Impact of Credit Reference Bureaus on Credit Risk Management among Selected Commercial Banks in Nairobi, Kenya

BY
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UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

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IMPACT OF CREDIT REFERENCE BUREAUS ON CREDIT RISK MANAGEMENT AMONG SELECTED COMMERCIAL BANKS IN NAIROBI, KENYA

BY
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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SPRING 2016
STUDENT’S DECLARATION

I the undersigned do declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University - Africa for academic credit.

Signed: ___________________________  Date: ___________________________

Elvis Odhiambo Okiya (ID: 644380)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________  Date: ___________________________

Mr. Kepha N. M. Oyaro

Signed: ___________________________  Date: ___________________________

Dean, Chandaria School of Business
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ABSTRACT

In Kenya, the use of Credit Reference Bureaus to mitigate credit risk is a novel concept barely ten years of age. The purpose of this study was thus to assess the impact of Credit Reference Bureaus on Credit Risk Management among selected commercial banks in Nairobi, Kenya. Specifically, the study sought to examine the following research objectives: The impact of Credit Information Sharing, the impact of Credit Reference Bureau Procedures and the impact of Credit Reference Bureau Policies on Credit Risk Management among selected commercial banks in Nairobi.

The study used descriptive survey design while the population of interest consisted of 46 commercial banks operating in Nairobi out of which only 31 banks (tiers I and II) were selected purposively. Primary data was collected by self-administering close-ended questionnaires, following a five point likert scale, to the respondents through drop and pick method. Responses to the questionnaires were analysed, processed and tabulated by use of a computer Statistical Package for Social Science (SPSS) version 20.0 programme. The data collected was cleaned then coded and checked for any errors and omissions. Frequency tables and percentages were used to present the findings. A regression relationship was then generated to show the extent to which the dependent variable was affected by each of the independent variables.

The study found out that to a very great extent Credit Information Sharing affected credit risk management in the commercial banks and that Credit reference bureaus compiled credit information, public record data and identity, made them available to the bank in the form of a credit report of individuals and organizations. When banks evaluated a request for credit, they either collected information on the applicant first-hand or sourced this information from other lenders who had already dealt with the applicant and these information sharing mechanisms reduced adverse selection by improving the pool of borrowers.

The study also revealed that to a great extent Credit Reference Bureau Procedures affected Credit Risk Management in the commercial banks and that upon the request of a user, credit reference bureaus provided credit reports that contained particular individuals’ credit history. Credit bureaus collect, organize and consolidate information from many lenders, who
associate with the bureau by providing access to their databases. Finally, the study also found out that CRB Policies to a great extent have an impact on Credit Risk Management and that the objectives of CRBs can only be achieved by implementing effective policies which assist in both objective and subjective decision making.

The study concluded that CRBs allowed commercial banks to better distinguish the credit worth of their customers and mitigate their credit risk. CRB reports had a significant effect on non-performing loans, good borrowers also benefited from lower interest rates, as lenders competed for their business. The study also concluded that CRBs have played a significant role in as far as risk identification and monitoring is concerned and prudential regulation and effective management of the standard credit reference bureau would lead to more robust credit policy enforcement.

The study recommended that the government should ensure mandatory compliance to settlement of debts as constitutionally required of the integrity section of the Kenyan law through licensing more bureaus to increase the availability of information among the banks and that the government and the lending institutions should educate the borrowers on the importance of credit bureaus such as the reduction of the price of borrowing and as regards the regulations.
ACKNOWLEDGEMENT

I would like to acknowledge my supervisor Kepha Oyaro for the guidance and wise counsel during the development of this thesis. I would also like to acknowledge my Business Research Methods instructor Dr. George K’Aol for the deep knowledge he imparted in me during the development of my research proposal. I also acknowledge the respondents for taking time out of their busy schedules to fill out the questionnaires. Finally, I acknowledge friends and family for their support, time and understanding.
DEDICATION

I dedicate this project to my friends and family as well as future researchers who are more than welcome to build on what I have put together.
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<td>SPSS</td>
<td>Statistical Package for Social Science</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Banks are profit making organizations, and their performance can be defined by a host of financial indicators including the price to earnings ratios, the firm’s stock beta and alpha, and Tobin’s ratios among other entities. The performance of the banks is critical to their survival. Competition within the banking sector has seen most of these institutions adopt performance management tools that will enable them manage their performance. Financial performance ensures that a bank is in a position to compete favourably with others in the industry and with other banks. Consequently, most banks that record favourable financial performance dominate markets in most regions (De Haas, 2009).

According to Alloys (2013) commercial banks are faced with credit risk as one of the major risks of lending and one of the factors that affect their financial performance. Credit risk is the uncertainty associated with the borrowers’ repayment of credit facilities from commercial banks (Okwoma, 2012). Credit risk is further defined as the risk that the borrowers of credit facilities are unable to pay or risk delayed payments. Poorly managed credit risk leads to Non-Performing Loans (NPLs). The NPLs (loans on which a borrower has failed to pay the interest and/or principal on the due date for over three months (International Monetary Fund [IMF], 2009)) pose a threat to the financial profitability of an institution and can lead to collapse of commercial banks. This is due to the fact that lending is the principle activity of commercial banks and the loan portfolio is the largest asset and the predominant source of revenue for the lending institutions (Gitahi, 2013).

It is because of this dire need to protect the banks’ prime assets and main source of revenue that the idea of Credit Reference Bureaus was conceived. A Credit Reference Bureau is defined as a legal entity established as a company that allows financial institutions to exchange information on their clients’ repayment history and debt profiles and which compiles a database that collects, stores, consolidates and processes information related to persons, companies and enterprises (Financial Sector Deepening [FSD] Kenya, 2012).
Credit Bureaus (CBs) are information brokers. They may be set up by lenders and operated by them or they may be for-profit institutions that provide detailed data. In some cases, mostly in continental Europe and in Latin America, the central bank or another regulatory agency creates a compulsory mechanism of public credit registrars or risk centrals that usually provide aggregated data on major business borrowers (Gitahi, 2013).

In all economies, developing and developed ones, the ease of access to credit is a very imperative factor in accelerating investments, job creation, transforming small businesses into strong enterprises. For example, despite the United Kingdom having one of the best banking and financial systems in the world, successive governments have made this possible by working closely with lenders and consumer advisers. This has resulted in a system that gives consumers access to credit at any time of day or night, every day of the year. Consumers can apply for credit over the phone or on the internet and get a decision almost instantly (Merton & Polly, 2008). However, the role of an MFI credit data bank that could be shared within the industry is not available hence creating long procedures that need the CBs to seek information from the players in this field. Also, the lack of micro finance industry regulatory body where control can be centralized is missing and hence a problem when it comes to credit access.

Merton and Polly (2008) further observed that Credit bureaus have long existed and are considered an integral part of the credit approval processes in a majority of developed economies such as those in North and South America, Australia, Europe and Asia. Countries like New Zealand and Hong Kong have adopted credit bureaus since the 1980s while bureaus in the United States of America go back to the 1960s.

The early CRB entities in the USA often specialized on the credit information of the local business people. The high mobility of the entrepreneurs forced the creation of National Association of Mercantile Agencies (NAMA) in 1906 to process the credit information between different CRBs and in diverse geographical entities (Omari, 2012). Other countries in the developed world that were among the earliest to embrace CRB entities include Germany (1934), France (1946) and Italy, Spain and Belgium by mid 1960s (Njugiri, 2012).
In Africa, the West African countries particularly the French colonies were the earliest adopters of the CRB system (Alloyo, 2013).

Traditionally, in many African countries, access to credit was mainly the reserve of corporate bodies, leaving out individuals and small enterprises even though they constituted a huge mass of consumers and whose micro-investments could have a great bearing on the whole economy (FSD Kenya, 2008). Thus, in Africa, CB’s were introduced in countries like Egypt, Nigeria and Libya among others to enable individuals and small enterprises to get credit facilities in banks. In East Africa, a Credit Reference Bureau (CRB) managed by Compuscan was introduced and launched in Uganda on 3rd December 2008 with an aim of availing information about borrowers to lenders. Compuscan collected information on individuals and business from various sources including financial institutions, non-bank lenders, telecoms, courts and many others (Merton & Polly, 2008). The information was then merged and analyzed to form a comprehensive credit history record for each borrower and was sold to lenders and other companies in the form of credit reports and other formats (FSD Kenya, 2008).

In Kenya too, access to credit had in the past been complicated due to stringent conditions imposed by commercial banks. In order to make banks more confident, and reward good borrowers, the Credit Information Sharing mechanism was launched in Kenya following the gazetting of the Banking (Credit Reference Bureau) Regulations 2008 on 11th July 2010 (Ndung’u, 2009). The Regulations were issued pursuant to an amendment to the Banking Act passed in 2006 that made it mandatory for the Deposit Protection Fund and institutions licensed under the Banking Act to share information on Non-Performing Loans through credit reference bureaus licensed by the Central Bank of Kenya. In addition, the amendment to the law also provides for sharing of information on Performing Loans (FSD Kenya, 2008).

Currently three CRB’s have been licensed by the CBK, namely Credit info CRB Limited, CRB Africa Limited and Metropol CRB Limited. This was the culmination of many years of deliberations between the Kenya Bankers Association (KBA), the Central Bank of Kenya (CBK), the Ministry of Finance and the Office of the Attorney General aimed at finding an
amicable solution to various challenges that faced the lending environment in Kenya (Ndung’u, 2009).

Credit bureaus are supposed to act as social accountability mechanisms that guide people’s sense of right and wrong behaviour, work to reward good behaviour while punishing bad behaviour and protects against deliberate default (Pandey, 2010). The uptake of the CRB services has been on the rise in the Kenyan banking sector. For example, it is noted (Omari, 2012) that, by the end of the first quarter of 2011, the commercial banks had submitted over 760,000 records. On the other hand, it is indicated (Central Bank of Kenya [CBK], 2014) that, as at 31st December 2013, a total of 3.5 million and 55,094 credit reports had been requested by banks and customers respectively from two licensed CRBs since 2010. The amendments and examinations of the regulatory environment around the CRBs continue under the KCISI banner. This has led to the revised Credit Reference Bureau Regulations, 2013 which resulted in the incorporation of the Banking Act and the Microfinance Act to enable both the commercial banks and microfinance institutions to share the positive and negative credit information. This sharing of the positive and negative credit information is referred to as full file (Gichimu, 2013).

A key concern that was expressed about lending in Kenya prior to the introduction of the CBs was the ability of borrowers to take out loans at multiple institutions, sometimes even at the same institution across different branches, and declare different information about themselves allowing them to get credit easily, without fear of being declined and this had made Credit Risk Management (CRM) difficult (FSD Kenya, 2008). With the introduction and institution of a credit bureau at Diamond Trust Bank, they were able to reduce these exposures. The credit bureau would assist in highlighting risks, where other exposures are and how they were being managed by the borrowers concerned. They could also see how well or not these debts were being repaid and could use this information to make further quality decisions (Ndung’u, 2009).

Banks will always seek to maximize their risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters (Ndung’u, 2009). Credit risk is raised due to the
use of collateral substitutes, heavy sector and geographical loan concentration and the effect of defaults. For most banks, loans are the largest and most obvious source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet (Olweny & Sipho, 2011).

Banks are increasingly facing credit risk or counterparty risk in various financial instruments other than loans, including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions (Greuning & Bratanovic, 2009). This study thus sought to establish the impact that credit reference bureaus have had on credit risk management, since their introduction, among selected commercial banks in Nairobi, Kenya.

1.2 Statement of the Problem
The banking industry in Kenya has overtime grown its income, mainly from interest earned on loans granted. This interest income has been through the waves of highs and lows because of prevailing credit risk factors, the key threat being non-performing loans. In the past three decades there have been 3 financial crises and a total of 37 banks have collapsed under the weight of non-performing loans (Kalani & Waweru, 2009).

Ideally, commercial banks are expected to have in place mechanisms that will ensure that they only give credit to those who are able to repay loans through a credit scoring mechanism weather the loan is secured or not. The commercial banks are consequently expected to benefit from this practice on interests charged on the loans. Conversely, commercial banks are supposed to be giving out loans to the borrowers based on defined criterion that will secure the loans from the borrowers and also get to reward those have good repayment history (Osoro, Nyolei, Rotich & Odhiambo, 2015).

The presence of information asymmetry and isolated lending activities amongst banks prompted CBK to develop and enforce the introduction of CRB regulations (2008) as a means to curb NPLs through mandatory credit information sharing on customer’s credit
history and behaviour. The non-payment of loans is a universal problem that can be overcome by monitoring credit behaviour through CRBs. The bureaus determine the credit worthiness of a borrower and share the information to the lenders. They are useful in risk identification/monitoring, sharing information on borrowers who default so as to eliminate corrupt borrowers who take multiple loans with the intent to default. Positive information is also shared on credit worthy and honest customers.

