THE IMPACT OF CREDIT REFERENCE BUREAUS ON CREDIT PERFORMANCE OF KENYAN BANKS

BY

EBLA J. DALAL

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

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THE IMPACT OF CREDIT REFERENCE BUREAUS ON CREDIT PERFORMANCE OF KENYAN BANKS

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EBLA J. DALAL

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

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SPRING 2018
DECLARATION

I, the undersigned, 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: ___________________________

Ebla J. Dalal (ID: 623224)

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

Signed: ___________________________ Date: ___________________________

Francis Mambo Gatumo

Signed: ___________________________ Date: ___________________________

Dean, Chandaria School of Business
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ABSTRACT

The purpose of this study was to analyze the impact of credit reference bureaus on credit performance of banks in Kenya. The research was guided by the following research questions: what influence do credit reference bureaus have on credit access in Kenya? What influence do credit reference bureaus have on credit scoring in Kenya? What influence do credit reference bureaus have on credit rating in Kenya?

The study employed descriptive research design and targeted managers in finance and strategy within 44 banks. The study employed primary sources of data in the data collection process. With the primary sources, questionnaires were the most preferred method of collecting data. The researcher distributed 40 questionnaires and only 34 were filled and returned, this represented a response rate of 85%. Descriptive and inferential statistics was employed, and qualitative techniques thematic analysis was employed where responses from the interview schedules was discussed in themes that relate to the objectives of the study. Descriptive statistics such as mean, median, mode, and standard deviation to analyze the data was used and to analyze the relationship between the variables, regression analysis was used.

The respondents indicated that the presence of credit reference, enable financial institutions obtain credit information on the prospective borrowers which facilitates the evaluation of credit requests to mitigate the risks of credit default (mean score 4.68). The findings revealed that respondents indicated that the credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers (mean score 4.15).

The research established that according to most of the respondents (47%), the CRB report was not the first task in credit processing. The findings showed that respondents indicated that positive CRB report portends a shorter credit application process (mean score 3.28) out of 5.00 scale. According to the responses, the bank credit standards vary. Respondents stated the CRB report reduced the screening procedures in the banks and that the CRB report had reduced screening procedures for the banks.

The study findings revealed that most of the respondents (51%) indicated that their organizations used credit scoring as a credit screening procedure. The findings revealed that majority of the variables had a mean of 4.0 (a great extent), also an analysis of mode revealed that majority ranked 5.0 (a very great extent)
The results showed that most respondents stated that the credit score had standardized the credit screening procedures (mean score 3.94). The respondents also indicated that the credit scoring was a risk based pricing model (mean score 3.79). The study also showed that, credit application and CRB report positively influence credit issued. The findings further implied that denial of credit negatively influences the credit issued. The findings showed that CRB had a significant effect on credit accessibility ($\beta=0.973$), credit rating ($\beta=0.905$) and credit scoring ($\beta=0.965$). The p values were smaller than 0.05, hence, significant. Furthermore, it was established that credit Reference Bureaus explained 94.6% access to credit ($R^2=0.946$), 81.30% of credit rating and 93% of credit scoring.

The study concluded that access to credit referencing has played a major role in enabling financial institutions manage their credit information and mitigating the risks associated with credit default. Credit rating is vital in determining the credit facilities sought by the clients, therefore, reducing the screening procedures done by banks. The study also concluded that credit scoring utilized as a credit screening procedure towards the vetting of clients has enhanced credit approval procedures to be more automated and thus greatly increased access to the credit and the number of credit given.

The study recommended lending institutions need to enlighten their clients on the significance of meeting their credit obligations to avoid being blacklisted in the credit reference bureaus. In addition, all lending institutions should implement the use of the CRB report as a mechanism of evaluating the credit worthiness of the borrowers thereby curtailing the risk of credit default. The study also recommended that the government, the commercial banks, and the lending institutions ought to educate the borrowers of the importance of credit bureaus. To avoid mistakes in credit reporting, lending institutions, commercial banks and regulators ought to device a system of verifying credit scores.

Further research needs to be performed on other dynamics such as mobile banking, agency banking and customer service to determine their impact on credit performance of commercial banks. In addition, the current precedent set by clients suing the CRBs for wrongful listing and its influence upon the banking industry should equally be studied.
ACKNOWLEDGEMENT

I would like to express my special appreciation to all managers who took part in this study and show my extreme gratitude to my supervisor Dr. Gatumo for the continued support and guidance.
DEDICATION

Would like to dedicate this research to my lovely family for their continued motivation and support as I carried out my research and throughout my MBA programme.
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### ABBREVIATION AND ACRONYMS

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<th>Abbreviation</th>
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<tbody>
<tr>
<td>CBK</td>
<td>Central Bank Of Kenya</td>
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<tr>
<td>CRB</td>
<td>Credit Reference Bureau</td>
</tr>
<tr>
<td>FLSTAP</td>
<td>Financial And Legal Sector Technical Assistance Project</td>
</tr>
<tr>
<td>FSD</td>
<td>Financial Sector Deepening</td>
</tr>
<tr>
<td>HELB</td>
<td>Higher Education Loans Board</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>KBA</td>
<td>Kenya Bankers Association</td>
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<tr>
<td>KCISI</td>
<td>Kenya Credit Information Sharing Initiative</td>
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<tr>
<td>MFIs</td>
<td>Micro Finance Institution</td>
</tr>
<tr>
<td>PCB</td>
<td>Private Credit Bureaus</td>
</tr>
<tr>
<td>PCR</td>
<td>Public Credit Registers</td>
</tr>
<tr>
<td>SMEs,</td>
<td>Small And Medium Enterprises</td>
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<td>SPSS</td>
<td>Statistical Package For Social Sciences</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Credit Reference Bureau (CRB) is an establishment that accumulates information from numerous sources and delivers consumer credit information on distinctive consumers for a number of functions (Chandler & Coffman, 2010). CRBs assist the financiers to evaluate the credit worthiness, the capability to reimburse a loan, the effect of the interest rate and other footings of the loan. Prospective financial institutions access the information only when they have approved grounds as stipulated by the law in order to define the creditworthiness of the borrowers (Sullivan & Sheffrin, 2013). The individual information gathered by CRBs is made accessible upon request to clients of the credit bureau for the functions of credit risk valuation, credit scoring or for other functions such as work prospects or leasing a place of residence.

Succinctly, the CRB performs three functions. First, they facilitate financiers to loan to more and better risk clients, evading dead beats and to determine better and lower bad loan risk that they require to handle projected losses of credit to worthy clients. Second, credit bureaus lessen the cost of borrowing by compelling creditors to be more economical for worthy borrowers (Liu, 2011). The lesser costs for good credit risks prompt the borrowers to be more cautious with reimbursement. Third, credit bureaus diminish moral risks by formulating a credit culture where they function as borrowers. They become cognizant that the credit market knows their credit history and either rewards or chastises them accordingly (Sullivan & Sheffrin, 2013).

Borrowing and loaning has a protracted history affiliated with human behavior (Thomas et al., 2012). There is a credit risk element concomitant with loaning transactions and so as to decrease the credit risk, credit scoring techniques are used to evaluate the credit worthiness of the borrower. The data filled in the personal finance submission form is used to create a statistical score for each borrower (Lewis, 2012) and these scores was used to categorize between bad and good credit. Credit scores and rating are generally categorized into two classifications founded on the technique used to acquire scores, i.e. judgmental or deductive credit scoring and statistical or empirical credit scoring (Caire, 2014).
The use of statistical methods to convert pertinent data into numerical measures that monitor credit decisions is branded as credit scoring. Credit scoring is also defined as the conversion of qualitative information into numerals using statistical strategies. Credit rating is the opinion of the creditworthiness of an obligor with respect to a specific financial obligation. So as to decrease the risk of credit, it is one of the imperative techniques used by financial institutions to categorize borrowers as bad or good clienteles. It is also the method of modeling the creditworthiness of borrower by the financiers (Anderson, 2010). It is used to know the probability that borrowers would default on the individual finance products by means of statistical strategies in order to appraise borrower loans. In addition, it is the most effective use of research in the banking sector. It had been very challenging for financial institutions to efficiently broaden their commercial credit provisions as well as retail without expending credit scoring and rating procedures (Thomas et al., 2012).

There are several benefits and disapprovals of credit scoring and credit rating. They need a small amount of time and consider only those dynamics which are statistically substantial and interconnected (Crook, 2010). Equally, credit scoring and credit rating have a more resourceful dispensation time. They curtail the credit process cost and energy and has lesser inaccuracies. These techniques also use scarcer borrowers’ information when making deliberations. One of the disadvantages of credit scoring and rating is that unless it has information for every variable, it misclassifies the borrower. In addition, representations range from one market to another and are very costly to purchase. Lastly, sometimes credit scoring and rating methods used to decline the borrower by changing his profession (Al Amari, 2012).

CRBs have helped to lessen the borrowing cost to a moderate level. This is because when banks know a customer’s good payment records, the borrower benefits from lesser interest rates, better rapports and/or less collateral. In addition, CRBs have improved efficient risk monitoring or identification. With CRBs, default rates have decreased because borrowers strive to safeguard their reputation collateral by taking care of their obligations in a timely way. Commercial banks access information from CRB for risk knowledge through risk mapping or scenario analysis (Chuang & Lin, 2010).

CRB has lessened loan delinquency in Kenya to a reasonable degree. CRBs combine credit research and background investigations as part of their credit procedure to
condense loan delinquencies. CRB delivers information about the borrower’s salary, occupation, costs of living and current loan reimbursements to assist the financier identify whether the borrower can afford to reimburse a loan. Therefore, this shrink’s probabilities of loan delinquencies and thorough provision of the current borrower credit information. Furthermore, CRB has advanced microcredit extension in Kenya to a high degree. CRB enables the provision of financial amenities to low-income borrowers who conventionally do not have accessibility to official banking owing to the lack of collateral because they now have the reputation collateral (Anderson, 2010).

From a global perspective, in the United States these firms are known as credit bureaus. In the United Kingdom, they are known as credit reference agencies. The consumers of CRBs could be people, sole proprietors, businesses, corporations, and government entities. The CRB is an institute that provides a comprehensive information account on an individual’s credit history. This includes information concerning their identity, latest inquiries, credit financial records, loans, late payments and liquidations. Additional information shared consists of verified fraudulence and forgeries, credit defaulting, fabricated affirmations and statements, check kiting, receiverships, insolvencies, bankruptcies, submission of false securities, and misappropriation of loaned out finances (Chandler & Coffman, 2010).

From a regional perspective in Africa, the bureaus collect and collate personal information, financial data, and any data on individuals from a variety of sources known as data furnishers. The information is made available on request to customers of the credit bureau for the purposes of credit assessment and credit scoring. Other purposes include employment consideration or hiring a house. Examples of African countries with the CRB include Uganda, Malawi and Ghana (Shisia, Marangu & Omwario, 2014).

From the local Kenyan perspective, a CRB provides information on individuals borrowing and bill paying habits. This information helps commercial banks, saving and credit co-operative societies (Saccos) and other microfinance institutions to assess borrower’s ability to pay back a loan. Having a CRB system in place can affect the interest rate and other terms of a loan. In Kenya, it is up to CRB-Africa, Compuscan, and Metropol East Africa to share customer information with financial institutions (Gaitho, 2010). Commendable improvement has been made at this point since the leveling of the CRB in Kenya in July 2010 and commercial banks providing credit information to the
accredited credit reference bureau in August 2010. Commercial banks have also commenced retrieving credit accounts from the licensed bureau for credit consideration functions. Since August 2010, commercial banks have obtained over 1.3 million credit reports from accredited credit reference bureaus in Kenya (CRB Africa and Metropol). Nevertheless, in spite of the accrediting of CRB in Kenya and their simplification of data sharing, no research has ever been conducted to define their impact on credit accessibility in Kenya. The research study also identifies how the CRBs have helped in lessening the cost of borrowing, how they have helped in efficiently diminishing monitoring and risk identification, and how they have decreased loan felonies and advanced microcredit extension in Kenya (Gaitho, 2010).

1.2 Statement of the Problem
With the adoption of the CRB regulation in 2008, the banks have been mandated to share credit information with the licensed CRBs in order to set up a database for all borrowers and enable checks and balances in the credit market (CBK, 2010). A lot of information has been gathered and CRBs are still trying to enlist other sources of information (Lewis, 2012). Higher Education Loans Board (HELB) used the services of CRBA and in the process 68,000 defaulters were black listed (Thomas, Edelman & Crook, 2012). In 2012, phase 11 of the Credit Information Sharing (CIS) platform started work on extending CIS to other credit providers such as MFIs, utilities and SACCOs and also broaden the information shared to include the positive data, as Al Amari (2012) explains. In Kenya’s general Election held in March 2013, most political parties engaged the CRBs information in order to comply with the Leadership and Integrity Act 2012 of their members. By June 2013, banks had accessed 1.8 Million reports from the two licensed credit reference bureau in Kenya i.e. CRB Africa and Metropol as authored by Sullivan and (Sheffrin, 2013). In May 2013, Central Bank rate was reduced to 8.5% and the six big banks by market share cut their minimum base lending rate to about an average of 17% from an average of 25% (Caire, 2014). The lenders in their defense said that it reflected the true cost of lending to borrowers (Shisia et.al, 2014).

