks are able to classify their borrowers.

Customer information sharing has helped in correcting this imbalance by allowing banks and other lending institutions to collect and share data on millions of potential borrowers, thus allowing lenders to gather information on the creditworthiness of each. By facilitating information sharing among lenders, credit bureaus has since 2010 with over 7,545, 757 exchanges by 2015 enables lending institutions sort good borrowers from bad, price loans appropriately, decrease processing time and reduce screening and other transaction costs. By the same token, credit information sharing has also helped banks and other financial institutions recover loans. The study established that financial performance is rated by customer information

sharing with the latter causing the former. The study brings to the fore the understanding of the relationship between characteristics and loan performance within commercial banks in Kenya. Though the practice has been that customer characteristics form an important aspect that Banks consider when advancing loans, this study finds that borrowers' characteristics do not influence loan performance in commercial Banks in Kenya. It therefore brings to fore the fact that there might be other factors other than demographic characteristics that affect loan performance of commercial banks in Kenya. It therefore follows that knowledge about the characteristics of customer, that is, the customer's income levels; level of education, age and gender does not directly translate to better or worse performance of a Bank's loan book.

5.3 Recommendations

5.3.1 Policy recommendations

The results of this study have important implication for government and financial sector governing institutions. Considering the potential detrimental effects of a huge nonperforming loan portfolio every financial institution should be wary of the "too big to fail attitude" and adapt the use of CRB as a pre-requisite to lending. The law of Kenya only made it mandatory for all commercial banks to comply with Credit Reference Regulations (2007).

The Government of Kenya also through the central bank of Kenya (CBK) needs to publicize the customer-information sharing regulations and create awareness for the same so that lenders can submit customer information of their clients to the credit bureaus. Also noted of concern is that all lenders should have an automated system to transmit all their customers information to the CRB's.

The commercial banks in Kenya currently only use CRBs for credit information purposes and a source of credit reference. Policy makers ought to widely research on the potential advantages that may accrue to our economy through intent use of CRBs.

In the developed nations the CRB is used to provide extra services such as risk pricing services, advisory services and asset pricing. This smoothens operational and credit risks and the outsourcing of these services by commercial banks to CRBs will improve their lending capabilities and hence generate higher interest income.

5.3.2 Managerial recommendations

Based on the findings, the study recommends that customers should be educated through KCISI initiative on how to maintain a solid credit score. This is because many households have suffered the effects of over-indebtedness which lead to low credit scores. This will enable them to maintain a healthy credit balance relative to their credit limit.

Customers have not fully reaped the fruits of CIS. Even those with high credit scores are still being subjected to the similar interest rates with defaulters. The study therefore recommends that customers be classified and the cost of loans to be entirely based on the customer credit score.

The study also recommends that an open system needs to be enhanced to allow financial institutions as well as non-bank entities—retailers, telecom and utility companies—access to this information so as to know which clients to serve and what differential price to charge to cover the risks. To ease customer information sharing, it should be accessible easily and at no cost.

The Central Bank of Kenya in February 2014 required that commercial banks and microfinance to share full filed information. This study recommends that other institutions offering other forms of credit such as trade credit to share information with Credit Reference Bureaus to enrich the

database and to give a complete overview of borrowing entities in the view of diminishing information asymmetry in the Kenyan credit market.

5.4 Recommendation for further research.

This research was limited to the credit information, customer information sharing and the performance of selected commercial banks in Kenya. I therefore recommend that scholars to research on the effectiveness of CRB bureaus since they have been entrusted with the responsibility of disseminating information to lenders.

The study was limited to a short time period of only 5 years to analyse the effect of credit information sharing on the performance of commercial banks in Kenya. It therefore recommends further research to be done at a future period to fortify and supplement the findings of this research.

Future researchers can use more variables and employ primary data to obtain first-hand information from the financial institutions. The CRBs have been in operation only for five years. A future research can be done to determine the long term impact of CRBs. The findings indicate that the model was more ideal in the locally established banks. Future research can also be conducted to see how the CRB has influenced the improvement of performing loans among the SACCOs as well as finding out the CRB effects on the performance of Deposit-Taking Microfinance (DTMs) in Kenya.