A high proportion of the commercial banks’ credit risks stem from credit default risk leading to non-performing loans within lending institutions. A lack of accurate information sharing on the credit history and current financial ability of prospective borrowers makes it extremely difficult for lenders to correctly assess their credit worthiness and likelihood to repay their loans. Unquestionably credit information sharing plays a strategic role in improving the efficiency of financial institutions in addressing loan defaults Padilla and Pagano (2000).

Various researches have been carried out in this field, with most focusing on the impact of the credit reference bureaus on financial institutions in general. Mwiya (2006) assessed the credit default in the Zambian banking sector and the consequent need for Credit Reference Bureaus. Shisia, Marangu and Omwario (2014) assessed the contribution made by the 2008 CRB regulation on the mitigation of credit risks in the Kenyan Banking industry. Gaitho (2013) delved into the role the credit reference bureaus have played on the access of credit by individuals and institutions in Kenya, with emphasis on all commercial banks. From all the above works, only one by Shisia, et al. (2014) has focused on the impact of the credit reference bureaus on credit risk in banking in Kenya.

This study therefore builds on this work and aims to fill the knowledge gap by helping to determine the impact of the credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya. Moreover, past researches have also not shown the extent to which Credit Information Sharing, CRB Procedures and Policies have been effective in Credit Risk Management among these commercial banks. This coupled with the various highlights aforementioned in the background jagged the researcher to develop an interest in this particular research topic.
1.3 Purpose of the Study
The general purpose of the study is to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Kenya, with special focus on the commercial banks in Nairobi.

1.4 Research Questions
The study was guided by the following Research Questions
1.4.1 To determine the impact of Credit Information Sharing on Credit Risk Management among selected commercial banks in Nairobi, Kenya.
1.4.2 To evaluate the impact of Credit Reference Bureau Procedures on Credit Risk Management among selected commercial banks in Nairobi, Kenya.
1.4.3 To assess the impact of Credit Reference Bureau Policies on Credit Risk Management among selected commercial banks in Nairobi, Kenya.

1.5 Significance of the Study
The study will be of great importance to various stakeholders who comprise the following;

1.5.1 Management of Commercial Banks
Credit Reference Bureaus are recognized as a modern credit risk management tool because of their ability to integrate credit information, for purposes of complementing lending through records that forewarn banks against defaulting borrowers. Numerous risks and complexities associated with lending require adequate management, failure to which would lead to stunted operations, serious liquidity and profitability problems and absolute failure is severity. The findings of this study would be of importance to the management of commercial banks in Kenya as they would understand how Credit Reference Bureaus impacts on the credit risk management in their bank; this would enhance proper utilization of CRBs in order to reduce the credit risk in their banks.

1.5.2 Policy Makers
Since the inception of CRB Regulations (2008) prospective lenders access the information to determine the borrower’s creditworthiness. The findings of this study would provide policy
measures since it will enlighten policy makers on how credit reference bureaus have impacted on credit risk management among selected commercial banks in Kenya.

1.5.3 Researchers and Academicians
The findings of this study will open opportunities for further research because CRB operations are bound to grow from the current referencing to further include pricing and advisory services, just as developed nations have versatile use for their respective credit reference bureaus.

1.6 Scope of the Study
The study sought to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Kenya. The study aimed at finding out the extent to which Credit Information Sharing, Credit Reference Bureau Procedures and Credit Reference Bureau Policies affected credit risk management among these selected banks.

The study was conducted over a duration of 3 months and it delimited itself to 31 commercial banks in Nairobi. The respondents comprised senior employees of the selected commercial banks in their finance and credit departments. The researcher chose Nairobi because of its proximity to the researcher, time and budgetary constraints as well as the fact that all these commercial banks are headquartered in Nairobi hence the information collected from these banks would by and large be a representation of their branches countrywide.

1.7 Definition of Terms
1.7.1 Credit Reference Bureaus
Credit Reference Bureau: is a legal entity established as a company that allows financial institutions to exchange information on their clients’ repayment history and debt profile and which compiles a database that collects, stores, consolidates and processes information related to persons, companies and enterprises (FSD Kenya, 2012).

1.7.2 Credit
Credit: is the trust which allows one party to provide resources to another party where that second party does not reimburse the first party immediately (thereby generating a debt), but
instead arranges either to repay or return those resources (or other materials of equal value) at a later date. The resources provided may be financial (e.g. granting a loan), or they may consist of goods or services (e.g. consumer credit) (Gitahi, 2013).

1.7.3 CRB Policies
CRB Policies – Policies are plans of action agreed or chosen by an institution. For example some of the CRB policies include written statement of contract for insurance, asset holding, guarantor requirement, or bank statement (FSD Kenya, 2008).

1.7.4 CRB Procedures
CRB Procedures - Procedures are the correct, official or formal order of doing things in law and policies (FSD Kenya, 2008).

1.8 Chapter Summary
This chapter gives a general overview of the introduction of Credit Reference Bureaus and the importance to commercial banks. The background of the study and the research questions were clearly stated. The purpose was well defined as well as the scope of the study which was limited to 31 commercial banks operating in Nairobi city. The significance of the study was justified and the study will be useful to the banks, stakeholders and the future researchers.

The next chapter focused on literature review and basically entailed an in depth analysis of the research questions as outlined earlier and also involved a study of scholarly articles that have been conducted before on the research questions.
2.1 Introduction
This chapter covered the literature review of the existing research literature on the impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya. Specifically, the chapter discussed the impact of credit information sharing on credit risk management, the impact of credit reference bureau procedures on credit risk management, the impact of credit reference bureau policies on credit risk management and chapter summary.

2.2 Impact of Credit Information Sharing On Credit Risk Management
CRBs allow for credit information sharing among the financial institutions. Credit information sharing undoubtedly plays a pivotal role in reducing the information asymmetry that exists between banks and borrowers. The major benefit that the banks receive from CRBs is that they are able to get credit information on prospective borrowers that will facilitate assessment of credit requests to mitigate risks of bad debts (CBK, 2014). On the side of the borrower, a good credit record acts as an incentive for competitive pricing of loan facilities. In a nutshell, credit information sharing rewards and promotes good credit track record. Further, credit information sharing facilitates reduction in the cost of credit and appropriately analysing and pricing risks.

Lack of credit information has in the past led to banks factoring a risk premium in the pricing of credit. However, credit information is not the only factor that contributes to high cost of borrowing; there are other structural rigidities that contribute to this high cost of credit. The government must work closely with the bank to alleviate these barriers to make credit affordable (CBK, 2010).

2.2.1 Credit Information Sharing
According to Osoro et al (2015) many borrowers make a lot of effort to repay their loans, but do not get rewarded for it because this good repayment history is not available to the bank
that they approach for new loans. On the other hand, whenever borrowers fail to repay their loans banks are forced to pass on the cost of defaults to other customers through increased interest rates and other fees. Put simply, good borrowers are paying for the bad borrowers and this is making new borrowers more and more hesitant to borrow credit. Osoro et al further adds that in the past, banking in Kenya had clauses that protected the customer, because the banks were not allowed to share customer banking details. There were customer confidentiality clauses binding the banks from sharing information about customers. This made the sharing of important information like the bad debtors illegal. The sharing of customer information has now been allowed, showing the importance of credit reference bureaus (Larcker, 2005). It is now mandatory for banks to give a listing of all their bad debtors’ information to the Kenya credit reference bureaus. The information collected from all financial institution is collated and is useful especially for credit facilities.

According to FSD Trust Kenya (2012), a credit reference bureau is an organization that compiles credit information, public record data, and identity information, and makes them available to lenders in the form of a credit report of individuals and organizations.

Since the commencement of the Credit Information Sharing (CIS) mechanism in July 2010, all the licensed commercial banks in Kenya and institutions under the Deposit Protection Fund Board had continued to submit negative credit information of their customers to the licensed CRBs within the required timeframes. Furthermore, since the inception of Kenya Credit Information Sharing Initiative (KCISI), all the lenders who had subscribed to the credit reference bureau were all providing negative credit information about their borrowers, reporting cases of non-performing loans. However, in November 2012 the CBK revised the Banking (Credit Reference Bureau) Regulations under the Banking Act and the Microfinance Act. These new regulations require banks to share full-file credit information, both negative and positive credit information, (CBK, 2013).

The CBK has since inception licensed Credit info CRB, CRB Africa and Metropol East Africa as credit information service providers. The Credit Reference Bureau Act was enacted to enable financial institutions to share credit information and build information that will
enable them adequately price their loans. They were also enacted to enable financial institutions to enhance access to credit by the lower tier clientele base and indirectly reduce the cost of doing business (Houston, Lin C., Lin P. & Ma, 2010).

When a bank evaluates a request for credit, it can either collect information on the applicant first-hand or source this information from other lenders who have already dealt with the applicant. Information exchange between lenders can occur voluntarily via “private credit bureaus” or be enforced by regulation via “public credit registries,” and is arguably an important determinant of credit market performance (Gallindo & Miller, 2011).

Houston et al. (2010) argues that information sharing mechanisms reduces adverse selection by improving the pool of borrowers and the knowledge of the applicants’ characteristics therefore improving bank efficiency in the allocation of credit. Based on some case studies, Olweny and Shipho (2011) found out that CIS plays a key role in improving the efficiency of financial institutions by reducing loan processing costs as well as time required to process loan applications.

Lin, Ma and Song (2012) observed that information sharing institutions; through their incentive effects on curtailing imprudent behavior of borrowers are also valuable in addressing moral hazard problems. Besides that, information sharing helps to reduce average interest rates and information rent that banks can otherwise extract from their clients, reduce or even eliminate the information advantage of larger size banks and therefore should enhance credit market competition (Kusa & Okoth, 2013). It is therefore envisioned that credit information sharing will continue to be instrumental in the decision making process of credit providers in Kenya as they seek to mitigate risks associated with information asymmetry and enable access to credit by the wider population (Otwor, 2013).

To minimize risks, it is necessary for the financial system to adopt sharing of information about borrowers (Sandstorm, 2009)
2.2.2 Cost of Credit

Kenyans, particularly those in the informal and small and medium enterprises have faced challenges in obtaining credit over the years (Were & Wambua, 2013). This has in part been attributable to lack of physical collateral that banks have requested for to guarantee loans. The information to be collected by bureaus will in this regard act as “information capital” for these market niches (Pagano & Japelli, 2013). This will over time, change the demands for physical collateral and enhance the bank/client or lender/borrower relationship. Access to credit will therefore be considerably enhanced with the attended positive impact on the economy (Padilla & Pagano, 2009).

Bank credit is among the most useful sources of finance for business in Kenya, the provision of credit has increasingly been regarded as an important tool for raising the incomes, mainly by mobilizing resources to more productive uses (Ngugi, 2012). As development takes place, one question that arises is the extent to which credit can be offered by commercial banks. Although Commercial banks have a primary role of providing credit, there is historical evidence of credit rationing even to creditworthy borrowers by commercial banks all over the world. Only 1.5 per cent of Small and Medium Enterprises (SMEs) receive loans from commercial banks in Kenya according to International Centre for Economic Growth. It is unclear, how the rest, who form the majority, meet their working and investment needs (Kimuyu & Omiti, 2000).

Commercial banks are the most dominant of financial institutions and function as financial intermediaries to fulfil a number of important roles. One of the functions is the brokerage role whereby through this role they tend to reduce cost to all the parties involved (Ngugi, 2012). They also undertake funds transformation role by attracting funds from government, businesses and repackaging them as financial products such as loans to suit the needs of different borrowers (Marwan, 2008). They also lend to large numbers of other intermediaries and clients, banks are thus made able to create sophisticated port of diversity, which reduce risks to the banks and their clients. In assessing cost of credit, banks charge a price for the intermediation services offered under uncertainty and set the interest rate levels for deposits and loans. The disparity between the gross costs of borrowing and the net return on lending
defines the intermediary costs which include information costs, transaction costs, administration, default and operational costs (Ngugi, 2011).

2.2.3 Credit Information Sharing and Credit Risk Management

Pagano and Japelli, (2013) argued that in lending, the problem of asymmetric information stems from the fact that a lender’s knowledge of a borrower’s likelihood to repay (their ‘risk profile’) is imprecise and must be inferred based upon available information. The lender cannot solely rely on information provided by the applicant but must verify this information. Pagano and Japelli further argued that CIS reduces adverse selection by improving bank’s information on credit applicants. The adverse selection problem occurs due to the fact that commercial banks have access to information of their customers who need to access credit facilities but lack similar information on other lending institutions (Njungiri, 2012). This results to information asymmetry that disadvantages the good borrowers and increases the cost of credit facilities (Otwori, 2013). The lending institutions in the context of asymmetrical information settings are forced to price their credit facilities in terms of the interest rates in a manner that is reflective of the borrowers’ pooled (Wandera & Kipyego, 2013).