What is absent is the identification of the effectiveness of credit reference bureaus on the framework of credit scoring, rating, and access to credit in Kenya which these scholars and literatures have not adequately expounded on. With all these developments, there is need to verify whether a borrower has the ability, upon presenting a positive credit report,
to actually negotiate better rates on loan repayments. It is also critical to look at whether the CRBs have captured the minds of the general public into saving and consequently having a safe history that could lead to ease on borrowing. It is with this background that the study sought to unravel the fact behind CRBs essence in the credit market to determine whether CRBs have indeed made access to credit much easier. Through this study, the policy makers and the banks was able to assess how effective credit accessibility has been with the inception of the CRBs, how much of credible information is used to rate a creditworthy borrower and how much influence does it have when an applicant makes out a loan application and has a good credit standing. Thus the study specifically sought to address just how much credit information is effective in creating better chances for applicants and the level of influence it has on the credit application process. The study also sought to establish whether the formation of the CRBs have positively enabled borrowers to obtain lending with ease due to their historical information content held by banks and shared.

1.3 Purpose of the Study
This research study sought to establish the impact of credit reference bureaus on credit performance of Kenyan banks.

1.4 Research Questions
The study was guided by the following Research Questions

1.4.1 What influence do credit reference bureaus have on credit access in Kenya?

1.4.2 What influence do credit reference bureaus have on credit rating in Kenya?

1.4.3 What influence do credit reference bureaus have on credit scoring in Kenya?

1.5 Significance of the Study
1.5.1 The Financial Institutions and Banking Industry

The study provides an opportunity to banking industry in Kenya on how they can fully utilize implementation of the credit reference bureaus. It also serves as business re-engineering tool towards making faster and more accurate credit decision which in turn yields value addition in providing financial solutions. The findings of this research study would be valuable to the financial institutions in Kenya as it will assist in articulating operational strategies pertaining to credit access in Kenya. In addition, the findings of the
research study would also be beneficial to the microcredit establishments as it would be insightful on how microcredit institutions can advance and regulate credit dissemination to their customers. The study will also impact on the policies of credit granting institutions especially the banks and microcredit institutions.

1.5.2 The General Public

The study aims at shedding light more light to the general public about the credit reference bureaus. It focuses on the various benefits and opportunities of the credit reference bureaus in regards to credit access, credit scoring, and credit rating. The study creates awareness among the general public in order to benefit borrowers who will get insight in to the importance of obtaining favorable credit history and using this to negotiate for better credit access. The findings in this study was essential to various circumstances as it will contribute to the business organizations, groups, socio-political sphere, as well other related institutions in the general public.

1.5.3 Researchers and Academicians

The study also contributes to the existing body of knowledge on credit reference bureaus in banks especially in Kenya. It was of great significance as well to scholars as it will form a basis for future research. The study will help academicians be able to elicit debate on the use of the CRB model as strategic control system within the banking industry and hence be able to assess further its effectiveness in enhancing the financial performance of banks. This study can also be used as a basis for further research and study in the study of strategic control and strategic control systems in organizations. The research study adds to literature and creates a portion of an empirical review and may motivate prospective researchers to study more aspects on the impact of credit reference bureaus on credit access and would therefore establish the foundation for upcoming research. Moreover, the findings of this study will provide a common ground for research purposes in political and social sciences. Future scholars will use the research as a point of reference to build on what can be done to improve the credit access in Kenya.

1.6 Scope of the Study

The scope of the study was confined to the financial institutions in Kenya. This was particularly in the banking industry and the licensed commercial banks that had adopted
the credit reference bureaus. The study period was May to July 2017. The main limitation was access to the respondents since most banks tend to maintain confidentiality in their operations. However, to avert this prior communication was done to inform the respondents about the aim of this study and confidentiality was guaranteed.

1.7 Definition of Terms

1.7.1 Credit Reference Bureaus

A credit reference bureau is an establishment accredited by the Central Bank of Kenya to accumulate, stockpile, and collate credit information on individuals and corporations from various sources and provides the information in the form of a credit statement upon the application of a financier (CBK, 2010).

1.7.2 Credit Access

Credit access is the ability of individuals or enterprises to obtain financial services including credit, deposit, payment, insurance, and other risk management services (Karlan & Zinman, 2010).

1.7.3 Credit Scoring

Credit refers to purchasing now and then paying later. It is derived from the Latin word *credo* which means to believe or to have faith. Scoring refers to the numerical representation to express a single quality. A credit score is a numerical expression founded on the level analysis of an individual’s credit archives to characterize his or her credit worthiness. It is essentially based on credit statement information usually accessed from the credit bureaus (Sustersic et al., 2010).

1.7.4 Credit Rating

Credit rating is the current opinion of the creditworthiness of an obligor with respect to a specific financial obligation. It is therefore the evaluation of the credit risk of a prospective debtor such as an individual, a business, company, or the government, predicting their ability to pay back the debt, and an implicit forecast of the likelihood of the debtor defaulting (Cantor & Parker, 2014).
1.7.5 Loan Delinquency

Loan delinquency usually refers to circumstances whereby a borrower is late or overdue on a particular payment such as revenue taxes, a car loan, mortgage, or a credit card statement (Hand & Jacka, 2010).

1.7.6 Borrowing Cost

Borrowing costs are interests and extra expenses that an entity incurs in accordance with the borrowing of finances (Chandler & Coffman, 2010).

1.7.7 Risk Identification/Monitoring

Risk identification is the procedure of identifying risks that could possibly deter the program, investment, or enterprise from accomplishing its objectives. Risk monitoring or control is the procedure of tracing acknowledged risks, monitoring outstanding risks, recognizing new risks, implementing risk response strategies, and appraising their resourcefulness throughout the initiative’s life span (Gup & Kolari, 2015).

1.7.8 Microcredit Extension

Microcredit extensions is the provision of very small loans known as microloans to deprived borrowers who basically lack collateral, a stable job security and a provable credit record (Durand, 2011).

1.8 Chapter Summary

This chapter presents background of the study, problem statement, research questions, justification and definition of terms. The next chapter presents the literature review and in chapter three the research methodology is discussed while in chapter four the data analysis is presented with chapter five presenting the discussions, conclusions and recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction
This chapter is the literature review and focused on the three research questions set forth from the previous chapter one. The three research questions involve the impacts that the credit reference bureaus have made on credit access, credit scoring, and credit rating in Kenya. The sets base for this research was revolving around each research question, and previous studies will help eliminate any duplication of research. The research questions were broken down into sub topics and each will have a glimpse of what other researchers have researched about.

2.2 Influence of Credit Reference Bureaus on Credit Access

2.2.1 Credit Access
Accessibility to credit is the ability of borrowers to access financial services of borrowed capital. Measuring financial access can be through the number of bank accounts, number of bank branches and number of firms with line of credit (World Bank, 2011). The factors that determine accessibility of credit may change over time, it is the norm to segment the market into banked and unbanked which helps classify current and future state of users. Access frontier is one such segmentation method which enumerates the proportion of the population that has access to finance and may change from time to time. Estimating and measuring financial access is difficult due to lack of relevant data but a simple use of number of credit accounts and deposits has been used widely in approximating access to finance (Demirigio-Kunt, Beck & Honohan, 2011).

Capital or credit may be provided by a number of financial intermediaries who form part of the financial system. Globally, there are the formal and informal providers of capital and based on existing legal framework for both to thrice in an economy. Formal market comprises of financial institutions that are governed by banking regulations and supervision and informal normally operate outside the structure of government regulation (Ledgerwood, 2012). Both markets have thrived due to inequitable resource accessibility and as the world becomes a global village sharing the increased challenges of poverty, the informal market has had an increase in number of customers (Demirigio-Kunt et al.,
There is work to be done to increase financial inclusion for all especially in the growing economies.

2.2.2 General Relationship between CRBs and Access to Credit

Formation of CRBs portended the reduction of credit risk of borrowers and the ability of borrowers to manage access to affordable finances due to favorable credit history. Unconventional means to access finance in the formal market has been the use of current borrower financial status such as banking period with a financial institution, holder of certain ownership documents such land titles and log books, or pay slips for the employed. As the global informal sector records high activity in terms of membership and in their credit portfolios, such methods are no longer viable means of assessing financial viability by lenders thus the need to include historical information from a varied source in order to rate borrowers on a similar basis (Sinare, 2010).

Globally, there has been a growing demand for CRBs as the major determinant in assessing credit worth of credit applicants. In Many European countries lenders communicate data concerning their customers’ creditworthiness to one another or can access databases that help them assess credit applicants. The quality and quantity of data available however varies greatly and so do the information sharing mechanism. Often lenders agree to communicate via private credit bureaus (PCBs) or through public credit registers (PCRs). PCBs are usually formed due to demand for reliable information in the market while PCRs are formed in order to supervise the banking sector. Due to the European Union existence, there is political goodwill riding about having a unified credit bureau system (Jappelli and Pagano, 2012). The process of consolidation in the industry will accelerate if deregulation of the consumer credit market will increase the volume of lending in Europe. Across the world, there are 195 credit registers and credit bureaus.

In Africa, there has been an acute lack of access to finance (Beck et al., 2011). Cull, (2010) observed that expanding access to financial services was the key strategy to reduce poverty in developing countries. He found out that for stronger policies to be developed, there was need to have national and household information on accessibility of finances at the national level. The major impediment in Africa for its populace to access credit has been the ability of borrowers to secure collateral to aid in their credit applications. Consequently, most people would rather borrow from the informal avenues where the constraints are lesser demanding in terms of requirements. Still, there is a huge
percentage of young people who cannot raise the minimum requirements for credit due to the financial hurdles. Cull (2010) found out that with the coming in of the CRBs in Africa, there has been a positive response from governments and private institutions that the move has been positive. There is therefore need to investigate how effective the formation of CRBs in Kenya has been in creating an enabling environment for credit accessibility especially on the strength that a majority of the population are the youth and may not have accumulated enough wealth to own collateral (Cull, 2010).

2.2.3 Credit Reference Bureaus and Credit Accessibility

Kenya adopted the Banking Regulation 2008 and consequently licensed two CRBs namely Credit Reference Bureau Africa Limited in February 2010 and Metropol Credit Reference Bureau Limited in April 2011. There is a rigorous process in order for an institution to be licensed by the Central Bank. Kenya therefore has the PCR as it is only through the CBK that one can operate under. This has been seen as a key component of financial sector reforms (Jappelli and Pagano, 2012).

Accessing bank credit in Kenya is characterized by furnishing collateral such as a land title deed or log book and a certain down payment of the credit applied for. In addition, it is only the main stream banks that have been obligated into information sharing under the CRBs. This means that a majority of borrowers who deal with the Micro Finance Institutions (MFIs) are left out on this process thus giving the banks a competitive edge over MFIs. Anderson (2012) noted that MFIs provide the financial access to the poorest who are the majority.

The banking sector in Kenya has to a large extent been underwritten by physical collateral such as land and borrowers without access to such collateral have been constrained in accessing credit. SMEs and individuals have been constrained in accessing affordable credit due to the perceived higher risk attached to them on account of lack of physical collateral. Microfinance institutions (MFIs) in Kenya are looking to gain access to the credit information of borrowers that is stored by local credit reference bureaus (CRBs), which allow only commercial banks to access such information in accordance with a regulation implemented in 2008. Representatives of unnamed Kenyan MFIs have reportedly argued that this puts them at a disadvantage by exposing them to the risk of lending to individuals and businesses that have previously defaulted on their loans (Gaitho, 2010).
Credit reference bureaus have eased the credit access for SMEs. Small and medium enterprises gain from the licensing of Kenya’s credit reference bureaus that supply lenders with borrowers’ credit history that is meant to check the credit worthiness of the loan applicants. The CRBs are meant to bring down the cost of credit once Kenya’s financial institutions start sharing the customers’ credit information (Jappelli and Pagano, 2012). According to the Central Bank of Kenya, the informal sector as well as SMEs which form the bulk of the economy had no access to credit due to lack of collateral, but the CRBs create new opportunities for the borrowers (CBK, 2010). Many financial institutions have been hesitant in lending to SMEs, viewing them as too risky based on their cash flow and asset base, which may indicate the ability of the borrower to service a loan. The premium rates are attached to how risky a borrower seems, which means that interest rates are much higher. In addition, it is the prerogative of the bank to protect its business, since the money ideally belongs to borrowers (Gaitho, 2010).