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APPENDIX I : LIST OF COMMERCIAL BANKS OPERATING KENYA

1. African Banking Corporation, Nairobi
2. Bank of Africa Kenya, Nairobi
3. Bank of Baroda, Nairobi
4. Bank of India, Nairobi (foreign owned)
5. Barclays Bank of Kenya, Nairobi (listed on NSE)
6. CFC Stanbic Bank, Nairobi (listed on NSE)
7. Chase Bank Ltd, Nairobi
8. Citibank, Nairobi (foreign owned)
9. City Finance Bank, Nairobi
10. Co-operative Bank of Kenya, Nairobi
11. Commercial Bank of Africa, Nairobi
12. Consolidated Bank of Kenya Ltd, Nairobi
13. Credit Bank Ltd, Nairobi
14. Development Bank of Kenya, Nairobi
15. Diamond Trust Bank, Nairobi 61
16. Dubai Bank Kenya Ltd, Nairobi
17. Equatorial Commercial Bank Ltd, Nairobi
18. Equity Bank, Nairobi
19. Family Bank, Nairobi
20. Fidelity (Commercial) Bank Ltd, Nairobi
21. Fina Bank Ltd, Nairobi
22. First Community Bank Ltd, Nairobi
23. Giro Commercial Bank Ltd, Nairobi
24. Guardian Bank, Nairobi
25. Gulf African Bank Ltd, Nairobi
26. Habib Bank A.G. Zurich, Nairobi (foreign owned)
27. Habib Bank Ltd, Nairobi (foreign owned)
28. Housing Finance Co. Ltd, Nairobi (gov) (listed on NSE)
29. Imperial Bank, Nairobi

30. I&M Bank Ltd (former Investment & Mortgages Bank Ltd), Nairobi
31. K-Rep Bank Ltd, Nairobi
32. Kenya Commercial Bank Ltd, Nairobi (gov) (listed on NSE)
33. Middle East Bank, Nairobi 62
34. National Bank of Kenya, Nairobi (gov)
35. National Industrial Credit Bank Ltd (NIC Bank), Nairobi (listed on NSE)
36. Oriental Commercial Bank Ltd, Nairobi
37. Paramount Universal Bank Ltd, Nairobi
38. Prime Bank Ltd, Nairobi
39. Southern Credit Banking Corp. Ltd, Nairobi
40. Standard Chartered Bank , Nairobi (listed on NSE)
41. Trans-National Bank Ltd, Nairobi
42. UBA Kenya Bank Ltd., Nairobi
43. Victoria Commercial Bank Ltd, Nairobi
44. Jamii Bora Bank

Source: CBK, 2015

APPENDIX III: INTRODUCTION LETTER

INTRODUCTION LETTER



**KENYATTA UNIVERSITY
GRADUATE SCHOOL**

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Tel. 8710901 Ext: 57330

Our Ref: D53/KER/PT/27476/2013 DATE: 3rd August 2016

Director General,
National Commission for Science, Technology
& Innovation
P.O. Box 36023-00100,
NAIROBI

Dear Sir/Madam,

**RE: RESEARCH AUTHORIZATION FOR ANNAH MORAA KINANGA- REG. NO.
D53/KER/PT/27476/2013**

I write to introduce Ms. Annah Moraa Kinanga who is a Postgraduate Student of this University. She is registered for M.B.A degree programme in the Department of Accounting & Finance.

Ms. Kinanga intends to conduct research for an M.B.A Proposal entitled, "Customer Information Sharing and the Performance of Selected Commercial Banks in Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,



MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

00/000

APPENDIX IV: RESEARCH AUTHORIZATION FROM NACOSTI

RESEARCH AUTHORIZATION FROM NACOSTI



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
when replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No: **NACOSTI/P/16/75829/13237**

Date: **31st August, 2016**

Annah Moraa Kinanga
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Customer information sharing and the performance of selected commercial banks in Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Kericho County** for the period ending **29th August, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Kericho County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


**BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Kericho County.

The County Director of Education
Kericho County.

APPENDIX V: RESEARCH PERMIT

RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. ANNAH MORAA KINANGA
of KENYATTA UNIVERSITY, 703-20200
KERICHO,has been permitted to conduct
research in Kericho County

on the topic: CUSTOMER INFORMATION
SHARING AND THE PERFORMANCE OF
SELECTED COMMERCIAL BANKS IN
KENYA

for the period ending:
29th August,2017

Permit No : NACOSTI/P/16/75829/13237
Date Of Issue : 31st August,2016
Fee Received :ksh 1000



Applicant's
Signature

Director General
National Commission for Science,
Technology & Innovation