Padilla and Pagano (2007) found that CIS can also mitigate hold-up problems in lending relationships by eliciting more competition for borrowers thereby reducing the informational rents that banks can extract. The reduced hold-up problems can elicit higher effort by borrowers and thereby make banks willing to lower lending rates and extend more credit.

In a theoretical model of information sharing, Miller (2003) contends that exchange of information on borrower type reduces average interest rates. In a related paper, Powell (2014) agrees that information sharing among borrowers would lead to lower interest rates because when information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance and allows lenders to offer lower rates to less-risky borrowers who would not have borrowed otherwise.

Giesecke (2014) defines credit risk as the distribution of financial losses due to unexpected changes in the credit quality of counterparty in a financial agreement. Saunders (2012)
further adds that credit risk is the risk that the promised cash flows from loans and securities held by a financial institution may not be paid in full. This means that borrowers may default in interest and principal payment, hence causing financial loss to the financial institutions.

According to Petersen, (2014), the data needed to screen credit applications and to monitor borrowers are not freely available to banks. When a bank does not have such information, it faces “adverse selection” and “moral hazard” problems in its lending activity. Adverse selection arises when some information about the borrowers’ characteristics remain hidden to the lender (hidden information), and can lead to an inefficient allocation of credit. Moral hazard arises instead from the lender’s inability to observe borrower’s actions that affect the probability of repayment. The lender has no way of monitoring the usage of the loan to ensure that it is being used in manner that doesn’t compromise the ability to repay the loan (Alloyo, 2013). This creates the danger of opportunistic behaviour or moral hazard by the borrower and informational disadvantage by the bank leading to inefficient allocation of credit.

Hogen (2011) suggests that Mitigation of credit risks is the core business in the banking business. According to Deborah (2013) there is the need to have appropriate risks management mitigation strategy in order to reduce risk of loan default because a financial institutions’ viability is weakened by the loss of principal and interest. Gitahi (2013) adds that if mitigation of credit risk is not addressed, the institution will incur financial losses, incur costs taken to recover the capital at risk and fail in its social role of providing loans to members of society to improve their living standards.

Banks have their own methods of mitigating credit risks. According to Brigo and Masetti, (2005), banks generally charge a higher interest rate to borrowers who are more likely to default, a practice they call risk-based pricing. This is because they consider factors relating to the loan such as loan purpose, credit rating, and loan-to-value ratio. Banks may also write stipulations on the borrower, called loan covenants, which are included in the loan agreements.
According to Cornett (2012), such covenants include requirements for borrowers to periodically report their financial conditions, refrain from paying dividends, repurchasing shares, borrowing further, or other specific, voluntary actions that negatively affect the company's financial position or may require the lender to repay the loan in full, at the lender's request, especially in certain events such as changes in the borrower's debt-to-equity ratio or interest coverage ratio (Mwirigi, 2006).

Cornett (2012) further adds that lenders and bond holders may hedge their credit risk by purchasing credit insurance or credit derivatives. These contracts transfer the risk from the lender to the seller (insurer) in exchange for payment. Lenders can also reduce credit risk by reducing the amount of credit extended, either in total or to certain borrowers.

2.3 Impact of Credit Reference Bureau Procedures on Credit Risk Management

Procedures are plans that establish a required method of handling future activities (Weihrich, Cannice & Koontz, 2008). They are a chronological sequence of required actions that Credit Reference Bureaus must necessarily undertake a lot of actions to achieve their stated objectives. Credit reference bureaus complement the central role played by banks and other financial institutions in extending financial services within an economy. CRBs help lenders make faster and more accurate credit decisions. They collect, manage and disseminate customer information to lenders within a provided regulatory framework in Kenya, the Banking Credit Reference Bureau Regulations, (2008), which was operationalized effective 2nd February 2009.

The CRBs are therefore a reality and their operations must be based on clearly stated procedures (Sonja, 2009). Procedures are guides to action, rather than to thinking, and they detail the exact manner in which certain activities must be accomplished. Procedures often cut across departmental lines. For example, in a manufacturing company, the procedure or handing orders may involve the sale department (for the original order), the finance department (for acknowledgement or receipt of funds and for customers’ credit approval), the production department (for order to produce the goods or the authority to release them from
stock) and the shipping department (for determination of shipping means and route), Hammer and Champy, (2009).

A few examples illustrate the relationship between procedures and policies. Company policy may grant employees vocations; procedures established to implement this policy will provide for scheduling vocations to avoid disruption of work, setting rates of vocation pay and methods for calculating them, maintaining records to ensure each employee on a vocation and spelling out the means for applying for leave (Weihrich et al, 2008). Procedures relating to the operations of the credit reference bureaus are clearly laid out in the Banking Credit Reference Bureau (CRB) Regulations, (2008).

2.3.1 The Functions of a Credit Reference Bureau

The basic function of a credit bureau is to enable banks share information about borrowers for business decision making i.e. credit granting decisions. The bureaus also keep a credit history record of the borrower and can even assign a score related to the credit history. Good credit scores can ease access to more credit which could be an opportunity for SMEs to access credit without the restrictive collateral requirements (Hahm & Lee, 2008). Thus the main functions of the credit reference bureaus and public registries of credit information are:

**Coordination of lenders;** Coordination among lenders to share information about their clients’ past behavior alleviates asymmetric information problems. This is the function of credit bureaus and public registries of credit information. These institutions provide references about the past payment behavior of individual borrowers; they gather, organize and consolidate information from many lenders, who become associates and users of the bureau by providing information to such aggregate databases. Then, at the request of a user, bureaus provide credit reports that contain particular individuals’ credit history. The database of the sharing mechanism is the sum of all associates databases. Hence, access to such a database mitigates the adverse selection problem. Also, as borrowers realize that there is an institution monitoring their behavior, they have an incentive to pay back their loans, mitigating moral hazard (Padilla & Pagano, 2007). Consequently, information sharing results in lower outstanding payments, lower interest rates, and a better allocation of resources.
**Credit Information Sharing Mechanisms** Credit information sharing institutions provide information on the past payment behavior of individual borrowers. They also collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases. Such information is updated frequently, usually every month. Then, at the request of a user, bureaus provide credit reports that contain particular individuals’ credit history (Hahm & Lee, 2008).

The databases of bureaus are the sum of all the associate databases. Consequently, access to such an aggregated database mitigates the adverse selection problem. Also, as borrowers realize that there is an institution that monitors their behavior, they have an incentive to pay back loans, thus reducing moral hazard (Padilla & Pagano, 2007). Essentially, the information sharing mechanisms allow the formation of borrowers’ reputation. We could conceptualize bureaus as information brokers because they create a market for such information. Credit bureaus are needed mainly because of moral hazard from borrowers and from bureaus’ potential associates. On the one hand, if there were a reliable way for borrowers to provide their full past records to potential lenders, credit bureaus would be unnecessary (Hahm & Lee, 2008).

However, that is not the case: potential borrowers would only show lenders the information that is convenient for them. On the other hand, it is unlikely that lenders would exchange information bilaterally between them because they may feel threatened by their competitors. That is, third-party bureaus can solve the neutrality problem in bilateral agreements. Bureaus are not just neutral to any associate, but they must have the capacity to coerce its associates to report their information truthfully, completely and timely (Padilla & Pagano, 2007).

There is an additional reason for the existence of information sharing mechanisms. Bureaus create a network of information where the database of an associate can be accessed by all other associates. That is, associates’ databases complement each other; hence, lenders become nodes in a network. Therefore, even if bilateral agreements were feasible, it would be inefficient to set multiple bilateral agreements at the expense of the network economies that characterize this industry (Hahm & Lee, 2008). Such economies provide positive
externalities to all bureau subscribers. Obviously, the more extensive the network, the greater the positive externalities generated. The positive externalities are related to an important peculiarity of credit information: it is an excludable public good in the sense that it is non-rival. That is, the fact that a lender knows information about a certain client does not preclude the use of the same information by other lenders (Aduda, Magutu & Githinji, 2012).

By reducing informational problems and imposing discipline on borrowers, information sharing generates social benefits like interest rates reduction, credit expansion and better credit allocation (Pagano & Japelli, 2013). However, these benefits are not distributed evenly across groups. Sharing information benefits good payers and those individuals who apply for credit for the first time, while high-risk clients are negatively affected (Agenor, 2010).

### 2.3.2 The objectives of Credit Reference Bureaus

The objectives of CRB’s are: to collect information on clients’ borrowing status and history from a range of credit sources and prepare credit reports, reduce information differences between borrowers and lenders through a system that enables information sharing among participating institutions, provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers, reduce over-indebtedness and risky multiple borrowing that often result in loan default and lastly to increase the number of borrowers as more people become eligible for financial services (Aggarwal & Mittal, 2012).

With the absence of the Credit Reference Bureaus, financial institutions find it hard to check and share information on the credit risk of borrowers, they find themselves exposed to high credit risk on account of inadequate information on borrowers’ creditworthiness (Agenor, 2010). Borrowers can take out loans at multiple institutions, sometimes even at the same institution across different branches, and declare different information about themselves allowing them to get credit easily, without fear of being declined.

However, safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing (Sonja, 2009). According to its commercial bank examination manual, the U.S. Federal system cited incomplete credit information as one of the signs of a distorted credit culture. It states that complete credit information is the
only reasonably accurate method of determining a borrower’s financial capacity. The existence of such credit information as a basis for extending credit should be made clear in the bank’s credit files, and should include adequate financial statements (Aggarwal & Mittal, 2012).

2.3.3 Credit Reference Bureau Procedures and Credit Risk Management
Credit risk is the most common cause of a bank’s failure, causing virtually all regulatory environments to prescribe minimum standards for credit risk management. The financial information relating to a borrower is so crucial to a successful credit risk management of any commercial bank. The lack of complete and reliable financial information about a borrower increases the credit risk of the lender. But when the lender obtains credit information from a reliable source in a timely manner, it reduces the credit risk the bank would have been exposed to in absence of that information (Atieno, 2011).

According to Greuning and Bratanovic (2009), the safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing. This means the credit risk increases whenever there is any inadequacy as regards the credit information on borrowers. In the absence of sufficient credit information on borrowers, banks resort to delaying loan processes, increasing borrowing rates in order to compensate for the poor payment behavior of a few borrowers, asking collateral with high value, granting short term loans, refusing to grant some loans among others (Gallindo & Miller, 2011).

With availability of Credit reference bureaus, borrowing becomes easier as borrowers with a good loan record may not always be required to provide big securities like land titles to get a loan. Not only that, even loan providers will know more about borrowers and may offer lower interest rates or even larger loans. Still it quickens the process of granting loans, reduced borrowing rates and long term loans. It reduces the volume of non-performing loans, and reduces default rates. All this facilitates increased loan volume which increases the profitability of the bank. Credit Reference Agency UK, (Gallindo & Miller, 2011).
2.4 Impact of Credit Reference Bureau Policies on Credit Risk Management

CRB is a company that collects information from various sources and provides consumer credit information on individual consumers for a variety of uses. It is an organization providing detailed information on a person’s credit history, including information on their identity, credit accounts and loans, bankruptcies and late payments and recent inquiries (Gallindo & Miller, 2011). Other information shared includes: proven frauds and forgeries; cheque kiting; false declarations and statements; receiverships, bankruptcies and liquidations; credit default and late payments; use of false securities; and misapplication of borrowed funds.

The borrowers could be individuals, businesses, companies, sole proprietors and Government entities. This helps lenders assess credit worthiness, the ability to pay back a loan, and can affect the interest rate and other terms of a loan. Prospective lenders access the information only when they have permissible reason as defined in law, to determine the borrower’s creditworthiness (Sullivan & Sheffrin, 2003).

The individual information collected by CRBs is made available on request to customers of the credit bureau for the purposes of credit risk assessment, credit scoring or for other purposes such as employment consideration or leasing an apartment (Lin et al., 2012).

In a nutshell, CRBs play three roles: first, they enable lenders to lend to more and better risk clients (avoiding dead beats) and to determine better (and lower) the bad loan spread that they need to cover expected losses of credit to good payers. Second, credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers. Those lower costs for good credit risks motivate those borrowers to be more careful with repayment. Third, credit bureaus reduce moral hazard by developing a credit culture where they operate as borrowers become aware that credit market becomes aware of their credit history and rewards or punishes them accordingly (Sullivan & Sheffrin, 2003).