Borrowers who were viewed as risky irrespective of good repayment records are often subjected to price discrimination. However, with the CRBs, financial institutions are obligated to disclose credit information about their borrowers, assemble it into a database and share the information with any institution that lends money (Jappelli and Pagano, 2012). The credit reference bureaus act as a middle man between the borrower and the financial institution, enabling the lender to gauge the credit worthiness of the applicant. The credit information collected by the credit reference bureaus; act as information capital. Over time, this will reduce the demand for physical collateral and enhance bank and borrower relationship. The advantage of the CRBs is that borrowers with good credit records receive a head start when seeking credit. The credit reference bureaus examine the character or integrity of the borrower, which is crucial to the banks. They also determine the applicant’s ability to repay, purpose of the loan and the non-financial aspects of the business such as the business plan. Financial institutions anticipate the non-performing credit will eventually reduce since the CRBs will have enhanced the evaluation of the borrowers from the SMEs. Credit information sharing facilitates a reduction in the cost of credit, appropriate analyzing, and pricing risk. CRBs drive down the cost of information search and credit access (Gaitho, 2010).

CRBs have also increased the access to credit in Kenya. The credit reference bureaus are important for the Kenyan banking sector because they are the first and most important step towards building information capital. The second step is for the banks and the public
to share this information; and the third step is to use the information to develop the market and to make appropriate decisions. The main objective of the CRBs is to increase access to credit. The benefits of credit access and cost effectiveness of credit access are for development at the firm level and at the household level. There are several benefits which CBK sees as accruing from the adoption of credit information sharing in Kenya (CBK, 2010).

First, credit information sharing facilitates the development of information capital. The risk premium associated with information asymmetry is henceforth eroded. This allows the cost of credit to decline substantially. Second, information capital changes the current collateral technology. 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 – with inappropriate definition of property rights. Borrowers without access to such collateral have been constrained from accessing credit. Credit information sharing enables borrowers to build a track record and reputational capital that they can use to access credit. 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. The SME sector is very important to the development of this country as envisaged in Vision 2030 (CBK, 2010).

The third benefit is to enhance information symmetry and support financial development. The existing state of information asymmetry between borrowers and banks is a constraint to innovation and financial sector development. Two important outcomes in information asymmetry are the moral hazard problems from the borrowers and adverse selection from the banks. These two problems punish the economy with low provision of credit. Information asymmetry has also led to severe adverse selection among banks themselves (CBK, 2010).

Fourth, in a segmented market like Kenya’s, some segments remain untapped because banks do not have adequate information to price suitable products. In part this has also contributed to the high cost of credit. Borrowers have had to bear a risk premium because of this lack of information. It is therefore the Central Bank’s expectation that savings arising from the increased credit information translate to lower cost of credit. In turn, more Kenyans are able to access credit from banks (CBK, 2010).
The Monetary Policy Committee’s (MPC’s) efforts since September 2009 to signal to the market need to expand credit to the private sector at affordable interest rates did not yield the desired results. Banks had continuously cited structural rigidities as impeding their wish to lower interest rates. With the launch of credit information sharing, it signals the seriousness with which their concerns are being addressed. Banks can henceforth pass the accruing benefits to the Kenyan public through appropriate reductions in the cost of credit (Karlan & Zinman, 2010).

The current level of interest rates is a combination of costs like information search costs; risk premium most of it unrealized goes to profits; the legal system with delays and lack of clear enforcement of contracts; of course banks’ profit margin. High interest rates increase the level of default risks. With good credit track records, the risk premiums and search costs imposed on customers ideally shrink. In this regard, credit information sharing is an incentive for good credit behavior that attracts competitive pricing of credit facilities. The message to Kenyans is that now more than ever before, there are certainly benefits accruing from adhering to the contractual terms of loans (Karlan & Zinman, 2010).

Credit information sharing increases the vibrancy in the market for borrowers and lenders. Borrowers are able to access enhanced facilities at competitive prices, as they grow their credit histories and track records (Jappelli & Pagano, 2012). Conversely credit providers are able to develop new and competitive products that tap into previously not served and underserved market niches with the power of available information. This can only impact positively on the banking sector and the Kenyan economy as a whole. The vibrancy of the credit market implies availability of resources for the productive sectors of the economy to exploit the otherwise moribund opportunities (Jappelli and Pagano, 2012). It is the end of the road for serial defaulters who took advantage of information search costs and information asymmetry to defraud banks and individuals – including bouncing cheques for lack of funds (Karlan & Zinman, 2010).

Several development partners and donors such as the Financial and Legal Sector Technical Assistance Project (FLSTAP), Financial Sector Deepening (FSD) Kenya and the International Finance Corporation (IFC), have made unwavering support over the years to committing various efforts in developing an appropriate credit reporting mechanism for Kenya. In addition, the efforts put forward by the market players led by
KBA who unreservedly partnered with CBK in developing the regulatory framework and in hosting the Kenya Credit Information Sharing Initiative (KCISI) has put in place the modalities of operational initiative. All Kenyan banks are urged to support the ongoing pilot run by KCISI aimed at ensuring that they are fully prepared to as seamlessly as possible participate in the sharing of their credit information. The ability of all banks to participate in the initiative is the only way they will reap maximum benefits (Gaitho, 2010).

The role of easily accessible and affordable credit in economic development need not be overemphasized. However, most banks finance their credit with short term deposits which constrains their credit structures to mainly short term. This is even more punishing because the overdraft facilities for working capital are also short-term and very costly. With a vibrant bond market, this traditional mismatch was believed to have gone away. In an effort to address the mismatch, a Technical Committee was formed by the CBK to look at proposals for Development Banking Products or development loans with longer tenors than the current term loans in commercial banks. Supply of long term funds supported this line of development. The key target markets for the Development Banking Products are the SMEs with huge growth potential (Chandler & Coffman, 2010).

To further address the structural rigidities in pricing of credit, CBK later launched a study report on collateral system and associated costs in Kenya. The study, jointly commissioned by KBA, CBK and FSD Kenya, is aimed at establishing the current status on creation, perfection and enforcement of collateral in Kenya. Recommendations to overcoming any existing obstacles are expected to be detailed in the study report. The CBK in collaboration with the Kenyan government and the market players enhanced its efforts in addressing other structural rigidities that contribute to market inefficiencies (CBK, 2010).

CBK believes that the banking sector credit information sharing initiative should serve as a model for other credit and utilities providers. CBK engages other players to ensure that they move with speed to rope in other financial and non-financial credit providers. To this end the Microfinance Act was amended vide the Finance Act, 2009 to permit credit information sharing. Inclusion of all credit providers and utility service providers allows the full benefits of credit information sharing to permeate through the whole economy. CRBs go a long way in positively altering the Kenyan banking sector landscape. They
build strong institutions in the financial sector and information capital is one of the pillars of a strong institution. Strong institutions define the appropriate incentives that encourage prudent behavior (CBK, 2010).

2.3 Influence of Credit Reference Bureaus on Credit Rating

2.3.1 Credit Rating

Cantor (2014) defines credit rating as an assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt or financial obligation. A credit rating can be assigned to any entity that seeks to borrow money – an individual, corporation, state or provincial authority, or sovereign government. Credit ratings for borrowers are based on substantial due diligence conducted by the rating agencies. While a borrower will strive to have the highest possible credit rating since it has a major impact on interest rates charged by lenders, the rating agencies must take a balanced and objective view of the borrower’s financial situation and capacity to service/repay the debt (Chandler & Coffman, 2010).

A credit rating not only determines whether or not a borrower was approved for a loan, but also the interest rate at which the loan will need to be repaid. Since companies depend on loans for many start-up and other expenses, being denied a loan could spell disaster, and a high interest rate is much more difficult to pay back. Credit ratings also play a large role in a potential buyer's determining whether or not to purchase bonds (Cantor, 2014). A poor credit rating is a risky investment; it indicates a larger probability that the company will not pay off its bonds. It is important for a borrower to remain diligent in maintaining a high credit rating. Credit ratings are never static, in fact, they change all the time based on the newest data, and one negative debt will bring down even the best score (Jappelli & Pagano, 2012). Credit also takes time to build up. If an entity has good credit but a short credit history, that isn’t seen as positively as the same quality of credit but with a long history. Debtors want to know a borrower can maintain good credit consistently over time. Credit rating changes can have a significant impact on financial markets. Credit ratings play an important role in the allocation of consumer credit (Cantor, 2014).

2.3.2 Global Perspective of Credit Rating

Historically, CRBs developed from mercantile credit agencies that supported business and trade creditors. The first of these agencies was The Mercantile Agency, established in
1841, followed by R.G. Dun and Company in 1859, which became Dun and Bradstreet, Inc., the owner of Moody’s until 2001 (Sinclair, 2015). Moody’s was the first agency to issue publicly available credit ratings for bonds, in 1909, and other agencies followed suit in the decades after. These ratings didn't have a profound effect on the market until 1936, when a new rule was passed that prohibited banks from investing in speculative bonds, or those with low credit ratings, to avoid the risk. This practice was quickly adopted by other companies and financial institutions, and relying on credit ratings became the norm. The first individual to focus on debt issuers was Henry Poor in his History of Railroads and Canals of the United States. Poor’s Publishing Company later merged with the Standard Statistics Bureau (founded 1906) in 1941. The only other suppliers of debt ratings information were Fitch Publishing Company, established in 1924 and Duff and Phelps Credit Rating Co., which specialized in public utilities. Duff and Phelps merged with Fitch in 2000. Fitch had previously acquired some smaller CRBs that attempted to challenge Moody’s and S&P, such as IBCA in 1992 and Thomson Bank Watch in 2000 (Sinclair, 2015).

Credit assessment and evaluation for companies and governments is generally done by a credit rating agency such as Standard & Poor’s, Moody’s or Fitch. These rating agencies are paid by the entity that is seeking a credit rating for itself or for one of its debt issues. For individuals, credit ratings are derived from the credit history maintained by credit-reporting agencies such as Equifax (EFX), Experian, and TransUnion (TRU) (Sinclair, 2015). A loan is essentially a promise, and a credit rating determines the likelihood that the borrower will pay back a loan within the confines of the loan agreement, without defaulting. A high credit rating indicates a high possibility of paying back the loan in its entirety without any issues (Chandler & Coffman, 2010). A poor credit rating suggests that the borrower has had trouble paying back loans in the past, and might follow the same pattern in the future. The credit rating affects the entity’s chances of being approved for a given loan, or receiving favorable terms for the said credit.

Credit ratings apply to businesses and government. Similarly, sovereign credit ratings apply to national governments, and corporate credit ratings apply solely to corporations (Sinclair, 2015). Credit rating agencies typically assign letter grades to indicate ratings. Standard & Poor’s, for instance, has a credit rating scale ranging from AAA (excellent) and AA+ all the way to C and D. A debt instrument with a rating below BBB- is considered to be speculative grade or a junk bond, which means it is more likely to
default on loans. A prime example of this effect is the adverse market reaction to the credit rating downgrade of the U.S. federal government by Standard & Poor’s on August 5, 2011. Global equity markets plunged for weeks following the downgrade (Sinclar, 2015).

There are a few factors credit agencies take into consideration when assigning a credit rating to an organization. First, the agency considers the entity’s past history of borrowing and paying off debts. Any missed payments or defaults on loans negatively impact the rating. The agency also looks at the entity’s future economic potential. If the economic future looks bright, the credit rating tends to be higher; if the borrower does not have a positive economic outlook, the credit rating will fall (Chandler & Coffman, 2010). For individuals, the credit rating is conveyed by means of a numerical credit score that is maintained by Equifax, Experian and other credit-reporting agencies. A short-term credit rating reflects the likelihood of the borrower defaulting within the year. This type of credit rating has become the norm in recent years, whereas in the past, long-term credit ratings were more heavily considered. Long-term credit ratings predict the borrower’s likelihood of defaulting at any given time in the extended future (Cantor, 2014).

Nakamura and Roszbach (2010) found out that a bank’s credit ratings are measures of borrower’s creditworthiness, i.e., probability of default through vouching of borrower’s transaction accounts. It follows that banks are uniquely suited to measuring the risks of their borrowers and thus the use of internal credit ratings as the best available measure of the risk of the bank credit portfolio. Worldwide, banks use the ratings of credit bureaus as acceptable measures of borrower’s probability of default and that bank regulators accept them as such. If banks collect private information about the borrowers they monitor, as economic theory depicts, in addition to the public information that a credit bureau possesses, and if credit ratings summarize the information included in them, then bank credit ratings should be able to forecast future changes in credit bureau ratings (Nakamura & Roszbach, 2010).

Information evaluated was qualitative in nature which could be non-public information collected by credit rating agencies to come up with a credit score of an individual or company. People with high ratings are offered credit on more favorable terms. People who default on their credit experience a decline in their ratings and, therefore, lose access
to credit on favorable terms. People who run up debt also experience a decline in their credit ratings and have to pay higher interest rates on new credit (Bessis, 2013).