2.4.1 Credit Reference Bureau Policies

A policy is a deliberate system of principles to guide decision and achieve rational outcomes. A policy is a statement of intent and is implemented as a procedure or protocol (Gerald &
All organizations require policies that can guide or channelize thinking in decision making (Weihrich et al., 2008). CRBs, which are legal entities established as companies that allow financial institutions to exchange information on their clients’ repayment history and debt profile, require effective and solid policy framework so that they can operate effectively and efficiently (Rosemary, Barako & Bokea, 2010).

Policies are generally adopted by the board of or senior governance body within an organization whereas procedures or protocols would be developed and adopted by senior executive officers. Policies can assist in both objective and subjective decision making (Howard, 2015). Policies to assist in subjective decision making would usually assist senior management with decisions that must consider relative merit of a number of factors before making decisions and as a result are often hard to objectively test e.g. work life balance policy. In contrast polices to assist in objective decision making usually operational in nature and can be objectively tested e.g. password policy (Nakomura, 2008).

Establishing the credit worthiness of a client by credit reference bureaus is a complicated process that will entail both subjective and objective decisions (Kipyegon, 2011). This will be assisted by an effective policy framework that defines an area within which a decision is to be made and ensures that the decision will be consistent with and contributes to an before they become problems, make it unnecessary to analyze the same situation every time it comes up and nullify other plans, thus permitting managers to delegate authority and still maintain control over other subordinates (Nyangweso, 2013).

There are many types of policies examples that can be adopted by credit reference bureaus include living only university trained workers, encouraging employee suggestions for improved cooperation, encouraging best practices in customer service, promoting from within, conforming strictly to a high standard of business ethics, setting competitive prices (Weihrich et al., 2008), with such policies CRBs are able to achieve their set objective area of which is to facilitate the access to credit of as many persons as possible.

The term policy may apply to government, private sector organizations and groups, as well as individuals. Corporate privacy policies and parliamentary rules of order are all examples of
policies. Policies differ from rules or law, while laws can compel or prohibit behaviours (e.g. a law requiring the payment of taxes on income), a policy is merely likely to achieve a desired outcome (Plunkett, Attner & Allen, 2008). One very critical objective of CRBs is to reduce the credit risks that potential lenders are exposed to and this objective can only be achieved by implementing effective policies.

Policy or policy study may also refer to the process of making important organizational decisions, including the identification of different alternatives such as programs or spending priorities, and choosing among them on the basis of the impact they will have. Policies can be understood as political management, financial and administrative mechanism arranged to reach explicit goals. Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible (Dye, 2012).

2.4.2 The Role of Credit Scoring on Credit Risk Management

Banks face the credit risk due to the fact that they don’t have comprehensive borrower’s information from a historical perspective, the borrower’s characteristics and the intention of the borrower thus creating a moral hazard (Dankwah, 2012). The removal of the information asymmetry between commercial banks through the use of the Credit Reference Bureau (CRB) assists the bank to make better credit risk assessment of potential borrowers (Aucamp, 2010). It was noted that, information collected by the CRBs in a historical context had powerful default predictive power. The more information was included in the CRB report the better the default predictive models. It was indicated that, studies done in Brazil and Argentina further collaborates the fact that there is decreasing default rate based on comprehensive information in CRB (Alloyo, 2013).

CRBs prevent cases of serial defaulters. The serial defaulters move from different lenders due to the fact that they can’t access credit facilities with their current lenders (Gichimu, 2013). This has the effect of increasing the average risk of lending and the corresponding interest rates. This may also have the effect of providing the low risk customers with a higher interest rate that doesn’t reflect the low risk situation (Koitaba, 2013). One of the features that banks deliberate when deciding on a loan credit application is asserted to be the
estimated chances of recovery. To arrive at this, credit information is required on how well the applicant has honoured past loan obligations (Madise, 2011).

This credit information is important because there is usually a definite relationship between past and future performance in loan repayment. Very often, this history is not within the bank’s reach because the potential borrower’s repayment records are scattered in the various archives of the other financial institutions where the customer has previously borrowed (Migwi, 2013). Whenever a borrower has credit information that the lender cannot access, this is officially referred to as information asymmetry. It is also pointed out that, information exchange from multiple sources improves the precision of the signal about the quality of the credit seeker (Mwiya, 2010).

As a result, the default rate reduces. In contrast, the effect on lending is vague, because when banks exchange credit information about borrowers’ categories, the implied increase in lending to good borrowers may fail to compensate for the reduction in lending to risky borrowers (Ngugi, Ndwiga, Waithaka & Gakure, 2012). The removal of the information asymmetry between lenders also reduces the moral hazard risks in which the borrower under declares his outstanding liabilities with different lending institutions. This may lead to an inability to pay in case the customer over-commits himself. 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 increases banking competition, which in turn leads to increased lending (Madise, 2011).

Information sharing can also create incentives for borrowers to perform in line with banks’ interests. It is shown that, information sharing can motivate borrowers to pay their loans, when the legal atmosphere makes it difficult for banks to implement credit agreements. In this mode borrowers repay their loans because they know that defaulters are blacklisted, reducing external finance in the near future (Koitaba, 2013). The use of the CRB creates information collateral that can be used to borrow from commercial banks (Mwiya, 2010). Credit by the banking sector in Kenya has to a large extent been underwritten by physical collateral such as land and buildings and costs of evaluating that collateral (Dankwah, 2012).
Borrowers without access to such collateral have been constrained from accessing credit. Credit information sharing thus enables borrowers to build a track record (reputational capital) that they can use to access credit (Koitaba, 2013). This is especially pertinent to those borrowers in the informal and small and medium enterprises (SMEs) who have a track record and good performance to use their reputational capital to access credit (Dankwah, 2012).

2.4.3 Credit Reference Bureau Policies and Credit Risk Management

With the absence of a Credit Reference Bureau, financial institutions find it hard to check and share information on the credit risk of borrowers, they find themselves exposed to high credit risk on account of inadequate information on borrowers’ creditworthiness. Borrowers can take out loans at multiple institutions, sometimes even at the same institution across different branches, and declare different information about themselves allowing them to get credit easily, without fear of being declined. However, safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing (Sonja, 2009).

According to its commercial bank examination manual, the U.S. Federal system cited incomplete credit information as one of the signs of a distorted credit culture. It states that complete credit information is the only reasonably accurate method of determining a borrower’s financial capacity. The existence of such credit information as a basis for extending credit should be made clear in the bank’s credit files, and should include adequate financial statements (Nyangweso, 2013).

2.5 Chapter Summary

The chapter explored reviews of the literature by various writers on the research objectives. The main objective was to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya. Precisely literature review has covered the impact of credit information sharing on credit risk management, the impact of credit reference bureau procedures on credit risk management and the impact of credit reference bureau policies on credit risk management.
The next chapter discusses the research methodology, it focuses on the population; describes the data collection instruments and methods used. It gives details of the research procedures and a data presentation method that will be used.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction
In this chapter, the study provided the research design and methodology that was used when carrying out the research. The chapter presented the research design, the population of the study, sample and sampling techniques, data collection methods as well as data analysis and data presentation methods that were used in the study.

3.2 Research Design
The study adopted a descriptive survey research design, it was structured in a formal study with clearly and well stated investigative questions which sought to find out who, what, where, when and how much (Cooper & Schindler, 2006).

A descriptive research determines and reports the way things are and attempts to describe such things as possible behavior, attitudes, values and characteristics, (Mugenda & Mugenda, 2003). This research design involved posing a series of questions to willing participants, summarizing their responses and then drawing inferences about a particular population from the responses of the sample. In the context of this study, the researcher used the inferences drawn from the sample in selected commercial banks to generalize the impact of CRBs in Credit Risk Management among commercial banks in Nairobi.

The independent variables of the study were credit information sharing, CRB policies and CRB procedure. The dependent variable was credit risk management.

3.3 Population and Sampling Design
3.3.1 Population
The population of this study was the licenced 46 Commercial banks in Nairobi. Mugenda and Mugenda (2003) defines a population as that which the researcher wants to generalize the results of the study and cautions that selection of the population should not be guided by convenience rather but by consistency of the population. The focus of the study was placed
on senior employees working with selected Commercial Banks in their respective credit and finance departments in Nairobi.

3.3.2 Sampling Design
Sampling design is selecting some of the elements in a population from which a researcher may draw conclusions about the whole population. A population group is the subject on which measurements are obtained; it is the entity of study (Cooper & Schindler, 2006).

3.3.2.1 Sampling Frame
The study sampling frame is the list of the study target population, from where the study selects the sample size (Denscombe, 2008). A sampling Frame is the list of elements from which the sample is actually drawn. The sampling frame was the senior employees of the credit and finance departments in the selected commercial banks in Nairobi.

3.3.2.2 Sampling Technique
Out of the 46 banking institutions only 31 banks (tiers I and II) were selected using non-probability, purposive sampling technique as these banks control a large share of the Kenyan banking industry, they make up more than two-thirds of the total players in industry and have been players in the Kenyan market for a long time hence a deeper and better understanding of the history and trends of the Kenyan credit market. The researcher then selected two senior employees from both the finance and credit departments purposively from each of the selected banks, as they were the ones conversant with the the credit market and would be able to give a well-informed insight into the research topic; impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi.

Studying a sample selection allows for greater accuracy of results, higher speeds of data collection, lower cost of research and because of ready availability of the sample elements.

3.3.2.3 Sample Size
Denscombe (2008) poised that, the sample must be carefully selected to be representative of the population and the researcher also needs to ensure that the subdivisions entailed in the analysis are accurately catered for. From the population of senior employees in the credit and finance
departments of each selected commercial bank, the study only targeted two senior employees one from each department (finance and credit) from each of the banks, thus a sample of 2 senior employees from each of the selected Commercial Banks in Nairobi and a total of 62 respondents.

This sample was sufficient enough to draw inferences about the entire population of commercial banks in Nairobi regarding the research topic; the impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya. Furthermore, owing to the big number of the target population and given the time and available resources, a sampling of at least 50 elements is recommended by Mugenda and Mugenda (2003).

### 3.4 Data Collection Method

Questionnaires are asserted to be advantageous in that they save on time, are confidential, have increased access to populations and eliminate interviewer bias (Koitaba, 2013). Primary data, which was both quantitative and qualitative in nature, was collected for this study by administering a close-ended questionnaire, which was developed in line with specific research objectives, to the respondents. The questionnaires were delivered to the senior employees in credit and finance departments. The questionnaires, which were divided into four major sections, were made simple and easy for the respondents to answer. This instrument allowed for cost and time savings for the respondents as well as the researcher. The questionnaires were self-administered through a drop and pick method.

Consequently, the study also used trained and qualified research assistants to assist with the questionnaire distribution. The researcher obtained a research permit from Chandaria School of Business to aid get authorization to collect data from the commercial banks.

### 3.5 Research Procedures

The research procedure began by carrying out a pilot test on five respondents from the target population to test the completeness of the questionnaires. This helped in ensuring that the information gathered was reliable and valid. It also helped to manage the data collection process with respondents hence reducing ambiguity.
This was followed by correction and amendments to the questionnaires to make sure it gave the best results at the end of the study. The questionnaires were administered personally to the respondents after explaining the purpose of the research to them and how their sincerity was important to the study. When collecting the questionnaire from respondents, the researcher went through them to ensure that they had been completely filled and had all the required information.

3.6 Data Analysis Methods
In this study both quantitative and qualitative data analysis methods were used. Babbie (2004) argues that quantitative analysis is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect.

The primary data collected from the questionnaires were cleaned for completeness and consistency. The questionnaires were coded according to each variable of the study to ensure the margin of error is minimized and assure accuracy during analysis. The coded data was analyzed using descriptive statistics which included mean, frequency, percentages and standard deviations, qualitative techniques.

The data was analyzed using Statistical Package for Social Sciences (SPSS) version 21. Data analysis was both descriptive and inferential. The former was used to describe the characteristics of the sampled respondents while the latter was employed to draw conclusions in respect to study objectives. The data was presented using tables and figures. Multiple regression analysis was used to establish the relationship between the study variables. The multiple regression equation was:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon \]

Whereby \( Y \) = Credit Risk Management, \( X_1 \) = Credit Information Sharing, \( X_2 \) = Credit Reference Bureau Procedures and \( X_3 \) = Credit Reference Bureau Policies, while \( \beta_1, \beta_2 \) and \( \beta_3 \) are coefficients of determination and \( \varepsilon \) is the error term. This study generated quantitative reports through tabulations, percentages, and measures of central tendency.
3.7 Chapter Summary

Chapter three has mainly described the research design and the methodology which was applied in the study to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Kenya. The research took the survey approach and conducted the research using a structured questionnaire. The sample frame was obtained from list of commercial banks in Kenya. The samples were selected through a convenience non-probability sampling method. The analysis of the data was done using the SPSS data analysis tool.

The chapter is followed by chapter four, Results and Findings.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction
The study sought to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Kenya, with their head offices in Nairobi County. The data was gathered exclusively from questionnaires as the research instrument. The questionnaire was designed in line with the research questions of the study.

4.1.1 Response Rate
A total of 62 questionnaires were distributed to the respondents. Out of these, 47 questionnaires were returned duly completed. This represents a response rate of 76%. This response was good enough and representative of the population and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is excellent. This was therefore considered a representative sample for further analysis.

4.2 Background Data

4.2.1 Respondent Department
The study sought to establish the department in which the respondents operate. The findings were shown in the Figure 4.1.

![Figure 4.1: Respondent Department](source: Researcher, 2016)
From the findings in Figure 4.1, majority 55% of the respondents were from finance department and 45% were from credit department. Majority of the respondents indicated that they were senior finance and credit officers in their respective banks. This shows that the data collected was relevant and reliable for the study.

4.2.2 Period Working in the Bank

The respondents were asked to indicate the period of time they have been working for their respective banks and the findings are shown on Table 4.1.

Table 4.1: Period Working in the Bank

<table>
<thead>
<tr>
<th>Period Working</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Between 6 to 10 years</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td>Between 11 to 15 years</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>Between 16 to 20 years</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Above 20 years</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher 2016

Figure 4.2: Period Working in the Bank
Source: Researcher, 2016
As shown on Table 4.1, majority 34% of the respondents had worked for a period between 6-10 years, 28% for between 11-15 years, 23% for between 16-20 years, 9% for less than 5 years and the least 6% for above 20 years. This shows that the respondents had been in their respective banks long enough thus understand the impact of credit reference bureaus on credit risk management as applied in their banks.

4.2.3 Highest Level of Education

The respondents were requested to indicate their highest level of education. The findings are shown on Table 4.2.

Table 4.2: Highest Level of Education

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Masters</td>
<td>19</td>
<td>40</td>
</tr>
<tr>
<td>Bachelors</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td>Higher Diploma</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Diploma</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

Figure 4.3: Highest Level of Education

Source: Researcher, 2016
From the findings in Table 4.2, majority 40% of the respondents had masters, 34% had bachelors, 11% had higher diploma, 9% had diploma and 6% had PhD. This shows that the respondents were familiar enough with the credit risk management thus provided relevant information.

4.2.4 Period Working with the Bank in the Current Position

The respondents were required to indicate the period of time they have been working in the bank in their current position. The finding is shown on Table 4.3.

Table 4.3: Period Working with the Bank in the Current Position

<table>
<thead>
<tr>
<th>Period Working</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>Between 6 to 10 years</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Between 11 to 15 years</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Between 16 to 20 years</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Above 20 years</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

Figure 4.4: Period Working with the Bank in the Current Position
Source: Researcher, 2016
As indicated on Table 4.3, majority 36% of the respondents had been working in their respective banks in their current position for less than 5 years, 32% for between 6-10 years, 15% for between 11-15 years, 11% for between 16-20 years and 6% for above 20 years. This shows that the respondents have been in their current position long enough hence familiar with risk management thus provided reliable information for the study.

4.3 Impact of Credit Information Sharing on Credit Risk Management

The respondents were asked to indicate the extent to which credit information sharing affected credit risk management in their banks. The findings are shown on Table 4.4.

Table 4.4: Extent to which Credit Information Sharing Affected Credit Risk Management

<table>
<thead>
<tr>
<th>Extent to which Credit Information Sharing Affected Credit Risk Management</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very great extent</td>
<td>21</td>
<td>44</td>
</tr>
<tr>
<td>Great extent</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td>Neutral extent</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Less extent</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

Figure 4.5: Extent to which Credit Information Sharing Affected Credit Risk Management

Source: Researcher, 2016
As shown on Table 4.4, majority 45% of the respondents indicated that credit information sharing affected credit risk management in their banks to a very great extent, 26% indicated great extent, 19% were neutral and 11% indicated less extent. This finding is in line with Central Bank of Kenya (2014) that the major benefit that the banks receive from CRB is that they are able to get credit information on prospective borrowers that will facilitate assessment of credit requests to mitigate risks of bad debts.

Several statements on the impact of credit information sharing on credit risk management were identified and the respondents were requested to indicate the degree to which each of the statements best describes the impact of credit information sharing on credit risk management in their bank. A Likert scale of 1-5 was used where 1= Strongly disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. From the responses, the mean and standard deviation were calculated and the findings were as shown on Table 4.5.

Credit reference bureaus compile credit information, public record data, and identity information had a mean of 4.23 with a standard deviation of 0.757. Credit reference bureaus make them available to the bank in the form of a credit report of individuals and organizations had a mean of 3.80 with a standard deviation of 1.05. When the bank evaluates a request for credit, it either collects information on the applicant first-hand or sources this information from other lenders who have already dealt with the applicant had a mean of 2.61 with a standard deviation of 1.11 and information sharing mechanisms reduce adverse selection by improving the pool of borrowers had a mean of 2.46 with a standard deviation of 1.14. This finding are consistent with Otwori (2013) that credit information sharing will continue to be instrumental in the decision making process of credit providers in Kenya as they seek to mitigate risks associated with information asymmetry and enable access to credit by the wider population.

In assessing the cost of credit the bank charges a price for the intermediation services and set the interest rate levels for deposits and loans had a mean of 3.25 with a standard deviation of 1.03, Credit provision mobilizes resources to more productive use had a mean of 3.03 with a standard deviation of 0.943, the bank functions as a financial intermediary through its
brokerage role use had a mean of 2.72 with a standard deviation of 1.01 and provision of credit is an important tool for raising the incomes had a mean of 2.08 with a standard deviation of 0.880.

Table 4.5: Impact of Credit Information Sharing on Credit Risk Management

<table>
<thead>
<tr>
<th>Credit Information Sharing</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit reference bureaus compile credit information, public record data, and identity information.</td>
<td>4.23</td>
<td>.757</td>
</tr>
<tr>
<td>Credit reference bureaus make them available to the bank in the form of a credit report of individuals and organizations.</td>
<td>3.80</td>
<td>1.05</td>
</tr>
<tr>
<td>When the bank evaluates a request for credit, it either collects information on the applicant first-hand or source this information from other lenders who have already dealt with the applicant.</td>
<td>2.61</td>
<td>1.11</td>
</tr>
<tr>
<td>Information sharing mechanisms reduce adverse selection by improving the pool of borrowers.</td>
<td>2.46</td>
<td>1.14</td>
</tr>
</tbody>
</table>

**Cost of Credit**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The provision of credit is an important tool for raising the incomes.</td>
<td>2.08</td>
<td>.880</td>
</tr>
<tr>
<td>Credit provision mobilizes resources to more productive use.</td>
<td>3.02</td>
<td>.943</td>
</tr>
<tr>
<td>In assessing the cost of credit the bank charges a price for the intermediation services and sets the interest rate levels for deposits and loans</td>
<td>3.25</td>
<td>1.03</td>
</tr>
<tr>
<td>The bank functions as a financial intermediary through its brokerage role</td>
<td>2.72</td>
<td>1.01</td>
</tr>
</tbody>
</table>

**Credit Information Sharing and Credit Risk Management**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our knowledge of a borrower’s likelihood to repay is imprecise and must be inferred based upon available information.</td>
<td>2.34</td>
<td>1.18</td>
</tr>
<tr>
<td>The exchange of information on borrower type reduces the average interest rates.</td>
<td>3.48</td>
<td>1.08</td>
</tr>
<tr>
<td>Information sharing allows the bank to offer lower rates to less-risky borrowers.</td>
<td>4.00</td>
<td>.884</td>
</tr>
<tr>
<td>When information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance.</td>
<td>3.61</td>
<td>1.13</td>
</tr>
<tr>
<td>The bank does not solely rely on information provided by the applicant but must verify this information</td>
<td>3.70</td>
<td>.906</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

This shows that the cost of credit among banks has an impact on risk management which concurs with Ngugi (2012) that commercial banks are the most dominant of financial institutions and function as financial intermediaries to fulfil a number of important roles. One of the functions is the brokerage role whereby through this role they tend to reduce cost to all the parties involved.
Information sharing allows the bank to offer lower rates to less-risky borrowers had a mean of 4.00 with a standard deviation of 0.884, the bank does not solely rely on information provided by the applicant but must verify this information had a mean of 3.70 with a standard deviation of 0.906, information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance had a mean of 3.61 with a standard deviation of 1.13, the exchange of information on borrower type reduces the average interest rates had a mean of 3.48 with a standard deviation of 1.08 and knowledge of a borrower’s likelihood to repay is imprecise and must be inferred based upon available information had a mean of 2.34 with a standard deviation of 1.18. To a great extent credit information sharing and credit risk management has an impact on commercial banks. These findings concur with Padilla and Pagano (2007) who show that CIS can also mitigate hold-up problems in lending relationships by eliciting more competition for borrowers thereby reducing the informational rents that banks can extract. The reduced hold-up problems can elicit higher effort by borrowers and thereby make banks willing to lower lending rates and extend more credit.

4.4 Impact of Credit Reference Bureau Procedures on Credit Risk Management

The respondents were asked to indicate the extent to which credit reference bureau procedures affected credit risk management in their banks. The findings are shown on Table 4.6.

Table 4.6: Extent to which Credit Reference Bureau Procedures Affected Credit Risk Management

<table>
<thead>
<tr>
<th>Extent of Procedure</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very great extent</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Great extent</td>
<td>22</td>
<td>47</td>
</tr>
<tr>
<td>Neutral extent</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Less extent</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

As indicated in Table 4.6, majority 47% of the respondents indicated that credit reference bureau procedure affected credit risk management in their banks to a great extent, 23% indicated very great extent, 19% indicated less extent and 11% were neutral. This finding is consistent with Sonja (2009) that the CRBs are therefore a reality and their operations must be based on clearly stated procedures.
Several statements on the impact of credit reference bureau procedures on credit risk management were identified and the respondents were requested to indicate the degree to which each of the statements best describes the effects of the impact of credit reference bureau procedures on credit risk management among commercial banks in Kenya. A Likert scale of 1-5 was used where 1= strongly disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. From the responses mean and standard deviation were calculated and the findings are shown on Table 4.7.

Upon the request of a user, credit reference bureaus provide credit reports that contain particular individuals’ credit history had a mean of 3.74 with a standard deviation of 1.07, Credit bureaus collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases had a mean of 3.68 with a standard deviation of 1.10, Credit bureau basically enable the bank share information about borrowers for business decision making had a mean of 3.57 with a standard deviation of 1.15 and the credit bureau keeps a credit history record of the borrower had a mean of 3.55 with a standard deviation of 0.928.
### Table 4.7: Impact of Credit Reference Bureau Procedures on Credit Risk Management

<table>
<thead>
<tr>
<th>Functions of Credit Reference Bureaus</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit bureaus basically enable the bank share information about borrowers for business decision making.</td>
<td>3.57</td>
<td>1.15</td>
</tr>
<tr>
<td>The credit bureau keeps a credit history record of the borrower.</td>
<td>3.55</td>
<td>.928</td>
</tr>
<tr>
<td>Credit bureaus collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases.</td>
<td>3.68</td>
<td>1.10</td>
</tr>
<tr>
<td>Upon the request of a user, credit reference bureaus provide credit reports that contain particular individuals’ credit history.</td>
<td>3.74</td>
<td>1.07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectives of Credit Reference Bureaus</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Reference Bureaus are aimed at collecting information on clients borrowing status and history from a range of credit sources.</td>
<td>3.76</td>
<td>1.08</td>
</tr>
<tr>
<td>Credit Reference Bureaus reduce information differences between borrowers and the bank through a system that enables information sharing.</td>
<td>2.40</td>
<td>1.17</td>
</tr>
<tr>
<td>Credit Reference Bureaus provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers.</td>
<td>2.82</td>
<td>1.42</td>
</tr>
<tr>
<td>Credit Reference Bureaus reduce over-indebtedness and risky multiple borrowing that often result in loan default.</td>
<td>2.25</td>
<td>1.22</td>
</tr>
<tr>
<td>Credit Reference Bureaus increase the number of borrowers as more people become eligible for financial services.</td>
<td>2.51</td>
<td>1.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit Reference Bureau Procedures and Credit Risk Management</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial information relating to a borrower is so crucial for a successful credit risk management.</td>
<td>2.72</td>
<td>1.31</td>
</tr>
<tr>
<td>Lack of complete and reliable financial information about a borrower increases the credit risk of the lender.</td>
<td>2.65</td>
<td>1.23</td>
</tr>
<tr>
<td>Safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing.</td>
<td>2.23</td>
<td>1.21</td>
</tr>
<tr>
<td>Credit risk increases whenever there is any inadequacy as regards the credit information on borrowers.</td>
<td>2.93</td>
<td>1.13</td>
</tr>
<tr>
<td>In absence of sufficient credit information on borrowers the bank increases borrowing rates in order to compensate for the poor payment behavior of a few borrowers.</td>
<td>2.85</td>
<td>.932</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

This shows that the functions of CRBs has to a great extent impacted on credit risk management of the banks which concurs with Hahm and Lee (2008) that the bureaus also keep a credit history record of the borrower and can even assign a score related to the credit
history. Good credit scores can ease access to more credit which could be an opportunity for SMEs to access credit without the restrictive collateral requirements.