The process of evaluating an applicant for a credit to individuals is much more simple and standardized than in case of credit to companies. The bank has less information at the credit application stage at its disposal such as the information about average salary, length of employment, so further information is needed. The bank can obtain information about historical payment willingness and about current outstanding credit from credit agency or from its experience with the borrower. Decision about granting the credit is usually made after use of scoring. Both for applications of legal entities and individuals, the output of the credit analysis is the classing of applicant into the appropriate risk group i.e. internal ratings, and so to decide whether the credit provides or not. In case of companies, the bank has or will have in the future the possibility to use external rating i.e. information from external rating agencies (Bessis, 2013).

### 2.3.3 The Relationship between the CRBs and Credit Rating

Kenyan banks use credit rating to cut the cost of credit. The factors which may influence a person’s credit rating are ability to pay a loan, interest, amount of credit used, saving patterns, spending patterns, and debt. Financial institutions and lenders in Kenya such as the Equity Bank have taken advantage of a new credit rating tool to cut rates for good borrowers and minimize requirements for appraisal and collateral security. The banks have partnered and signed deals with CRBs such as Metropol Credit Reference Bureaus to assign ratings to borrowers based on their loan repayment patterns, which will then be used to evaluate their creditworthiness. Borrowers who are credit-rated by the CRBs automatically qualify for a one percentage cut on loan appraisal fee to two percent, with a possibility of cheaper and less stringent lending terms depending on their ratings (Rukwaro, 2011).

Sigei (2010) explains that over-reliance on collateral for lending has for a long time denied many viable businesses that do not have physical assets an opportunity to borrow cash for expansion. Initially, the licensed CRBs in Kenya only held a list of defaulters who are an estimated five percent of the borrowing population, since they were previously not mandated to store histories of good borrowers. The lack of credit rating also penalized good borrowers who should ordinarily get favorable lending rates at less stringent terms and conditions. Banks in Kenya eye faster growth of their loans for small
and micro-enterprise businesses through the credit rating. Rated borrowers get approval or rejection of their loan applications immediately. They also face lesser collateral requirements. Kenyan banks also rely on borrowers’ credit history to determine the maturity terms of the loans. Potential borrowers that make applications to the bank are expected to first visit the CRBs which then makes inquiries about their credit history (Sigei, 2010).

The logic underlying the existence of credit reference bureaus in Kenya is to solve the problem of the informative asymmetry between lenders and borrowers regarding the creditworthiness of the latter. Issuers with lower credit ratings pay higher interest rates embodying larger risk premiums than higher rated issuers. The issuance of credit reference bureau licenses has heightened the general interest in the credit rating industry in Kenya (Shisia, Marangu, & Omwario, 2014).

2.4 Influence of Credit Reference Bureaus on Credit Scoring

2.4.1 Credit Scoring

A credit score is a numerical expression based on a statistical analysis of a person’s credit files, to represent the creditworthiness of that person. It is performed by lenders and financial institutions. The term credit reputation can either be used synonymous to credit history or to credit score (Sinclair, 2015). Credit scores apply only to individuals. An individual’s credit score is reported as a three-digit number, generally ranging from 300 to 850, with 850 being the highest credit score possible that a borrower can achieve. Most credit scores go up to about 800, with anything over 700 being a pretty good score. The higher the score, the more financially trustworthy a person is considered to be. Lenders use credit scoring, among other things, to arrive at a decision on whether to extend credit and to evaluate the probability that a person repays his debts. They use credit scoring in risk-based pricing in which the terms of a loan, including the interest rate, offered to borrowers are based on the probability of repayment.

In general, the better a person’s credit score, the better the rate offered to the individual by the financial institution. Companies generate a credit score for each person with a social security number using data from the person’s previous credit history (Al Amari, 2012). There are a number of factors that are taken into account for an individual’s credit score, including payment history, amounts owed, and length of credit history, new credit, and types of credit. Some of these factors have greater weight than others. Details on each
credit factor can be found in a credit report, which typically accompanies a credit score. A high credit score indicates a stronger credit profile and will generally result in lower interest rates charged by lenders (Liu, 2011).

There are several principles of credit scoring. It helps to predict the probability of future behavior, evaluates past of current behavior, and the objective decisions are based on statistical data. Other principals include helping to make automated decisions, converts vast amounts of data into a simple tool, and it involves business strategy. Several data is used in credit scoring models which includes demographic information e.g. age, payment history, amount of debt owed, the length of the credit history, how much new debt one has, the type of credit and debt one has, and the number of credit enquiries in one’s profile (Anderson, 2010).

There are various benefits of credit scoring as well. It improves the turnaround times, increases efficiency, ensures objectivity and consistency in decision making, reduces cost of credit appraisal, helps is risk pricing of credit facilities, and captures the strategy of the company. There are several industries where credit scoring is applied. These include financial through banking, retail through furniture and clothing, petroleum through fuel cards, telecommunication through post-paid services, property management through rentals, and Sacco’s and hire purchase (Chandler & Coffman, 2010). Areas where credit scoring is used include customer prospecting /marketing, loan pricing/risk based pricing, account management and loan servicing, collection prioritization and fraud detection (Caire, 2014). Given the large number of consumer borrowers, credit scores tend to be mechanistic. To simplify the analytical process for their customers, the different credit bureaus can apply a mathematical algorithm to provide a score the customer can use to more rapidly assess the likelihood that an individual will repay a given debt given the frequency that other individuals in similar situations have defaulted. This means there is no one credit score, but several or more; each credit bureau creates their own credit score for each individual (Caire, 2014).

2.4.2 The Global Perspective of Credit Scoring

The Fair Isaac Corporation’s credit scoring system, known as a FICO score, is the most widely used credit scoring system in the financial industry. While there are different methods of calculating credit scores, FICO is the most widely known type of credit score. FICO created the standard credit score model for use by financial institutions, and a FICO
score is the most commonly used credit scoring system today (Lewis, 2014). There are other providers of credit-scoring systems, such as the insurance and mortgage industries. Consumers can possess high scores by maintaining a long history of paying their bills on time and keeping a low amount of debt. It is used by many mortgage lenders that use a risk-based system to determine the possibility that the borrower may default on financial obligations to the mortgage lender. The credit bureaus all have their own credit scores: Equifax’s Score Power, Experian’s PLUS score, and TransUnion’s credit score, and each also sells the Vantage Score credit score. In addition, many large lenders, including the major credit card issuers, have developed their own proprietary scoring models (Lewis, 2014).

A credit score plays a key role in a lender’s decision to offer credit. For example, a borrower with a low score that is under 600 is not eligible to receive a prime mortgage loan and receives a referral to a subprime lender for a subprime mortgage, which offers a higher interest rate; however, a borrower with a high score of 700 or above is creditworthy and is eligible to receive a lower interest rate, which results in paying less money in interest over the life of the loan (Shisia, Marangu, & Omwario, 2014). When information is updated on a borrower’s credit report, the borrower’s credit score changes based on whether he makes a payment or miss a payment. The five main factors evaluated when calculating a credit score are payment history, total amount owed, length of credit history, types of credit and new credit. Payment history counts for 35% of a score and shows whether a person pays his obligations on time. Total amount owed counts for 30% of a score and shows the number of accounts a person has open and how much money he owes on each account. Length of credit history counts for 15% of a score and shows how long a person has had a credit history dating back to the first account opened (Chuang & Lin, 2010).

Types of credit used counts for 10% of a score and shows if a person has a mix of installment credit, such as car loans or mortgage loans, and revolving credit, such as credit cards. New credit counts for 10% of a score and shows if a person opens multiple new accounts at the same time. Usually, six months’ worth of on-time payment history provides enough data to generate a score (Shisia, Marangu, & Omwario, 2014). A person’s scores may also determine if a deposit is necessary and the amount necessary to obtain a cell phone, cable service or utilities or to rent an apartment. Lenders frequently
review a borrower’s scores, especially when deciding to change a borrower’s interest rate or credit limit on a credit card (Chuang & Lin, 2010).

2.4.3 The Relationship between the CRBs and Credit Scoring

As Al Amari (2012) describes, a credit score is primarily based on credit report information typically sourced from credit reference bureaus in Kenya. The CRB is an organization that collects, processes information about the credit history of businesses and individuals and makes it available to lending institutions. The CRBs in Kenya use this information to create credit reports and scores to demonstrate the credit worthiness of a borrower. One type of the CRB information is the full file information and it is used to enable the rollout of credit scoring and application of risk based pricing. The full file info gives an exhaustive and accurate credit score. One of the benefits of the Kenya CRBs to creditors is to predict the future risk of default i.e. credit scoring. Credit scoring helps to predict the future risk of default (Berger & Frame, 2015).

Using historical data from the credit report and statistical techniques, it is easier using credit scoring to predict the probability of repayment. It automates credit decisions and helps in providing consistent and objective decisions. Credit scoring produces a score which ranks customers in terms of risk. Borrowers now use credit scores to access loans after the recommendations by credit reference bureaus in Kenya that factored in the envisaged changes discussed by various stakeholders. Central Bank and the Treasury worked on new regulations on credit information sharing. The CRBs want credit history of all customers held by banks to help calculate scores that will enable good borrowers to negotiate for favorable interest rates. Banks have only been providing information on defaulters to credit bureaus but CRBs want them to also provide data on good borrowers to enable them calculate credit scores that they can use to get better rates from lenders (Berger & Frame, 2015).

Using the information, the recommendations came at a time when Central Bank statistics indicated that financial institutions were increasingly using information provided by credit reference bureaus for the appraisal of potential borrowers as a way of managing credit risk (Shisia, Marangu, & Omwario, 2014). According to the regulator, the credit reports requested by institutions increased. Over the same period, the number of reports requested by customers increased as well. There are only two credit reference bureaus in Kenya, the other being Credit Reference Bureau Africa Ltd. Drawing of the new
regulation followed complaints from the public that gaps in information sharing by the various institutions were hurting potential borrowers (Berger & Frame, 2015).

New regulations were instituted to streamline the credit information sharing by financial institutions in Kenya. Previously, the problem was once the borrower’s name has been sent to the credit reference bureau; even if he/she pays their loan it would not be removed immediately. It took three years but they found a way of reducing that period (Berger & Frame, 2015).

A study released by Financial Services Deepening (2016) indicated that over 213,000 individuals and 9,954 businesses had been blacklisted by banks by April 2011 due to failure to honor loan repayment. However, it was possible that some of these individuals and institutions were not defaulters but victims of delayed update of their credit information by the financial institutions (Berger & Frame, 2015). The survey also found out that most banks tended to use the credit information more as an excuse to deny potential borrowers credit as they did not consider the nature or amount in default. The report noted that thousands of consumers have been blacklisted based on incorrect information and have only been informed of it when negotiating with a lender for credit. Banks were required to inform their customers about the intended blacklisting through the credit reference bureaus before passing on such information. This would enable some of them to settle the matters at that bank level.

Credit data sharing currently covers 5 percent of potential borrowers or about 200,000 out of five million consumers who have credit agreements with financial institutions in Kenya (Berger & Frame, 2015). The envisaged regulations would include penalties for financial institutions that by omission or commissions make a customer lose credit due to faulty information. If a bank wrongly sends a borrower’s name and he/she loses credit, there should be a penalty. The parameters for assessment would also be expanded to include payment of utilities like water, electricity and rent (Berger & Frame, 2015). Banks, other financial institutions and utility firms in Kenya would have to provide the credit reference bureaus with the correct information on their customers to come up with the appropriate customer appraisal. They rely on banks for information on their customers to make appraisals and therefore they recommended that they set up customer complaints desk to ensure the information passed over to reflects the reality (Shisia, Marangu, & Omwario, 2014).
Credit reference bureaus in Kenya have become an important tool for credit risk management in the last few years, thanks to credit scoring. The systems are still being improved to enable proper information sharing to cut loose serial defaulters. Some of the problems are that information particularly from utility firms is unreliable and at times lacking. This has forced the bureaus to be wary of using data provided by institutions like water companies and power firms as they cannot vouch for their accuracy (Berger & Frame, 2015).

2.5 Chapter Summary
This chapter presents the empirical literature review on the research questions which were to establish what influence credit reference bureaus have on credit access in Kenya, what influence credit reference bureaus have on credit rating in Kenya, and what influence credit reference bureaus have on credit scoring in Kenya. The chapter analyses each of the objectives and outlines empirical literature that goes in line with them based on past studies. The next chapter presents research methodology.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the methodology which was utilized in the process of conducting the research, gathering the data, and reporting the results. It aims at explaining the methods and tools to be used in data collection and analysis. This chapter presents research design, population and sampling design, data research methods, research procedures, and data analysis methods involved in the study.

3.2 Research Design

The study employed explanatory research design to recognize and clarify the impact of Credit Reference Bureaus on credit performance. Descriptive research was used to determine and report the findings derived from a population of interest. A descriptive study is concerned with finding out the what, where and how of a phenomenon. Descriptive research design was chosen because it facilitates the findings on a larger population with high level of accuracy. Thus descriptive survey is an appropriate method as it seeks to ascertain the association between the impact of the CRBs in Kenya with regard to credit access, credit scoring, and credit rating.