Credit Reference Bureaus are aimed at collecting information on clients’ borrowing status and history from a range of credit sources. A mean of 3.76 with a standard deviation of 1.08, Credit Reference Bureaus provide the necessary infrastructure to ensure information integrity, security, and up-to-date information on borrowers. A mean of 2.82 with a standard deviation of 1.42, Bureaus increase the number of borrowers as more people become eligible for financial services. A mean of 2.51 with a standard deviation of 1.23, Credit Reference Bureaus reduce information differences between borrowers and the bank through a system that enables information sharing. A mean of 2.40 with a standard deviation of 1.17 and Credit Reference Bureaus reduce over-indebtedness and risky multiple borrowing that often result in loan default. A mean of 2.25 with a standard deviation of 1.22. This shows that the objectives of CRBs have an impact on credit reference bureau procedures on credit risk management which is consistent with Aggarwal and Mittal (2012) that the objectives of CRB’s are: to collect information on clients’ borrowing status and history from a range of credit sources and prepare credit reports; reduce information differences between borrowers and lenders through a system that enables information sharing among participating institutions; provide the necessary infrastructure to ensure information integrity, security, and up-to-date information on borrowers.

Credit risk increases whenever there is any inadequacy as regards the credit information on borrowers. A mean of 2.93 with a standard deviation of 1.13, in absence of sufficient credit information on borrowers, the bank increases borrowing rates in order to compensate for the poor payment behaviour of a few borrowers. A mean of 2.85 with a standard deviation of 0.932, financial information relating to a borrower is so crucial to a successful credit risk management. A mean of 2.72 with a standard deviation of 1.31, lack of complete and reliable financial information about a borrower increases the credit risk of the lender. A mean of 2.65 with a standard deviation of 1.23 and safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing. A mean of 2.23 with a standard deviation of 1.21. This shows that credit reference
bureau procedures have a great impact on credit risk management of commercial banks thus consistent with Greuning and Bratanovic (2009) that the safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing. This means the credit risk increases whenever there is any inadequacy as regards the credit information on borrowers.

4.5 The Impact of Credit Reference Bureau Policies on Credit Risk Management

The respondents were asked to indicate the extent to which credit reference bureau policies affected credit risk management in their banks. The findings are shown on Table 4.8.

Table 4.8: Extent to which Credit Reference Bureau Policies affected Credit Risk Management

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very great extent</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>Great extent</td>
<td>18</td>
<td>38</td>
</tr>
<tr>
<td>Neutral extent</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Less extent</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

Figure 4.7: Extent to which Credit Reference Bureau Policies affected Credit Risk Management
Source: Researcher, 2016
As indicated on Table 4.8, majority 38% of the respondents indicated that credit reference bureau policies affected credit risk management in their banks to a great extent, 28% indicated very great extent, 19% were neutral and 15% indicated less extent. This finding is consistent with Lin et al (2012) that the individual information collected by CRBs is made available on request to customers of the credit bureau for the purposes of credit risk assessment, credit scoring or for other purposes such as employment consideration or leasing an apartment.

Several statements on the impact of credit reference bureau policies on credit risk management were identified and the respondents were requested to indicate the degree to which each of the statements best describes the effects of the impact of credit reference bureau policies on credit risk management among commercial banks in Kenya. A Likert scale of 1-5 was used where 1= Strongly disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. From the responses mean and standard deviation were calculated and the findings are shown on Table 4.9.

The objectives of credit reference bureau can only be achieved by implementing effective policies had a mean of 3.25 with a standard deviation of 1.03, Policies assist in both objective and subjective decision making had a mean of 2.89 with a standard deviation of 1.10, Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible had a mean of 2.72 with a standard deviation of 1.01 and Establishing the Credit worthiness of a client by credit reference bureaus is a complicated process that entails both subjective and objective decisions had a mean of 2.34 with a standard deviation of 1.37. This shows that CRBs polices have a great impact on credit risk management which is consistent with Sullivan and Sheffrin (2003) that credit bureaus reduce moral hazard by developing a credit culture where they operate as borrowers become aware that credit market becomes aware of their credit history and rewards or punishes them accordingly.
Table 4.9: Impact of Credit Reference Bureau Policies on Credit Risk Management

<table>
<thead>
<tr>
<th>Credit References Bureau Policies</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies assist in both objective and subjective decision making.</td>
<td>2.89</td>
<td>1.10</td>
</tr>
<tr>
<td>Establishing the Credit worthiness of a client by credit reference bureaus is a complicated process that entails both subjective and objective decisions.</td>
<td>2.34</td>
<td>1.37</td>
</tr>
<tr>
<td>The objectives of credit reference bureaus can only be achieved by implementing effective policies.</td>
<td>3.25</td>
<td>1.03</td>
</tr>
<tr>
<td>Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible.</td>
<td>2.72</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Credit Reference Bureau Policies and Credit Risk Management

| Incomplete credit information is one of the signs of a distorted credit culture.                  | 2.34 | 1.18     |
| Existence of credit information as a basis for extending credit is made clear in the bank’s credit files. | 3.48 | 1.08     |
| Existence of credit information as a basis for extending credit in the bank includes adequate financial statements. | 4.00 | .884     |
| Complete credit information is the only reasonably accurate method of determining a borrower’s financial capacity. | 3.61 | 1.13     |
| Safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing. | 3.70 | .906     |

Source: Researcher, 2016

Existence of credit information as a basis for extending credit in the bank includes adequate financial statements had a mean of 4.00 with a standard deviation of 0.884, safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing had a mean of 3.70 with a standard deviation of 0.906, Complete credit information is the only reasonably accurate method of determining a borrower’s financial capacity had a mean of 3.61 with a standard deviation of 1.13, Existence of credit information as a basis for extending credit is made clear in the bank’s credit files had a mean of 3.48 with a standard deviation of 1.08 and incomplete credit information is one of the signs of a distorted credit culture had a mean of 2.34 with a standard deviation of 1.37. These findings show that credit reference bureau policies affect credit risk management in the banks to a great extent which is consistent with Nyangweso (2013) that the existence of such credit information as a basis for extending credit should be made clear in the bank’s credit files and should include adequate financial statements.
4.6 Regression Analysis

A regression analysis was conducted to determine how credit information sharing, credit reference bureau procedures and credit reference bureau policies influence credit risk management. The Statistical Package for Social Sciences (SPSS) was used to code, enter and compute the measurements of the multiple regressions for the study.

Table 4.10: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.868a</td>
<td>.754</td>
<td>.570</td>
<td>.44719</td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

Table 4.10 shows a model summary of regression analysis between three independent variables: credit information sharing, credit reference bureau procedures and credit reference bureau policies and dependent variable credit risk management. The value of R was 0.868; the value of R square was 0.754 and the value of adjusted R square was 0.570. From the findings, 75.4% of changes in the credit risk management were attributed to the three independent variables in the study. Positivity and significance of all values of R shows that model summary is significant and therefore gives a logical support to the study model.

Table 4.11: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>d.f</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2.455</td>
<td>3</td>
<td>.818</td>
<td>4.39</td>
<td>.103b</td>
</tr>
<tr>
<td>Residual</td>
<td>8.00</td>
<td>43</td>
<td>.186</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10.455</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher, 2016

The probability value of 0.103 indicates that the regression relationship was highly significant in predicting how the three independent variables (credit information sharing, credit reference bureau procedures and credit reference bureau policies) influence credit risk management. The F critical at 5% level of significance was 1.96. Since F calculated 4.98 is greater than the F critical (value = 1.96) this shows that the overall model was significant.
From the findings on Table 4.12, the regression model can be written as:

\[ Y = 2.125 + 0.447X_1 + 0.750X_2 + 0.032X_3 \]

The regression equation above has established that taking all factors constant at zero, the credit risk management will have an autonomous value of 2.125. The findings presented also show that taking all other independent variables at zero, a unit increase in Credit Information Sharing would lead to a 0.477 increase in the credit risk management. A unit increase in Credit Reference Bureau Procedures would lead to a 0.750 increase in the credit risk management. A unit increase in Credit Reference Bureau Policies would lead to a 0.032 increase in the credit risk management. All the variables were significant as the P-values were less than 0.05.

### 4.7 Chapter Summary

This chapter presented data analysis, results and findings as collected from the field according to the three research questions of the study. The findings are arranged in thematic areas to enable adequate response to the objectives of the study. The areas covered were background data, impact of credit information sharing, impact of credit reference bureau procedures and impact of credit reference bureau policies on credit risk management.

The chapter is followed by chapter five, which contains the Discussion, Conclusions and Recommendations.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The chapter provides the summary of the findings, conclusions and recommendations of the study based on the research questions of the study. The purpose of this study was to establish the impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya.

5.2 Summary of the Report
The purpose of this study was to assess the impact of Credit Reference Bureaus on Credit Risk Management among selected commercial banks in Nairobi, Kenya. Specifically, the study sought to examine the following research objectives: The impact of Credit Information Sharing, the impact of Credit Reference Bureau Procedures and the impact of Credit Reference Bureau Policies on Credit Risk Management among selected commercial banks in Nairobi.

The study used descriptive survey design while the population of interest consisted of 46 commercial banks operating in Nairobi. Out of the 46 banking institutions only 31 banks (tiers I and II) were selected purposively. Primary data was collected by administering close-ended questionnaires, using a five point likert scale to the respondents, which were self-administered through drop and pick method. Responses to the questionnaires were analysed, processed and tabulated by use of a computer Statistical Package for Social Science (SPSS) version 20.0 programme. The data collected was cleaned then coded and checked for any errors and omissions. Frequency tables and percentages were used to present the findings. A regression relationship was generated to show the extent to which the dependent variable was affected by each of the independent variables.

The study found out that to very great extent credit information sharing affected credit risk management in the commercial banks. Credit reference bureaus compile credit information, public record data and identity and make them available to the bank in the form of a credit report of individuals and organizations where the bank either collects information on the
applicant first-hand or sources this information from other lenders who have already dealt with the applicant and information sharing mechanisms reduce adverse selection by improving the pool of borrowers. The study further found out that in assessing the cost of credit the banks charge a price for the intermediation services and set the interest rate levels for deposits and loans, credit provision mobilizes resources to more productive use, the bank functions as a financial intermediary through its brokerage role use and provision of credit is an important tool for raising the incomes.

The study also revealed that to a great extent credit reference bureau procedures affected credit risk management in the commercial banks and that upon the request of a user, credit reference bureaus provide credit reports that contain particular individuals’ credit history, credit bureaus collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases, credit bureaus basically enable the bank share information about borrowers for business decision making and the credit bureaus keep a credit history record of the borrower. The study further found out that Credit Reference Bureaus aimed at collecting information on clients borrowing status and history from a range of credit sources; provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers. Bureaus increase the number of borrowers as more people become eligible for financial services, Credit Reference Bureaus reduce information differences between borrowers and the bank through a system that enables information sharing and Credit Reference Bureaus reduce over-indebtedness and risky multiple borrowing that often result in loan default.

Finally the study also found out that to a great extent credit reference bureau policies affected credit risk management in the commercial banks and the objectives of credit reference bureaus can only be achieved by implementing effective policies which assist in both objective and subjective decision making. Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible and establishing the Credit worthiness of a client by credit reference bureaus is a complicated process that entails both subjective and objective decisions.
5.3 Discussion

5.3.1 Impact of Credit Information Sharing on Credit Risk Management

The respondents agreed that credit reference bureau compiles credit information, public record data, and identity information which are consistent with FSD Trust Kenya (2012) that a credit reference bureau is an organization that compiles credit information, public record data, and identity information, and makes them available to lenders in the form of a credit report of individuals and organizations.