Descriptive studies are more formalized and typically structured with clearly stated hypotheses or research questions. Shaw (2010) notes that descriptive survey method is usually utilized in the preliminary studies and exploratory research so as to avail data in accordance with the phenomena. Moreover, Judith (2013) emphasizes that descriptive data discovers and measure the linkage between cause and effect among variables. This relationship linked to questionnaire survey method provides status quo type of description as well as presents correlation analysis. This process therefore presents larger scope and precise data which enable the researcher to gather, criticize, analyze, and present findings in the process of data presentation to gain clarity (Mugenda, 2013).

The descriptive method of analysis is usually preferred in research findings as it also offers fast and effective mechanism of collecting data from large population sample. This is further elaborated by Mugenda and Mugenda (2013) who avers that descriptive research method is usually preferred by researchers whose analysis revolves around the original information gathered targeting a larger population. This explanatory research was
aimed at getting detailed information regarding the effects of credit reference bureaus on credit access, credit scoring, and credit rating.

3.3 Population and Sampling Design

3.3.1 Population

Target population in statistics is the specific population to be examined in order to obtain information. According to Mugenda and Mugenda (2013), a population is a well-defined set of people, elements or events that are being investigated. In Kenya, there are 44 licensed commercial banks and they were the target population. In each the chief credit officer was targeted and this resulted in a sample size of 44 respondents.

3.3.2 Sampling Design

According to Sekaran and Bougie (2013) in probability sampling, the elements in the population have some known, non-zero chance or probability of being selected as sample subjects. This design is used when the representatives of the sample is of importance in the interest of wider generalizability. This was the design that the study adopted, as the sample was inferred to the population.

3.3.2.1 Sampling Frame

A sampling frame is the source material or device from which a sample is drawn. It represents a list of all those within a population who can be sampled, and may include individuals, households or institution (Zikmund & Babin, 2012). The population of the study comprised of all the chief credit officer from the head offices in the respective bank branches.

3.3.2.2 Sampling Technique

Methodology applied is used to determine whether the sample of the study is a true representative of the whole population from which it is drawn or not (Cooper & Schindler, 2014). The sampling technique used will be a random sampling method. This ensured that each member of the population has an equal chance of being selected as subject.
3.3.2.3 Sample Size

Roscoe (2009) proposes a rule of thumb for determining a sample design and says that a size of 30 to 500 is appropriate for most researches, since it’s not possible to access the whole population of interest due to the large number involved. The target was at least one chief credit officer of the 44 banks. Yemane, (1967) sampling formula was applied as follows:

\[ n = \frac{N}{1 + N \times (e)^2} \]

Where; n=sample size, N= Population, e= error term = 0.05 level of confidence

\[ n = \frac{44}{1 + 44 \times (0.05)^2} \]
\[ n = 40 \]

3.4 Data Collection Methods

Data collection is the process involving collection of facts, evidence, or information from the study target or focused group where valid conclusion can be drawn for discussion and conclusion, make valid decision about essential phenomena or transmit information from one point to another. The data to be gathered was implemented by the various financial institutions. Mugenda and Mugenda (2013) acknowledge that 30% of the general population in the study to be a good number. The study employed the use of primary source of data in the data collection process. With the primary sources, questionnaires were the most preferred method of collecting data.

3.5 Research procedure

The data collection process followed a systematic process where the researcher first sought a letter for data collection from the university. The researcher then used the letter to seek appointments on the data to be collected at the banks. This was done by setting
days with the chief credit officer at bank to ensure that they were available to provide the
required data to be used in the study. A self-administered questionnaire was used to
collect data and obtain information from the respondents as the research instrument.

The objective of the questions was to establish the relationship between the credit
reference bureaus and credit accessibility, scoring, and rating in the Kenyan banks. The
key questions were both closed-ended questions and open ended questions. The study
used a five point Likert scale to ask respondents to express their opinion on given
statements, where 1 represent strongly disagree, and 5 strongly agree.

The research employed data collection procedure which was achieved via pick and drop
approach. The study was made successful through obtaining a letter of introduction from
the United State International University – Africa, this enhanced fast collection of data
from the focus group identified in the study and the participants to be initiated in the
study was informed prior to the questionnaire delivery through a letter.

### 3.6 Data Analysis Methods

Data analysis is the process of analyzing, cleaning, transforming, and modeling data
collected in a research. Data analysis methods used in the study included quantitative
techniques (Cooper & Schindler, 2014). Data was coded according to different variables
of the study for ease of data entry and interpretation. The descriptive statistical tool,
Statistical Package for Social Sciences (SPSS) and excel applications were used to help
the researcher describe the data and this was through descriptive analysis of means,
standard deviations, and frequencies.

The quantitative data collected was analyzed by the use of inferential statistics using
SPSS and presented through regression, and correlation analysis to determine the relation
between the dependent and independent variables. The information was displayed by use
of tables where necessary. Descriptive statistic such as mean and standard deviation will
also be used to measure the central tendencies of the variables.

The regression model was as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e \]

Where:
Y = Credit Issued

Where

X₁ = Credit applied

X₂ = CRB reports accessed

X₃ = Credit declined

a = Regression Constant

b₁ - b₃ = Beta coefficients of the factors

ε = Error term

3.6 Chapter Summary

This chapter clearly described the methodology that the research expects to use to reach the objectives of the study. The research methodology was presented under the following sections; research design, population, sampling frame, sampling technique, Sample size, data collection and data analysis. Chapter four will cover data analysis and presentation of the findings of the research.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction
This chapter provides a summary of the data analysis, presentation of the results of the study and the discussion of the results of the study. This included results relating to the demography and specific research objectives aimed at establishing the impact of credit reference bureaus on credit performance of Kenyan banks.

4.1.1 Response Rate
The response rate of a test measures the statistical power of a research and the higher the rate the better. In this study, the researcher distributed 40 questionnaires and only 34 were filled and returned. This represents a response rate of 85% as shown in Table 4.1 below.

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled and collected</td>
<td>34</td>
<td>85</td>
</tr>
<tr>
<td>Non-Responded</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2 General Information
The data was obtained from a number of local banks. These include; the amount of credit offered in various years in the sampled banks from their reports which had the variables of the study for the period between years 2012 to 2016. The data pertaining to number of credit applied for, credit granted, number of CRB reports obtained and credit denied were obtained from the specific banks. The analysis of this study has been done by use of SPSS.

4.2.1 Number of Loans Issues
Respondents were asked the growth of loans issued over the years and the findings revealed that majority accounting for 38% revealed that it had greatly increased, 29% noted it has increased over time while 15% revealed no change, on the other hand 12% revealed that it had declined and only 6% noted that it had greatly decreased as indicated in table 4.2 below.
Table 4.2: Number of Loans Issues

<table>
<thead>
<tr>
<th>Variable</th>
<th>Distribution</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly increased</td>
<td></td>
<td>13</td>
<td>38</td>
</tr>
<tr>
<td>Increased</td>
<td></td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>No change</td>
<td></td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Decreased</td>
<td></td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Greatly decreased</td>
<td></td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2.2 Number Individuals Applying for Loans

Respondents were asked to indicate the impact of CRB on the number of loans applied for over the years and the findings revealed that majority accounting for 50% revealed that it had greatly increased, 41% noted it has increased over time while 3% revealed no change, on the other hand 6% revealed that it had declined as indicated in Table 4.3 below.

Table 4.3: Number Individuals Applying for Loans

<table>
<thead>
<tr>
<th>Variable</th>
<th>Distribution</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly increased</td>
<td></td>
<td>17</td>
<td>50</td>
</tr>
<tr>
<td>Increased</td>
<td></td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td>No change</td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Decreased</td>
<td></td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Greatly decreased</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2.3 Number of CRB Reports Accessed

Respondents were asked to indicate the change in the number of CRB reports accessed over the years and the findings revealed that majority accounting for 41% revealed that it had greatly increased, 32% noted it has increased over time while 6% revealed no change,
on the other hand 12% revealed that it had declined while 9% noted that it had greatly declined as indicated in Table 4.4 below.

**Table 4.4: Number of CRB Reports Accessed**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Distribution</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly increased</td>
<td></td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td>Increased</td>
<td></td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td>No change</td>
<td></td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Decreased</td>
<td></td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Greatly decreased</td>
<td></td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>34</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher 2017

**4.2.4 Number of Declined Loan Applications Due to negative CRB Reports**

Respondents were asked to indicate the change in the number of declined loan applications due to negative CRB reports over the years and the findings revealed that 24% revealed that it had greatly increased, 35% noted it has increased over time while 24% revealed no change, on the other hand 12% revealed that it had declined while 6% noted that it had greatly declined as indicated in Table 4.5 below.

**Table 4.5: Number of Declined Loan Applications Due to Negative CRB Reports**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Distribution</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly increased</td>
<td></td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Increased</td>
<td></td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>No change</td>
<td></td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Decreased</td>
<td></td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Greatly decreased</td>
<td></td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>34</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher 2017
4.2.5 Usefulness of Credit Reference Bureau

The study sought to determine the usefulness of the information provided by the credit reference bureau by the respondent institutions in making the credit decision.

The findings in Figure 4.1 show that according to majority of the respondents, the credit reference information was useful. The results show that 47% of the respondents indicated that the information was very useful while 47% stated that the information was useful. The results may be interpreted to mean that the credit reference information was useful for the banks in making credit decision.

![Usefulness of Credit Reference Bureau Diagram](image)

**Figure 4.1: Usefulness of Credit Reference Bureau**

4.3 Influence of Credit Reference Bureau on Access to Credit

The respondents were asked to rate the effect of credit reference bureau on the access to credit in Kenya. This was on a scale of no extent at all, low extent, moderate, great extent and very great extent. The study takes the score 0 to 1.0 to represent no extent at all, score 1.1 to 2.0 to represent low extent, score 2.1 to 3.0 to represent moderate extent, score 3.1 to 4.0 represent great extent and score 4.1 to 5.0 to represent to very great extent. The findings in Table 4.1 show that according to most respondents indicated that to a great extent the CRB acts as a deterrent to credit defaulting (mean score 3.56).

The study findings further show that majority of the respondents indicated that to a very great extent, the credit information sharing played a pivotal role in reducing the information asymmetry that exists between banks and borrowers (mean score 4.35). The results show that respondents indicated that due to the credit reference, the banks are to a
very great extent are able to get credit information on the prospective borrowers that facilitate the assessment of credit requests to mitigate risks of bad debts (mean score 4.68). The study revealed that most respondents indicated that to a great extent lack of credit information has in the past led to banks factoring a risk premium in the pricing of the credit (mean score 3.24). The findings revealed that most of the respondents stated that to a great extent the credit information is not the only one that contributes to the high cost of credit (mean score 3.94). The results show that majority of the respondents indicated that to a great extent, the credit information sharing from CRB rewards and promotes good credit track record (mean score 3.82).

The findings show that respondents indicated that to a very great extent, the credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers (mean score 4.15). The study also show that most respondents stated that to a great extent, credit bureaus reduce the moral hazard by developing a credit culture where borrowers become aware that credit market becomes aware of their credit history and rewards or punishes them accordingly.

The results of the study show that there were no variances in some responses (standard deviation < 1) while others had variances (standard deviation > 1). The findings of the study may mean that according to the respondents, the credit reference bureau has enhanced access to credit by the applicants.
Table 4.6: Effect of Credit Reference Bureau on Access to Credit

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>CRB acts as a deterrent to credit defaulting</td>
<td>34</td>
<td>3.56</td>
<td>0.705</td>
</tr>
<tr>
<td>B2</td>
<td>Credit information sharing plays a pivotal role in reducing the information asymmetry that exists between banks and borrowers</td>
<td>34</td>
<td>4.35</td>
<td>0.646</td>
</tr>
<tr>
<td>B3</td>
<td>Banks are able to get credit information on prospective borrowers that will facilitate assessment of credit requests to mitigate risks of bad debts</td>
<td>34</td>
<td>4.68</td>
<td>0.475</td>
</tr>
<tr>
<td>B4</td>
<td>Lack of credit information has in the past led to banks factoring a risk premium in the pricing of credit</td>
<td>34</td>
<td>3.24</td>
<td>1.156</td>
</tr>
<tr>
<td>B5</td>
<td>Credit information is not the only one that contributes to high cost of borrowing; there are other factors that contribute to high cost of credit</td>
<td>34</td>
<td>3.94</td>
<td>0.851</td>
</tr>
<tr>
<td>B6</td>
<td>Credit information sharing from CRB rewards and promotes good credit track record</td>
<td>33</td>
<td>3.84</td>
<td>1.236</td>
</tr>
<tr>
<td>B7</td>
<td>Credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers</td>
<td>33</td>
<td>4.15</td>
<td>1.034</td>
</tr>
<tr>
<td>B8</td>
<td>Credit bureaus reduce the 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</td>
<td>33</td>
<td>3.70</td>
<td>1.237</td>
</tr>
</tbody>
</table>

4.3.1 Statistics of Variables of Credit Reference Bureau on Access to Credit

The findings as indicated in Table 4.7 reveal that majority of the variables had a median of 4.0 apart from variable B3 (Median 5.00) and B4 (Median 3.00). It was also revealed that an analysis of the mode revealed that for variables B1, B3, B6 and B7 majority ranked 5 (a very great extent). For the variables B2, B5 and B8 majority ranked 4 (a great extent) and it is only the variable B4 where majority rank 2 (low extent).

The study also analysed the skewness of the responses and the findings show that all the variables were negatively (＜zero) skewed except the B4 which was normally skewed (almost zero).

The study also undertook a Kurtosis to measure "peakedness" or "flatness" of the distribution of the data. The variable B5 had the value nearest to zero thus indicate that the shape was close to normal. On the other hand, B1, B3, B4, B6, and B8 had negative values and therefore indicated that the distribution was more peaked than normal, on the
other hand, B2 and B7 had a positive kurtosis indicating a shape flatter than normal peak as indicated in Table 4.7

Table 4.7: Descriptive of variables of Credit Reference Bureau on Access to Credit

<table>
<thead>
<tr>
<th>Descriptive</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>B8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>4.00</td>
<td>4.00</td>
<td>5.00</td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Mode</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>2*</td>
<td>4*</td>
<td>5</td>
<td>5</td>
<td>4*</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.255</td>
<td>-1.188</td>
<td>-.790</td>
<td>.038</td>
<td>-.899</td>
<td>-.548</td>
<td>-1.388</td>
<td>-.513</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>.403</td>
<td>.403</td>
<td>.403</td>
<td>.403</td>
<td>.403</td>
<td>.409</td>
<td>.409</td>
<td>.409</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-1.122</td>
<td>2.583</td>
<td>-</td>
<td>-</td>
<td>1.466</td>
<td>1.068</td>
<td>.513</td>
<td>-1.200</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>.788</td>
<td>.788</td>
<td>.788</td>
<td>.788</td>
<td>.788</td>
<td>.798</td>
<td>.798</td>
<td>.798</td>
</tr>
</tbody>
</table>

a. Multiple modes exist. The smallest value is shown

4.3.2 Regression of Credit Reference Bureau on Access to Credit

A simple linear regression analysis was used to establish how credits Reference Bureaus affect credit access. The model summary presented in Table 4.8 shows that credit Reference Bureaus explained 94.6% access to credit.

As shown in Table 4.8, the linear regression ANOVA showed that CRB had a significant effect on credit accessibility. The regression coefficient findings indicated, revealed that credit accessibility statistically had a significant effect on credit accessibility ($\beta=0.973$). The p values were smaller than 0.05, hence, significant. This implies that one-unit increase of credit accessibility would lead to 1.291increase in credit access. Based on the coefficients results, the general form of model equation established is as follows:

\[
CA = -1.304 + 1.291CRB
\]

Whereby CA = Credit access and CRB = Credit reference bureau
Table 4.8: Regression Credit Reference Bureaus on Credit Access

<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>
<th>Change Statistics</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
<td>F Change</td>
<td>df1</td>
<td>df2</td>
<td>Sig. F Change</td>
</tr>
<tr>
<td>1</td>
<td>973*</td>
<td>948</td>
<td>946</td>
<td>.329</td>
<td>.948</td>
<td>579.734</td>
<td>1</td>
<td>32</td>
<td>.000</td>
</tr>
</tbody>
</table>

4.4 Influence of Credit Reference Bureaus on Credit Rating

In this section the study sought to determine influence of Credit Reference Bureaus on credit scoring. The findings of the study are presented in the subsequent sections.

4.4.1 CRB Report First Step

Respondents were asked to state whether accessing a CRB report was the first task in credit processing. The study findings in Figure 4.2 show that most of the respondents (47%) indicated that CRB report was not the first task in credit processing. However, 22% of the respondents indicated that indeed, CRB report was where to start in the credit processing process. The findings may mean that according to the respondents, most of the lending institutions did not consider CRB report as the starting point in the credit processing.
The respondents were asked to rate the effect of credit reference on credit application procedures in the organizations. The results in Table 4.9 show that respondents indicated that negative report mean a decline in the credit application only to moderate extent (mean score 2.62). The results of the study further show that respondents indicated that to a moderate extent for a credit application with negative report there was only one major step (mean score 2.18). Also rated the same was the statement that the CRB has shortened the credit application procedures (mean score respondents indicated that to a great extent the CRB report had reduced screening procedures in the banks. The results of the study show that there were no variances in the responses (standard deviation < 1) except for the responses on negative report mean decline in credit application (standard deviation > 1).

The study findings revealed that majority of the respondents indicated that to a great extent, the CRB process has helped to move subjectively in the credit application process (mean score 3.27). The findings show that respondents indicated that to a great extent, positive CRB report portends a shorter credit application process (mean score 3.28). The study established that according to respondents, the bank credit standards changes to a great extent since CRB inception in 2008. Finally, the respondents indicated that to a great extent, the CRB report reduced the screening procedures in the banks.
### Table 4.9: Credit Application Procedures

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does a negative report mean a declined loan application</td>
<td>34</td>
<td>2.62</td>
<td>1.104</td>
</tr>
<tr>
<td>For a loan there is only one major step for an applicant with a negative CRB report</td>
<td>34</td>
<td>2.18</td>
<td>.834</td>
</tr>
<tr>
<td>Has the CRB process helped move any subjectivity in the process</td>
<td>33</td>
<td>3.27</td>
<td>.839</td>
</tr>
<tr>
<td>A positive CRB report portends a shorter application process (confidence in applicant)</td>
<td>32</td>
<td>3.28</td>
<td>.851</td>
</tr>
<tr>
<td>CRB has shortened the loan application procedure</td>
<td>33</td>
<td>2.03</td>
<td>.883</td>
</tr>
<tr>
<td>Has your bank credit standards changed since CRB inception in 2008</td>
<td>34</td>
<td>3.85</td>
<td>.857</td>
</tr>
<tr>
<td>Has the CRB report reduced screening procedures at your bank</td>
<td>33</td>
<td>3.03</td>
<td>.684</td>
</tr>
</tbody>
</table>

#### 4.4.3 Statistics of variables of Credit Reference Bureau on Credit Rating

The findings as indicated in Table 4.10 reveal that majority of the variables had a median of 2.0 apart from variable C3 and C7 (Median=3.00), C4 (Median=3.5), C6 (Median=4.0). It was also revealed that an analysis of the mode revealed majority of variables ranked 2 (low extent), apart from C6 which ranked 4 (a great extent).

The study also analysed the skewness of the responses and the findings show that all the variables positively skewed except C6 which was negatively skewed. However, the variable C3 and C4 were normally skewed (almost zero).

The study also undertook a Kurtosis to measure "peakedness" or "flatness" of the distribution of the data. The variable C2 and C6 had the value nearest to zero thus indicate that the shape was close to normal. On the other hand, C3, C4, and C7, had negative values and therefore indicated that the distribution was more peaked than normal, on the other hand, C1 and C5 had a positive kurtosis above 1 indicating a shape flatter than normal peak as indicated in Table 4.10 below.
Table 4.10: Statistics of variables of Credit Reference Bureau on Credit Rating

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>2.00</td>
<td>2.00</td>
<td>3.00</td>
<td>3.50</td>
<td>2.00</td>
<td>4.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.414</td>
<td>.412</td>
<td>.041</td>
<td>.064</td>
<td>1.462</td>
<td>-.983</td>
<td>.337</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>.403</td>
<td>.409</td>
<td>.414</td>
<td>.414</td>
<td>.403</td>
<td>.409</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.292</td>
<td>.682</td>
<td>-1.652</td>
<td>-1.613</td>
<td>2.819</td>
<td>.798</td>
<td>-1.160</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>.788</td>
<td>.788</td>
<td>.798</td>
<td>.809</td>
<td>.809</td>
<td>.788</td>
<td>.798</td>
</tr>
</tbody>
</table>

4.4.4 Regression of Credit Reference Bureau on Credit Rating

A simple linear regression analysis was used to establish how credit reference bureau on credit rating. The model summary as presented in Table 4.11 shows that credit Reference Bureaus explained 81.30% of credit rating.

As shown in Table 4.11, the linear regression showed that CRB had a significant effect on credit rating. The regression coefficient findings indicated, revealed that CRB statistically had a significant effect on credit rating ($\beta=0.905$). This implies that one-unit increase of CRB activities would lead to 1.020 increases in credit rating. Based on the coefficients results, the general form of model equation established is as follows:

$$CR = 0.825 + 1.020 CRB$$

Whereby CR = Credit rating and CRB = Credit reference bureau

Table 4.11: Regression of Credit Reference Bureaus on Credit Rating

<table>
<thead>
<tr>
<th>Mode</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Coefficient</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.905*</td>
<td>.819</td>
<td>.813</td>
<td>.612</td>
<td>.819</td>
<td>144.337</td>
<td>1</td>
<td>32</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Constant</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.825</td>
<td>.266</td>
<td>.085</td>
<td>.905</td>
<td>3.097</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>CRB 1.020</td>
<td>12.014</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.5 Influence of Credit Reference Bureaus on Credit Scoring

In this section the study sought to establish the use of credit scoring by the banks in Kenya. The findings of the study are presented in the sections that will follow.
4.5.1 Used Credit Scoring as Credit Screening Procedure

The respondents were asked to state whether they used credit scoring procedures in their banks. The study findings in Figure 4.3 show that most of the respondents (51%) indicated that their organizations indeed used credit scoring as a credit screening procedure. The results however, show that only 18% of the respondents stated that they never use credit scoring to screen credit. The findings therefore mean that most of the respondent banks used credit scoring to screen the credit.

![Figure 4.3: Used Credit Scoring as Credit Screening Procedure](chart)

4.5.2 Credit Scoring Rated

The respondents were asked to rate how the credit scoring influenced the access to credit on a scale of no extent and very great extent. According to the findings of the study in Table 4.12, respondents indicated that to a great extent the credit score had standardized the credit screening procedures (mean score 3.94). The study findings also show that respondents indicated that to a great extent, the credit scoring brought about similar credit request decisions (mean score 3.65). However, credit scoring had enhanced credit approval procedures to be more automated only to moderate extent (mean score 2.94). The results show that according to most of the respondents, to a great extent, a good credit score means less underwriting needs (mean score 3.33).

The respondents also indicated that to a great extent, the credit scoring was a risk based pricing model (mean score 3.79). Finally, the results of the study showed that the respondents indicated that the credit scoring had to a great extent increased access to the credit (mean score 3.61). The results of the study show that there were no variances in the responses (standard deviation < 1) except for the responses on good credit score mean
less under writing needed and credit scoring is a risk based pricing model (standard deviation > 1).

Table 4.12: Credit Scoring Rated

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 Has the credit score standardized credit screening procedures</td>
<td>34</td>
<td>3.94</td>
<td>.694</td>
</tr>
<tr>
<td>D2 Has credit scoring brought about similar credit request Decisions</td>
<td>34</td>
<td>3.65</td>
<td>.646</td>
</tr>
<tr>
<td>D3 Has credit scoring enhanced credit approval procedures to be more automated</td>
<td>34</td>
<td>2.94</td>
<td>.736</td>
</tr>
<tr>
<td>D4 Does a good credit score mean less under writing needed</td>
<td>33</td>
<td>3.33</td>
<td>.736</td>
</tr>
<tr>
<td>D5 Credit scoring is a risk based pricing model</td>
<td>33</td>
<td>3.97</td>
<td>1.023</td>
</tr>
<tr>
<td>D6 Credit scoring has increased access to credit</td>
<td>33</td>
<td>3.61</td>
<td>.998</td>
</tr>
</tbody>
</table>

4.5.3 Statistics of Variables of Credit Reference Bureau on Credit Scoring

The findings as indicated in Table 4.13 reveal that majority of the variables had a median of 4.0 apart from variable D3 and D4 (Median=3.00). It was also revealed that an analysis of the mode show that a majority of variables ranked 5 (very great extent), apart from D2 which ranked 4 (a great extent), D3 ranked 3 (Moderate extent), D4 ranked 2 (Little extent). The study also analysed the skewness of the responses and the findings show that all the variables were negatively skewed except D4 which was normally skewed (almost zero). The study also undertook a Kurtosis to measure "peakedness" or "flatness" of the distribution of the data. The variable D2, D3, D4, D5 and D6, had negative values and therefore indicated that the distribution was more peaked than normal, on the other hand, D1 had a positive kurtosis indicating a shape flatter than normal peak as indicated in Table 4.13 below.