The respondents were neutral on whether credit reference bureau makes them available to the bank in the form of a credit report of individuals and organizations and when the bank evaluates a request for credit, it either collect information on the applicant first-hand or sources this information from other lenders who already dealt with the applicant which concurs with Houston et al (2010) that Credit Reference Bureau Act was enacted to enable financial institutions to share credit information and build information that will enable them adequately price their loans. They were also enacted to enable financial institutions to enhance access to credit by the lower tier clientele base and indirectly reduce the cost of doing business.

The respondents were in disagreement with whether information sharing mechanisms reduce adverse selection by improving the pool of borrowers which is in agreement with Houston et al (2010) that information sharing mechanisms reduce adverse selection by improving the pool of borrowers and the knowledge of the applicants’ characteristics therefore improving bank efficiency in the allocation of credit.

The respondents were in agreement that in assessing the cost of credit the banks charge a price for the intermediation services and set the interest rate levels for deposits and loans which according to Ngugi (2011) the disparity between the gross costs of borrowing and the net return on lending defines the intermediary costs which include information costs, transaction costs, administration, default and operational costs. The respondents also agreed that credit provision mobilizes resources to more productive use which is in line with Ngugi (2011) that bank credit is among the most useful sources of finance for business in Kenya,
the provision of credit has increasingly been regarded as an important tool for raising the incomes, mainly by mobilizing resources to more productive uses.

The respondents were neutral on whether banks function as a financial intermediary through its brokerage role and provision of credit is an important tool for raising the incomes which concurs with the findings of Ngugi (2011) that commercial banks are the most dominant of financial institutions and function as financial intermediaries to fulfil a number of important roles. One of the functions is the brokerage role whereby through this role they tend to reduce cost to all the parties involved.

The respondents agreed to a very great extent that information sharing allows the banks to offer lower rates to less-risky borrowers this is consistent with the findings of Powell (2014) who argue that information sharing among borrowers would lead to lower interest rates. When information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance and allows lenders to offer lower rates to less-risky borrowers who would not have borrowed otherwise. On whether the bank does not solely rely on information provided by the applicant but must verify this information and information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance, the respondents indicated great extent which is in line with Petersen, (2014) that data needed to screen credit applications and to monitor borrowers are not freely available to banks. When a bank does not have such information, it faces “adverse selection” or “moral hazard” problems in its lending activity.

5.3.2 Impact of Credit Reference Bureau Procedures on Credit Risk Management
The respondents agreed that upon the request of a user, credit reference bureaus provided credit reports that contained particular individuals’ credit history and that Credit bureaus collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases which concurs with Hahm and Lee (2008) that CRBs organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases. Such information is updated frequently,
usually every month. Then, at the request of a user, bureaus provide credit reports that contain particular individuals’ credit history.

The respondents also agreed that credit bureaus basically enable the bank share information about borrowers for business decision making and that credit bureaus keep a credit history record of the borrower which concurs with Hahm and Lee (2008) that the bureaus also keep a credit history record of the borrower and can even assign a score related to the credit history. Good credit scores can ease access to more credit which could be an opportunity for SMEs to access credit without the restrictive collateral requirements.

The respondents agreed that Credit Reference Bureaus are aimed at collecting information on clients borrowing status and history from a range of credit sources this concurs with Aggarwal and Mittal (2012) that the objectives of CRB’s are: to collect information on clients’ borrowing status and history from a range of credit sources and prepare credit reports; reduce information differences between borrowers and lenders through a system that enables information sharing among participating institutions; provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers; reduce over-indebtedness and risky multiple borrowing that often result in loan default and lastly to increase the number of borrowers as more people become eligible for financial services.

On whether Credit Reference Bureaus provided the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers the respondents agreed to a great extent which concurs with Agenor (2010) that financial institutions find it hard to check and share information on the credit risk of borrowers, they find themselves exposed to high credit risk on account of inadequate information on borrowers’ creditworthiness. Borrowers can take out loans at multiple institutions, sometimes even at the same institution across different branches, and declare different information about themselves allowing them to get credit easily, without fear of being declined.

The respondents agreed to a great extent that Credit risk increases whenever there is any inadequacy as regards the credit information on borrowers and in absence of sufficient credit
information on borrowers the bank increases borrowing rates in order to compensate for the poor payment behaviour of a few borrowers this finding is consistent with Atieno (2011) that the lack of complete and reliable financial information about a borrower increases the credit risk of the lender. But when the lender obtains credit information from a reliable source in a timely manner, it reduces the credit risk the bank would have been exposed to in absence of that information.

The respondents were neutral on whether financial information relating to a borrower is so crucial to a successful credit risk management and lack of complete and reliable financial information about a borrower increases the credit risk of the lender. this finding is according to its commercial bank examination manual, the U.S. Federal system cited incomplete credit information as one of the signs of a distorted credit culture. It states that complete credit information is the only reasonably accurate method of determining a borrower’s financial capacity. The existence of such credit information as a basis for extending credit should be made clear in the bank’s credit files, and should include adequate financial statements (Aggarwal & Mittal, 2012).

5.3.3 The Impact of Credit Reference Bureau Policies on Credit Risk Management
The respondents agreed to a great extent that the objectives of credit reference bureau can only be achieved by implementing effective policies this finding is consistent with Rosemary et al (2010) that CRBs are legal entities established as companies that allow financial institutions to exchange information on their clients’ repayment history and debt profile require effective and solid policy framework so that they can operate effectively and efficiently. The respondents were further in agreement that the policies assist in both objective and subjective decision making which concurs with Weihrich et al (2008) that all organizations require policies that can guide or channelize thinking in decision making.

On whether Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible the respondents agreed greatly this finding is consistent with Weihrich et al (2008) that there are many types of policies, that can be adopted by credit reference bureaus include living only university trained workers,
encouraging employee suggestions for improved cooperation, encouraging best practices in
customer service, promoting from within, conforming strictly to a high standard of business
ethics, setting competitive prices with such policies CRBs are able to achieve their set
objective area of which is to facilitate the access to credit of as many persons as possible.

On whether establishing the Credit worthiness of a client by credit reference bureaus is a
complicated process the respondents were neutral which concurs with Kipyegon (2011) that
establishing the credit worthiness of a client by credit reference bureau is a complicated
process that will entail both subjective and objective decisions. This will be assisted by an
effective policy framework that defines an area within which a decision is to be made and
ensure that the decision will be consistent with and contribute to an before they become
problems, make it unnecessary to analyze the same situation every time it comes up and
nullify other plans, thus permitting managers to delegate authority and still maintain control
over what other subordinates.

On the existence of credit information as a basis for extending credit in the bank includes
adequate financial statements the respondent agreed to a very great extent which concurs
with Sonja (2009) that safe extension of credit depends on complete and accurate information
regarding every detail of the borrower’s credit standing. On whether complete credit
information is the only reasonably accurate method of determining a borrower’s financial
capacity the respondents indicated great extent which according to its commercial bank
examination manual, the U.S. Federal system cited incomplete credit information as one of
the signs of a distorted credit culture. It states that complete credit information is the only
reasonably accurate method of determining a borrower’s financial capacity. On whether
existence of credit information as a basis for extending credit is made clear in the bank’s
credit files the respondents were neutral which concurs with Nyangweso (2013) that the
existence of such credit information as a basis for extending credit should be made clear in
the bank’s credit files, and should include adequate financial statements.
5.4 Conclusions

5.4.1 Impact of Credit Information Sharing on Credit Risk Management

The study concludes that Credit reference bureau compiles credit information, public record data, and identity, makes them available to the bank in the form of a credit report of individuals and organizations. When the bank evaluates a request for credit, it either collects information on the applicant first-hand or sources this information from other lenders who already dealt with the applicant and information sharing mechanisms reduce adverse selection by improving the pool of borrowers. The study further concluded that that in assessing the cost of credit the banks charge a price for the intermediation services and set the interest rate levels for deposits and loans, credit provision mobilizes resources to more productive use, the bank functions as a financial intermediary through its brokerage role use and provision of credit is an important tool for raising the incomes.

From the findings, the study concludes that the Credit Information Sharing allows commercial banks to better distinguish the credit worth of their customers and mitigate their credit risk. CRBs reports has a significant effect on non-performing loans since CRBs reports enhance credit information sharing which reduce the number of the non-performing loans. Credit Information sharing also reduces borrowers’ moral hazard. When customers expect that their borrowing delinquencies will be shared, this information pooling will lead to discipline on payment thus lowering delinquency rates and the level of NPLs. Over time, potential borrowers with a Positive Credit Report will be able to access loans at a favourable price and easily than high risk defaulters. The level of information sharing therefore determines whether the defaulters can be able to obtain additional loan due to poor information sharing and loopholes in the process.

The study concludes that the main factors that lead to credit risk include lending to borrowers with questionable characters, serial loan defaulters, high interest rates that make it hard for some to pay, management and legal framework. These causes make many borrowers not to honour their obligations hence leading to many nonperforming loans commercial banks. Most of these factors are due to information asymmetry in the commercial banks. Credit information sharing has for sometime been embraced in the banking industry. The aim of
credit information sharing among banks is to improve loan performance. Credit information sharing and level of loan performance is indeed related. Credit Information Sharing, increases transparency among banks, helps them lend prudently, lowers the risk level to the banks, acts as a borrowers’ discipline against defaulting and it also reduces the borrowing cost i.e. interest charge on loans. CRB have come of age and has helped the banks to lend with care. The effect of it therefore has led to reduced non-performing loans.

Credit Information sharing affects non-performing loans by lowering banks’ risk level hence reducing the portfolio at risk and the provisioning for NPLS which in turn reduces the profitability. By choosing the right customer for lending through prudent lending which in turn reduces the level of NPL as the character of the borrower is checked through the credit information obtained and this ensures that banks only lend to customers whose credit history is favourable.

5.4.2 Impact of Credit Reference Bureau Procedures on Credit Risk Management

The study concludes that good borrowers also benefit from lower interest rates, as lenders compete for their business and that CRB has played a significant role in as far as risk identification and monitoring is concerned. Moreover, CRB has significantly helped reduce the rate of loan default in the banking industry as well as containing loan non-payment within acceptable levels.

The study also concludes that commercial banks should therefore need to base their decisions on relevant information about their borrowers on automated and sophisticated credit information sharing systems which are key to managing credit risk. This will result in better risk management for lenders, reduced NPLs and improved profitability. The study concludes that Credit Referencing Bureaus in Kenya are key enablers for the growth of a nation’s consumer economy and the quality of consumer credit portfolios, whilst protecting the privacy and credit exposure of individual consumers. Additionally, the study also concludes that CRBs offers credit scoring and information sharing that can facilitate the building of information capital that will guide the pricing of loans by financial institutions.
The results revealed that the strategic response strategies increase in confidence of commercial banks while giving loans unlike before the CRB became operational. The study established that more and more commercial banks have turned to CRB for credit information to minimize the loan defaulting. This is evident when the CRB reports are used for the loan applications.

Study concludes that CRBs offers credit scoring and information sharing that can facilitate the building of information capital that will guide the pricing of loans by commercial banks. Banks at the appraisal stage can price loans thus enhanced information set as compared to the current situation. Customers are armed with their credit histories and will also be empowered to negotiate better terms for credit with banks.

The study also concludes that upon the request of a user, credit reference bureau provide credit reports that contain particular individuals’ credit history, credit bureau collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases, credit bureau basically enable the bank share information about borrowers for business decision making and the credit bureau keeps a credit history record of the borrower.

The study further conclude that Credit Reference Bureaus aimed at collecting information on clients borrowing status and history from a range of credit sources, provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers, Bureaus increase the number of borrowers as more people become eligible for financial services, Credit Reference Bureaus reduce information differences between borrowers and the bank through a system that enables information sharing and Credit Reference Bureaus reduce over-indebtedness and risky multiple borrowing that often result in loan default.

5.4.3 The Impact of Credit Reference Bureau Policies on Credit Risk Management

The study concluded that prudential regulation and effective management of the standard credit reference bureau would lead to more robust credit policy enforcement. This would have a positive impact to the performance of multinational banks as the credit risk would be
much lower, recovery costs would significantly reduce, and impairment rates would significantly reduce and thus lead to better control in the operations of the organization. The overall impact would be a strong growth of the bank’s asset book and profitability.

The study concluded that other factors critical to boosting the standards and quality of credit ratings include addition of customer information such as the level of performing loans, the repayment history of micro finance loans, SACCO loans, Hire purchase instalments, credit card repayments and the ability to pay utilities on time, would influence the bank’s lending rates, thus directly influence the performance of the bank.

The study concluded that prudential regulation and effective management of the standard credit reference bureau would lead to more robust credit policy enforcement. This would have a positive impact to the credit risk management of commercial banks as the credit risk would be much lower, recovery costs would significantly reduce, and impairment rates would significantly reduce and thus lead to better control in the operations of the organization. The overall impact would be a strong growth of the bank’s asset book and profitability.