Table 4.13: Statistics of Variables of Credit Reference Bureau on Credit Scoring

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>4.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Mode</td>
<td>5</td>
<td>4³</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.094</td>
<td>-.435</td>
<td>-.194</td>
<td>.009</td>
<td>-.949</td>
<td>-.724</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>.403</td>
<td>.403</td>
<td>.403</td>
<td>.409</td>
<td>.409</td>
<td>.403</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.897</td>
<td>-.871</td>
<td>-.838</td>
<td>-1.166</td>
<td>-.283</td>
<td>-.926</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>.788</td>
<td>.788</td>
<td>.788</td>
<td>.798</td>
<td>.798</td>
<td>.788</td>
</tr>
</tbody>
</table>

³ Multiple modes exist. The smallest value is shown
4.5.4 Regression on Credit Reference Bureau on Credit Scoring

A simple linear regression analysis was used to establish how credit reference bureau affect in credit scoring. The model summary is presented in Table 4.14 shows that credit Reference Bureaus explained 93% of credit scoring.

As shown in Table 4.14, the linear regression showed that CRB had a significant effect on credit scoring. The regression coefficient findings indicated, revealed that CRB statistically had a significant effect on credit scoring ($\beta=0.965$). This implies that one-unit increase of CRB activities would lead to 1.109 increases in credit scoring. Based on the coefficients results, the general form of model equation established is as follows:

$$\text{CS} = -0.172 + 1.109 \times \text{CRB}$$

Whereby CS = Credit scoring and CRB = Credit reference bureau

Table 4.14: Regression of Credit Reference Bureaus on Credit Scoring

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 1</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>.965^a</td>
</tr>
<tr>
<td>R Square</td>
<td>.932</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>.930</td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>.374</td>
</tr>
<tr>
<td>R Square Change</td>
<td>.932</td>
</tr>
<tr>
<td>F Change</td>
<td>439.561</td>
</tr>
<tr>
<td>df1</td>
<td>1</td>
</tr>
<tr>
<td>df2</td>
<td>32</td>
</tr>
<tr>
<td>Sig. F Change</td>
<td>.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Model Summary</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td>Standardized Coefficients</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>Constant</td>
<td>-.172</td>
</tr>
<tr>
<td>CRB</td>
<td>1.109</td>
<td>.053</td>
</tr>
</tbody>
</table>

4.6 Inferential Statistics

In this section the study presents the regression results. Regressions were to determine the relationship between Credit applied for, CRB reports accessed, credit denied and the credit issued. The model is represented by:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon$$

Table 4.15 illustrates the model summary used in this study and indicates the Adjusted R Squared value which gives the most useful measure of the success of the model. It shows that the independent variables which include credit applied for, CRB reports accessed, credit denied explain 29.5% of the variance in credit accessed.
Table 4.15: 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>.569(^a)</td>
<td>.323</td>
<td>.295</td>
<td>.591</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Credit applied for, CRB reports accessed, Credit denied

b. Dependent Variable: Credit issued

Table 4.16 illustrates the Analysis of Variance (ANOVA) which assesses the overall significance of the model. The regression results show that the significance value (pvalue) of F statistics is less than 0.05 (0.047). This implies that the independent variables (Credit applied for, CRB reports accessed, Credit denied) do explain the variation in the dependent variable (credit issued). Therefore, the model is significant.

Table 4.16: Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>0.01</td>
<td>4</td>
<td>0.002</td>
<td>0.456</td>
<td>0.047(^a)</td>
</tr>
<tr>
<td>Residual</td>
<td>0.183</td>
<td>35</td>
<td>0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.193</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Credit applied for, CRB reports accessed, Credit denied

b. Dependent Variable: Credit issued

Using the values of the coefficients (b) from the regression coefficient, the established regression equation takes the form of:

Credit issued\(= -0.028 + 1.756\text{Credit applied} + 3.933\text{CRB report} – 1.73\text{Credit denied}\)

The study shows that all the independent variables have positive relationship with the dependent variable (credit issued) except credit denied which has a negative relationship. The results show that applying for credit results into a 1.756 change in access to credit.

The findings further show that CRB report results into a 3.933 change in access to credit while credit denied cause a change of -1.73 in credit issued. These findings of the study therefore imply that credit application and CRB report positively influence credit issued.
The findings further imply that denial of credit negatively influences the credit issued. The results show that all the variables are statistically significant.

As shown in Table 4.17, a regression analysis was done between influence of credit issued on bureaus on loan applied, CRB reports and loan denied. The coefficient revealed that loan applied predicted credit issues (Sig. 0.041). The coefficients also revealed that CRB reports predicted credit issues (Sig. 0.029). In addition, it was also established that loans denied predicted credit issues (Sig. 0.044).

Table 4.17: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-0.028</td>
<td>0.013</td>
<td>-2.18</td>
<td>0.036</td>
</tr>
<tr>
<td>Loan applied</td>
<td>1.756</td>
<td>0</td>
<td>0.077</td>
<td>0.293</td>
</tr>
<tr>
<td>CRB reports</td>
<td>3.933</td>
<td>0</td>
<td>0.196</td>
<td>0.403</td>
</tr>
<tr>
<td>Loan denied</td>
<td>-1.73</td>
<td>0</td>
<td>-0.066</td>
<td>-0.263</td>
</tr>
</tbody>
</table>

4.7 Chapter Summary
This chapter presents the results and findings in line with the research questions which were to establish the influence of credit reference bureaus on credit access, credit scoring and credit rating in Kenya. This chapter also presents the descriptive and inferential statistics of the findings. The next chapter presents discussion, conclusion and recommendations drawn from the study.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter discusses the findings in line with the specific research question which are to establish of the study which are: what influence do credit reference bureaus have on credit access in Kenya? What influence do credit reference bureaus have on credit scoring in Kenya? What influence do credit reference bureaus have on credit rating in Kenya?

5.2 Summary
The aim of the study was to analyze the impact of credit reference bureaus on credit performance in Kenya. The research was guided by the following research question: what influence do credit reference bureaus have on credit access in Kenya? What influence do credit reference bureaus have on credit scoring in Kenya? What influence do credit reference bureaus have on credit rating in Kenya?

The study employed explanatory research design to recognize and clarify the impact of Credit Reference Bureaus on credit performance. The study targeted chief financial officers in the 44 registred banks in Kenya, and a primary sources of data was used in this research. With the primary sources, questionnaires were the most preferred method of collecting data. The data collection process followed a systematic process where the researcher first sought a letter for data collection from the university. Descriptive and inferential statistics was employed, and qualitative techniques thematic analysis was employed where responses from the interview schedules was discussed in themes that relate to the objectives of the study. Descriptive statistics such as frequencies, percentages and means to analyze the data was used. To analyze the relationship between the variables a regression analysis was used.

The study established that the amount of credit issued grew progressively from year 2012 to 2016. The research equally showed that the amount of CRB reports accessed was equal to the amount of credit issued through the years. However, there was slight disparity between the amount of credit issued and the number of people who were eligible for the credit. The findings illustrate that the number of declined credit applications owing to negative CRB reports was negligible. The research results showed that in relation to
majority of the respondents (94%), the credit reference information was beneficial. The findings revealed that most respondents indicated that CRBs deter credit defaulting to a great degree (mean score 3.56). It was indicated that the sharing of credit information played a vibrant role in decreasing the information asymmetry that is present between financial institutions and borrowers (mean score 4.35).

The respondents indicated that because of the credit reference, the financial institutions manage to get credit information on the prospective borrowers which facilitates the evaluation of credit requests to mitigate the risks of credit default (mean score 4.68). A majority of the respondents pointed out that the absence credit information in the past made financial institutions to factor a risk premium when it came to pricing the credit (mean score 3.24). The findings indicated that most of the respondents illustrated that credit information is not the only factor that leads to the high cost of credit (mean score 3.94). Majority of the respondents indicated that to a great level, the sharing of credit information from CRBs rewards and endorses an excellent credit track record (mean score 3.82). The findings revealed that respondents indicated that the credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers (mean score 4.15). The study also established that most respondents indicated that credit bureaus decreases the moral risks by initiating the credit culture whereby they operate as borrowers and have the awareness that the credit market looks into their credit track record and then rewards or penalizes them accordingly.

The research established that according to most of the respondents (47%), the CRB report was not the first task in credit processing. However, 22% of the respondents indicated that CRB report was where to start in the credit processing process. The results further revealed that according to most respondents’ negative report mean a decline in the credit application only to moderate extent (mean score 2.62). The respondents also indicated that for a credit application with negative report there was only one major step only to a moderate extent (mean score 2.18). Respondents also stated that to a moderate extent, the CRB has shortened the credit application procedures (mean score 2.03). The results revealed that respondents indicated CRB process has helped to move subjectively in the credit application process (mean score 3.27). The findings showed that respondents indicated that positive CRB report portends a shorter credit application process (mean score 3.28). According to the responses, the bank credit standards changes since CRB
inception in 2008. Respondents stated the CRB report reduced the screening procedures in the banks and that the CRB report had reduced screening procedures the banks.

The study findings revealed that most of the respondents (51%) indicated that their organizations used credit scoring as a credit screening procedure. The results showed that most respondents stated that the credit score had standardized the credit screening procedures (mean score 3.94). The findings further revealed that the credit scoring brought about similar credit request decisions (mean score 3.65). However, credit scoring had enhanced credit approval procedures to be more automated only to moderate extent (mean score 2.94). The results showed that according to most of the respondents, a good credit score mean less underwriting needs (mean score 3.33). The respondents also indicated that the credit scoring was a risk based pricing model (mean score 3.79). The study established that the credit scoring had to a great extent increased access to the credit (mean score 3.61). The regression analysis results revealed that though not strong enough the credit reference bureaus influenced the number of credit given.

5.3 Discussion

5.3.1 Influence of Credit Reference Bureaus on Credit Access

The study findings further show that majority of the respondents indicated that to a very great extent, the credit information sharing played a pivotal role in reducing the information asymmetry that exists between banks and borrowers (mean score 4.35). According to a study by Kiage, Musyoka and Muturi (2015) to establish the influence of positive credit information sharing determinants on the financial performance of commercial banks in Kisii town in Kenya, where the findings revealed that even though privacy protection negatively swayed financial performance of commercial banks. Furthermore, the costs of information sharing also negatively influenced the financial performance of commercial banks.

The results also show that respondents indicated that due to the credit reference, the banks are to a very great extent able to get credit information on the prospective borrowers that facilitate the assessment of credit requests to mitigate risks of bad debts (mean score 4.68). Osoro, Nyolei, Rotich and Odhiambo (2015) established the same in addition they added that 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.

The study also revealed that most respondents indicated that to moderate extent lack of credit information has in the past led to banks factoring a risk premium in the pricing of the credit (mean score 3.24). Bennardo, Pagano and Piccolo (2009) argued that credit information sharing minimizes the risk of over borrowing as individual lenders can access information on the overall indebtedness of borrowers from all lending sources. In addition, they show that when information is shared over indebtedness is reduced, the ability of borrowers to repay is reduced, and by cutting this form of uncertainty about the ability of borrowers to repay, a positive effect on the size of credit markets is obtained.

The findings revealed that most of the respondents stated that to a moderate extent the credit information is not the only one that contributes to the high cost of credit (mean score 3.94). Gaitho (2013) established that the 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 that the government must work closely with the bank to alleviate these barriers to make credit affordable.

The results show that majority of the respondents indicated that to a moderate extent, the credit information sharing from CRB rewards and promotes good credit track record (mean score 3.82). Koitaba (2013) also established the same findings and added that 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. Dankwah (2012), 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.

The findings show that respondents indicated that to a very great extent, the credit bureaus reduce the borrowing cost by forcing creditors to be more competitive for good borrowers (mean score 4.15). Gaitho (2013) also established the same and adds that lower costs for good credit risks motivate those borrowers to be more careful with repayment. 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

5.3.2 Influence of Credit Reference Bureaus on Credit Rating

The study findings show that most of the respondents (47%) indicated that CRB report was not the first task in credit processing. However, 22% of the respondents indicated that indeed, CRB report was where to start in the credit processing process. Similar sentiments were expressed by Gikonyo (2011) in his study to establish the effect of credit reference bureau on access to loans in Kenya. Liu (2011) adds that there are a number of factors that are taken into account for an individual’s credit score, including payment history, amounts owed, and length of credit history, new credit, and types of credit. Some of these factors have greater weight than others. Details on each credit factor can be found in a credit report, which typically accompanies a credit score. A high credit score indicates a stronger credit profile and will generally result in lower interest rates charged by lenders.