The study further concludes that and the objectives of credit reference bureau can only be achieved by implementing effective policies, policies assist in both objective and subjective decision making, Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as possible and establishing the Credit worthiness of a client by credit reference bureaus is a complicated process that entails both subjective and objective decisions.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Impact of Credit Information Sharing on Credit Risk Management

The study recommends that the government should ensure mandatory compliance to settlement of debts as constitutionally required of the integrity section of the Kenyan law. The government should license more bureaus to increase the availability of information among the banks and as well as individuals. Regulations should place emphasis on
confidentiality of information handled by CRBs and also places stringent restrictions on the use and application of such information. Banks and CRBs should not share information with unauthorized third parties. The regulations need to provide for stringent penalties for such breaches by CRBs. This will make it easier for the current banks and prospective ones too.

5.5.1.2 Impact of Credit Reference Bureau Procedures on Credit Risk Management

The study also established that the use of CRB by the lending institutions have increased the commitment of the borrowers to repayment of loans as they want to have good records. The study therefore recommends that the government and the lending institutions should educate the borrowers of the importance of credit bureaus such as the reduction of the price of borrowing and as regards the regulations, the Government needs to look into what regulatory impediments to licensing of more CRBs that may hinder the sustainability of the reference bureaus in Kenya.

5.5.1.3 The Impact of Credit Reference Bureau Policies on Credit Risk Management

The study also recommends that other factors critical to boosting the standards and quality of credit ratings include addition of customer information such as the level of performing loans, the repayment history of micro finance loans, SACCO loans, Hire purchase instalments, credit card repayments and the ability to pay utilities on time, would influence the banks lending rates thus directly influence the credit risk management of the banks, thus should be included in the client’s reports.

5.5.2 Recommendation for Further Studies

The study recommends that further research should be done on the other institutions in the financial sector e.g. SACCOs and MFIs so as to get comprehensive information on the impact of CRBs on credit risk management. More research also needs to be done to determine what impact the CRBs have had on the financial performance of the commercial banks in Kenya. Whereas the current study focused on the impact of CRBs on credit risk management among selected commercial banks in Nairobi, future studies should seek to establish whether the same impact implies to other institutions in the financial sectors of the economy.
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Miller, M. J., (2003), Credit reporting systems around the Globe: the state of the art in public credit registries and private reporting firms, *Credit reporting systems and international Economy*, Cambridge, MA: MIT Press.


APPENDICES

APPENDIX I: SURVEY QUESTIONNAIRE

Section A: Background Data
1. Name of Bank ________________________________

2. What is (a) Your department?
   Finance [ ] Credit [ ]

   (b) Job title ________________________________

3. How long have you worked in this organization?
   Less than 5 years [ ] between 6 to 10 years [ ]
   Between 11 to 15 years [ ] between 16 to 20 years [ ]
   Above 20 years [ ]

4. What is your highest level of education?
   PhD [ ] Masters [ ] Bachelors [ ]
   Higher Diploma [ ] Diploma [ ] Certificate [ ]
   Other, please specify: ___________________

5. How long have you been in the current position?
   Less than 5 years [ ] Between 6 to 10 years [ ]
   Between 11 to 15 years [ ] Between 16 to 20 years [ ]
   Above 20 years [ ]

Section B: Credit Information Sharing
6. To what extent has credit information sharing affected credit risk management in your bank?
   Very great extent [ ]
   Great extent [ ]
   Neutral extent [ ]
   Less extent [ ]
   Not at all [ ]
The following statements reflect effects the impact of credit information sharing on credit risk management. Please indicate the degree to which each of the following statements best describes the effects of the impact of credit information sharing on credit risk management in your bank.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree (1)</th>
<th>Disagree (2)</th>
<th>Neutral (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Information Sharing</td>
<td></td>
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<tr>
<td>7. Credit reference bureau compiles credit information, public record data, and identity information,</td>
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</tr>
<tr>
<td>8. Credit reference bureau makes them available to the bank in the form of a credit report of individuals and organizations</td>
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<td></td>
</tr>
<tr>
<td>9. When the bank evaluates a request for credit, it either collect information on the applicant first-hand or source this information from other lenders who already dealt with the applicant</td>
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<tr>
<td>10. Information sharing mechanisms reduce adverse selection by improving the pool of borrowers</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of Credit</td>
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<tr>
<td>11. The provision of credit is an important tool for raising the incomes.</td>
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<tr>
<td>12. Credit provision mobilizes resources to more productive use</td>
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<tr>
<td>13. In assessing the cost of credit the banks charge a price for the intermediation services and set the interest rate levels for deposits and loans</td>
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<tr>
<td>14. The bank functions as a financial intermediary through its brokerage role</td>
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</tr>
<tr>
<td>Credit Information Sharing and Credit Risk Management</td>
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</tbody>
</table>
15. Our knowledge of a borrower’s likelihood to repay is imprecise and must be inferred based upon available information

16. The exchange of information on borrower type reduces the average interest rates

17. Information sharing allows the bank to offer lower rates to less-risky borrowers

18. When information is shared, the ability and cost of screening out riskier borrowers improves the portfolio’s performance

19. The bank does solely rely on information provided by the applicant but must verify this information

**Section C: Credit Reference Bureau Procedures**

20. To what extent does credit reference bureau procedure affect credit risk management in your bank?

<table>
<thead>
<tr>
<th>Very great extent</th>
<th>Great extent</th>
<th>Neutral extent</th>
<th>Less extent</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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<td>[ ]</td>
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</tbody>
</table>

The following statements reflect effects the impact of credit reference bureau procedure on credit risk management. Please indicate the degree to which each of the following statements best describes the effects of the impact of credit reference bureau procedure on credit risk management among commercial banks in Kenya

**Functions of Credit Reference Bureaus**

21. Credit bureau basically enable the bank share information about borrowers for business decision making
22. The credit bureau keeps a credit history record of the borrower.

23. Credit bureau collect, organize and consolidate information from many lenders, who associate with the bureau by providing access to their databases.

24. Upon the request of a user, credit reference bureau provide credit reports that contain particular individuals’ credit history.

**Objectives of Credit Reference Bureaus**

25. Credit Reference Bureaus are aimed at collecting information on clients borrowing status and history from a range of credit sources.

26. Credit Reference Bureaus reduce information differences between borrowers and the bank through a system that enables information sharing.

27. Credit Reference Bureaus provide the necessary infrastructure to ensure information integrity, security and up-to-date information on borrowers.

28. Credit Reference Bureaus reduce over-indebtedness and risky multiple borrowing that often result in loan default.

29. Credit Reference Bureaus increase the number of borrowers as more people become eligible for financial services.

**Credit Reference Bureau Procedures and Credit Risk Management**

30. Financial information relating to a borrower is so crucial to a successful credit risk management.

31. Lack of complete and reliable financial information about a borrower increases the credit risk of the lender.

32. Safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing.
33. Credit risk increases whenever there is any inadequacy as regards the credit information on borrowers

34. In absence of sufficient credit information on borrowers, the bank increases borrowing rates in order to compensate for the poor payment behavior of a few borrowers

**Section D: Credit Reference Bureau Policies**

35. To what extent do credit reference bureau policies affect credit risk management in your bank?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree (1)</th>
<th>Disagree (2)</th>
<th>Neutral (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very great extent</td>
<td>[ ]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great extent</td>
<td>[ ]</td>
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<tr>
<td>Neutral extent</td>
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<tr>
<td>Less extent</td>
<td>[ ]</td>
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<td></td>
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</tr>
<tr>
<td>Not at all</td>
<td>[ ]</td>
<td></td>
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</tbody>
</table>

The following statements reflect the impact of credit reference bureau policies on credit risk management. Please indicate the degree to which each of the following statements best describes the effects of the impact of credit reference bureau policies on credit risk management in your bank.

**Credit Reference Bureau Policies**

36. Policies assist in both objective and subjective decision making

37. Establishing the Credit worthiness of a client by credit reference bureaus is a complicated process that entails both subjective and objective decisions.

38. The objectives of credit reference bureau can only be achieved by implementing effective policies

39. Credit reference bureaus have clearly stated explicit goals like serving clients as professionally and diligently as
<table>
<thead>
<tr>
<th>Credit Reference Bureau Policies and Credit Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. Incomplete credit information is one of the signs of a</td>
</tr>
<tr>
<td>41. Existence of credit information as a basis for extending credit is made clear in the bank’s credit files</td>
</tr>
<tr>
<td>42. Existence of credit information as a basis for extending credit in the bank includes adequate financial statements.</td>
</tr>
<tr>
<td>43. Complete credit information is the only reasonably accurate method of determining a borrower’s financial capacity</td>
</tr>
<tr>
<td>44. Safe extension of credit depends on complete and accurate information regarding every detail of the borrower’s credit standing</td>
</tr>
</tbody>
</table>

Thank you for your cooperation
### APPENDIX II: COMMERCIAL BANKS IN KENYA

<table>
<thead>
<tr>
<th>Commercial Banks in Kenya</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tier I</strong></td>
</tr>
<tr>
<td>1. Kenya Commercial bank</td>
</tr>
<tr>
<td>2. Bank of Africa</td>
</tr>
<tr>
<td>3. Standard Chartered Kenya</td>
</tr>
<tr>
<td>4. Bank of India</td>
</tr>
<tr>
<td>5. Barclays Bank</td>
</tr>
<tr>
<td>6. Family bank</td>
</tr>
<tr>
<td>7. CFC Stanbic Bank</td>
</tr>
<tr>
<td>8. Chase Bank (Kenya)</td>
</tr>
<tr>
<td>9. Citibank</td>
</tr>
<tr>
<td>10. Commercial Bank of Africa</td>
</tr>
<tr>
<td>11. Consolidated Bank of Kenya</td>
</tr>
<tr>
<td>12. Cooperative Bank of Kenya</td>
</tr>
<tr>
<td>13. Equity bank</td>
</tr>
<tr>
<td>14. NIC bank</td>
</tr>
<tr>
<td>15. Prime bank</td>
</tr>
<tr>
<td><strong>Tier II</strong></td>
</tr>
<tr>
<td>17. Guardian Bank</td>
</tr>
<tr>
<td>18. Gulf African Bank</td>
</tr>
<tr>
<td>19. Habib Bank</td>
</tr>
<tr>
<td>20. Habib Bank AG Zurich</td>
</tr>
<tr>
<td>21. I&amp;M Bank</td>
</tr>
<tr>
<td>22. Jamii Bora Bank</td>
</tr>
<tr>
<td>23. ABC Bank (Kenya)</td>
</tr>
<tr>
<td>24. Sidian Bank (Former K-Rep Bank)</td>
</tr>
<tr>
<td>25. Middle East Bank Kenya</td>
</tr>
<tr>
<td>26. Victoria Commercial Bank</td>
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<tr>
<td>27. Development Bank of Kenya</td>
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<tr>
<td>28. Oriental Commercial Bank</td>
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<td>29.</td>
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<tr>
<td>30.</td>
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<tr>
<td>31.</td>
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<tr>
<td><strong>Tier III</strong></td>
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<td>33.</td>
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<td>44.</td>
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<tr>
<td>45.</td>
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<tr>
<td>46.</td>
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</tbody>
</table>

*Source, Central Bank of Kenya (2016)*
24 February 2016

To whom it may concern

**RESEARCH PROJECT BY ELVIS OKIYA ODHIAMBO: STUDENT ID 644380**

The bearer of this letter is a student at United States International University-Africa pursuing Master’s Degree in Business Administration (MBA).

As part of the program, he is required to undertake a research project on "Impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi"; which requires him to collect data and information from various relevant institutions.

Kindly assist by enabling him access data, information and contacts to respondents who can complete his questionnaires. I assure you that the information provided will be treated with the utmost confidentiality.

Should you have any enquiries regarding the student research please feel free to contact me on email, gachoki@usiuc.ac.ke or phone, +254 730116414

Yours sincerely

[Signature]

Prof. George Aehoki
Dean, Chandaria School of Business
United States International University-Africa

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Nairobi, Kenya

tel: 254 - 20 - 3006000
fax: 254 - 20 - 3006100
info@usiuc.ac.ke
www.usiu.ac.ke
# APPENDIX IV: IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>Research Activities</th>
<th>Time Frame</th>
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<tbody>
<tr>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>2. Data Collection (Fieldwork)</td>
<td>Jan 2016</td>
</tr>
<tr>
<td>3. Data Analysis &amp; Interpretation</td>
<td>Feb 2016</td>
</tr>
<tr>
<td>4. Report Writing</td>
<td>March 2016</td>
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<tr>
<td>5. Report Dissemination</td>
<td>March 2016</td>
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</tbody>
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