The respondents were asked to rate the effect of credit reference on credit application procedures in the organizations. The results indicated that negative report mean a decline in the credit application only to moderate extent (mean score 2.62). Results according to a study by Anderson (2010) noted that this is not necessarily the case as there are several principles of credit scoring. It helps to predict the probability of future behavior, evaluates past of current behavior, and the objective decisions are based on statistical data. Other principles include helping to make automated decisions, converts vast amounts of data into a simple tool, and it involves business strategy. Several data is used in credit scoring models which includes demographic information e.g. age, payment history, amount of debt owed, the length of the credit history, how much new debt one has, the type of credit and debt one has, and the number of credit enquiries in one’s profile

The results of the study further show that respondents indicated that to a moderate extent for (mean score 2.18), CRB has shortened the credit application procedures and screening procedures in the banks. Indeed, Tuwei, Sakataka and Oteki (2015) notes that credit information sharing has enabled banks to distinguish between bad and good borrowers. This means that defaulters will not be able to walk into a bank and get credit. This process in the long run will mean better information on borrowers resulting in accessible and cheaper loans. The bureau gets updated on any eventual (positive) changes to the information as they occur. The credit report forms a basis for making lending decision by
banks. Information is data that has been processed or transformed so that they are meaningful. Bocij, Greasley and Hickie (2008) argue that the difference between good and bad information can be identified by considering whether or not it has some or all of the attributes of information quality such as accuracy and timeliness.

The study findings revealed that majority of the respondents indicated that to a great extent, the CRB process has helped to move subjectively in the credit application process (mean score 3.27). Claire (2014) supports the same view and argues that based on the large number of consumer borrowers, credit scores tend to be mechanistic. Lewis (2014) also adds that to simplify the analytical process for their customers, the different credit bureaus can apply a mathematical algorithm to provide a score the customer can use to more rapidly assess the likelihood that an individual will repay a given debt given the frequency that other individuals in similar situations have defaulted. Chuang and Lin (2010) notes that this means there is no one credit score, but several or more; each credit bureau creates their own credit score for each individual.

The findings show that respondents indicated that to a great extent, positive CRB report portends a shorter credit application process (mean score 3.28). Similarly, findings were drawn from study by Tuwei, Sakataka and Oteki (2015) where it was indicated that loan processing took less than a week to process a loan as long as the customer met all the vetting requisites and thus borrowers did not wait for longer periods to be liquidated. This was based on the fact that credit information of customers took a day when requested by the bank and therefore since all loan applications needed credit scores for processing, this led to shorter loan processing periods.

5.3.3 Influence of Credit Reference Bureaus on Credit Scoring

The respondents were asked to state whether they used credit scoring procedures in their banks. The study findings in show that most of the respondents (51%) indicated that their organizations indeed used credit scoring as a credit screening procedure. According to Avery Paul and Glenn (2003); Brown, Tullio and Marco (2009) most approval processes continue to use credit scores as a measure of borrower creditworthiness at the time of loan origination. The continued importance of credit scoring in loan approvals merits careful study of the use and performance of such metrics.

The respondents were asked to rate how the credit scoring influenced the access to credit on a scale of no extent and very great extent. According to the findings of the study
respondents indicated that to a great extent the credit score had standardized the credit screening procedures (mean score 3.94). Several studies point to the fact that information sharing, credit scoring increases lending volumes, especially to borrowers of low credit quality (Berger, Frame & Miller, 2005). As a result, aggregate default rates may increase because of an increase in the proportion of lower-grade borrowers in the credit-eligible pool (Brown et al. 2009). According to Keys, Mukherjee, Seru and Vig (2010) past emphasis on credit scoring has been shown to increase default rates by reducing the incentives for screening. As a result, this has led to a reduction in borrower quality across the spectrum (generated due to a low screening intensity) which is more severe for borrowers on whom such screening was more valuable.

However, credit scoring had enhanced credit approval procedures to be more automated only to moderate extent (mean score 2.94). Zhao, Xu, Kang, Kabir, Liu and Wasinger (2015) undertook a study to investigate and make improvement of multi-layer perception neural networks for credit scoring and the data revealed that optimisation of dataset structure can give rise to a model’s accuracy significantly when compared to traditional methods. Similarly, Bumaco, Ashta and Singh (2014) study to investigate the use of credit scoring in microfinance institutions and their outreach established that microfinance institutions that use credit scoring increases the productivity of their loan officers, thus resulting into a rise in the number of borrowers, increased growth loans applied for and expansion of financial inclusion and developmental opportunities.

The respondents also indicated that to a great extent, the credit scoring was a risk based pricing model (mean score 3.79). Chuang and Lin (2010) noted that credit score plays a key role in a lender’s decision to offer credit. For example, a borrower with a low score that is under 600 is not eligible to receive a prime mortgage loan and receives a referral to a subprime lender for a subprime mortgage, which offers a higher interest rate; however, a borrower with a high score of 700 or above is creditworthy and is eligible to receive a lower interest rate, which results in paying less money in interest over the life of the loan. When information is updated on a borrower’s credit report, the borrower’s credit score changes based on whether he makes a payment or miss a payment.

Regression analysis revealed that independent variables which include credit applied for, CRB reports accessed, credit denied explain 29.5% of the variance in credit accessed. Ndungo, Olweny and Memba (2017) study to establish the effect of information sharing
function on financial performance of savings and credit co-operative societies established that indeed there was a significant and positive relationship between information sharing function and financial performance hence, existence of CRB was vital for improving financial performance of SACCOs. The research further concluded that CRBs have led to sharing of negative credit reports, improved defaults rate of borrowers, improved lenders response rate on credit lending and also reduced existence of privacy on borrowers’ credit history.

5.4 Conclusion

5.4.1 Influence of Credit Reference Bureaus on Credit Access

Credit referencing has played a major role in enabling financial institutions manage their credit information on the prospective borrowers, this has inline enabled for the evaluation of credit requests in order to mitigate the risks associated with credit default. It can also be concluded that sharing of credit information from CRBs has facilitated credit track record and the reduction of borrowing.

5.4.2 Influence of Credit Reference Bureaus on Credit Rating

It can be concluded from the study that credit rating is vital in determining the credit facilities sought by the clients, as such the CRB has shortened the credit application procedures hence removed the subjectively in the credit application process. In addition, CRB has reduced the screening procedures in the banks to make the process more effective.

5.4.3 Influence of Credit Reference Bureaus on Credit Scoring

Most banks utilize credit scoring as a credit screening procedure towards the vetting of clients. This push has in turn enhanced credit approval procedures to be more automated by less underwriting needs and thus greatly increased access to the credit and the number of credit given.

5.5 Recommendation

5.5.1 Recommendation for Improvement

5.5.1.1 Influence of Credit Reference Bureaus on Credit Access

To enable borrowers, appreciate the credit policies and recovery procedures, the lending institutions need to enlighten their clients on the significance of meeting their credit
obligations to avoid being blacklisted in the credit reference bureaus. Plenty of insight and awareness should also be made by the already established CRBs in Kenya to make borrowing more cognizant of their purpose in improving good credit behavior among clients, decreasing default levels, and advancing the price affordability of credit services.

5.5.1.2 Influence of Credit Reference Bureaus on Credit Rating

The study recommends that all the lending institutions should implement the use of the CRB report as a mechanism of evaluating the credit worthiness of the borrowers thereby curtailing the risk of credit default. The study also recommends that the government, the commercial banks, and the lending institutions ought to educate the borrowers of the importance of credit bureaus. This includes the decrease of the price of borrowing.

5.5.1.3 Influence of Credit Reference Bureaus on Credit Scoring

To avoid erroneousness in credit reporting, lending institutions, commercial banks and regulators ought to device a system of verifying credit scores since currently the banks may be utilizing unsubstantiated data from the bureaus to either grant or deny a borrower any credit facility. This has consequently resulted to an increasing number of litigations in the law courts by clients against their banks for wrongful listings in the credit bureaus. In accordance to the findings, the research the recommends that the Kenyan government needs to issue the credit reference protocols and generate awareness for the same so that credit lenders can issue the credit information of their borrowers with the CRBs. This means that all lenders should report both positive and negative information on the reimbursement performance.

5.5.2 Recommendation for Further Studies

Further research to be performed on the resultant positive information gathered by CRBs would be beneficial on credit scoring, credit rating and access to credit. Presently, CRBs only divulge the negative information about borrowers. This has had a legal implication and the Bankers association of Kenya is pursuing the legal stumbling block to ensure that CRBs can be allowed to submit all relevant information concerning borrowers to lenders. Studies should also be carried out on other dynamics such as mobile banking, agency banking and customer service to determine their impact on the profitability of commercial banks. In addition, the current precedent set by clients suing the CRBs for wrongful listing and its influence upon the banking industry should equally be studied.
REFERENCES


APPENDICES

APPENDIX I: QUESTIONNAIRE

THE EFFECT OF CREDIT REFERENCE BUREAU ON CREDIT SCORING AND ACCESS TO CREDIT IN KENYA

This set of questions is intended to get the Effect of Credit Reference Bureau on Credit Scoring and Access to Credit in Kenya: With your honest answers, the interested stakeholders will have the right information to plan the way forward. You are hereby guaranteed that the information you give was treated with utter confidentiality.

Section A: General Information

1. Name of Bank

2. Position held at the Bank

Section B: Loans advanced

1. Please provide the impacts of CRB on the listed factors for the period 2008-2016 where 5= Greatly increased; 4=Increased; 3=No change; 2=Decreased; 1= Greatly decreased

<table>
<thead>
<tr>
<th>Variable</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Number of Loans issued</td>
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<tr>
<td>Number of Individuals qualifying for loans</td>
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<td>Number of CRB reports accessed</td>
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<td>Number of declined loan applications due to negative CRB reports</td>
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2. How useful are the information provided by credit reference bureau in making credit decision?

Not Useful {} Useful {} Very Useful {}
SECTION C:
3. Rate The Effect of Credit Reference Bureau On Access to Credit in Kenya using the scale of 1-5 with
   No extent at all =1, Low extent =2, Moderate =3, Great extent =4, Very great extent =5

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>- CRB acts a deterrent to loan defaulting.</td>
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<td>- Credit information sharing plays a pivotal role in reducing the information asymmetry that exists between banks and borrowers.</td>
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<tr>
<td>- 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</td>
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<td>- Lack of credit information has in the past led to banks factoring a risk premium in the pricing of credit</td>
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<td>- 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</td>
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<td>- Credit information sharing from CRB rewards and promotes good credit track record.</td>
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<td>- 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</td>
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<td>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</td>
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</table>
SECTION D: Procedure to Accessing Loans

1. Is accessing a CRB report the first task in loan processing?
   Yes { } No { } 

2. Rate the loan application procedure on the Effect of Credit Reference Bureau on Access to Credit using the scale of 1-5 with
   No extent at all =1, Low extent =2, Moderate =3, Great extent =4, Very great extent =5

<table>
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<tr>
<th>Descriptions</th>
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<tr>
<td>- Does a negative report mean a declined loan application</td>
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<td>- For a loan application, there is only one major step for an applicant with a negative CRB report</td>
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<td>- Has the CRB process helped remove any subjectivity in the process</td>
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<td>- A positive CRB report portends a shorter application process (confidence in applicant)</td>
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<td>- CRB has shortened the loan application procedure</td>
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<td>- Has your bank credit standards changed since CRB inception in 2008</td>
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<td>- Has the CRB report reduced screening procedures at your bank</td>
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SECTION E: Credit Scoring

1. Is credit scoring used as a loan screening procedure at your bank?
   Yes { } No { }

2. Rate the Credit Scoring on the Effect of Credit Reference Bureau on Access to Credit using the scale of 1-5 with
   No extent at all =1, Low extent =2, Moderate =3, Great extent =4, Very great extent =5

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<tr>
<td>- Has the credit score standardized loan screening procedures</td>
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<td>- Has credit scoring brought about similar loan request decisions</td>
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<tr>
<td>- Has credit scoring enhanced loan approval procedures to be more automated</td>
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<tr>
<td>-Does a good credit score mean less underwriting Needed</td>
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<tr>
<td>-Credit scoring is a risk based pricing model</td>
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<tr>
<td>-Credit scoring has increased access to credit</td>
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**Open Ended Question**

In your opinion, how has your bank collections/recovery faired with regard to the existence of the CRB platform?

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APPENDIX II: LIST OF COMMERCIAL BANKS IN KENYA

1. African Corporation Bank
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. CFC Stanbic Bank
7. Chase Bank
8. Citibank
9. City Finance Bank
10. Commercial Bank of Africa
11. Consolidated Bank
12. Co-operative Bank of Kenya
13. Credit Bank
15. Diamond Trust Bank
16. Dubai Bank
17. Ecobank
18. Equatorial Commercial
19. Equity Bank
20. Family Bank
21. Fidelity Commercial Bank
22. Fina Bank
23. First Community Bank
24. Giro Commercial Bank
25. Guardian Commercial Bank
26. Gulf African Bank
27. Habib A.G. Zurich
28. Habib Bank Ltd
29. HFCK
30. I&M Bank
31. Imperial Bank
32. Kenya Commercial Bank
33. K-Rep Bank
34. Middle East Bank
35. National Bank of Kenya
36. NIC Bank
37. Oriental Commercial Bank
38. Paramount Universal Bank
39. Prime Bank
40. Prime Capital & Credit
41. Southern Credit Bank
42. Standard Chartered Bank
43. Trans- National Bank
44. Victoria Commercial Bank