Mozambique, Nigeria, Rwanda, Benin, Burkina Faso, Cote D'voire, Guinea Bussau, Mali, Niger, Senegal and Togo (Omari, 2012). The countries with private CRBs include Mali, Niger, Nigeria, Burkina Faso, Kenya, Benin, Senegal, Gambia, Cote D'ivore, Ghana, Uganda, Tanzania, Botswana, South Africa, Swaziland, Namibia, Rwanda and Togo amongst [12].

Though the necessary legal structure was in place, the Credit Information Sharing mechanism rolled out in July 2010 [6]. The first reporting date for NPLs and other information was in August of 2010 and subsequent updates on a monthly basis [5]. There are two CRB companies registered by the CBK that is Credit Reference Bureau Africa Limited (trading as TransUnion) and the Metropol Credit Reference Bureau [3]. A licensed bureau may engage in activities such as store and update the customer information maintain database and generate reports and assess the creditworthiness of a customer [1]. The CRBs may also undertake market and statistical research and sell to institutions specialized literature [9].

The uptake of the CRB services has been on the rise in the Kenyan banking sector. For example, it is noted [15] that, by the end of the first quarter of 2011, the commercial banks had submitted over 760,000 records. On the other hand, it is indicated [3] that, as at 31st December 2013, a total of 3.5 million and 55,094 credit reports had been requested by banks and customers respectively from two licensed CRBs since 2010. The amendments and examinations of the regulatory environment around the CRBs continue under the KCISI banner. This has led to the revised Credit Reference Bureau Regulations, 2013 which resulted in the incorporation of the Banking Act and the Microfinance Act to enable both the commercial banks and microfinance institutions to share the positive and negative credit information.. This sharing of the positive and negative credit information is referred to as full file [5].

There has been an upsurge in the utilization of the Credit Reference Bureaus (CRBs) among commercial banks in Kenya. In this context, the Central Bank of Kenya noted a 25.6% increase in the CRB reports requests from the 2012 financial year to 2013 financial year [3]. In this context, 1,015,327 CRB reports were requested by commercial banks in 2012 compared to 1, 275, 522 reports in 2013. There is also a noted upsurge in the usage by customers with up to 26, 361 CRB reports requests by customers in 2013 compared to 22, 692 similar reports in 2012.

2. Statement of the Problem

The Kenyan banking sector has faced major crisis since independence leading to collapse of several banks. For example, 12 banks collapsed between 1984 and 1989, a further 19 banks were affected by bank failures between 1993 and 1995, 1998 saw the collapse of 6 banks and the period between 2000 to 2005 saw the collapse of a further five banks and non-banking institutions [5]. One of the reasons for the banking crisis and failures is the non-performing loans and [1]. The non-performing loans and advances continue to be a threat to the banking sector during to the increasing gross non-performing loans and advances is on the increase in the Kenyan banking sector(Central Bank of Kenya, 2014). For example, the gross non-performing loans and advances stood at 59.586 billion and 2.331 billion for the banking and Non-Banking Financial Institutions (NBFIs) for the 2012 financial year (Central Bank of Kenya, 2014). These provisions increased in the 2013 financial year to stand at 78.647 billion and 3.210 billion for the banks and NBFIs respectively representing 32.2% growth in the provisions [3].

The non-performing loans and advances situation is partially contributed by serial defaulters [11]. The serial defaulters exploited the information asymmetry between different commercial banks to borrow from multiple lenders and failing to meet their obligations [19]. The CRB are meant to fill this information asymmetry between banks and lead to better credit risk management reduction of the NPLs. The removal of the information asymmetry between lenders also reduces the moral hazard risks of the borrowers under-declaring his total outstanding liabilities with different commercial banks. Despite the introduction of CRB, the CBK statistics show an increase in the gross non-performing loans and advances. This examined the usage of the CRB in the banking sector within the context of loan recovery efforts to find out the effectiveness of the strategy. More specifically the researcher notes the lack of comparison literature on the usage of CRB on loan recovery and the effectiveness of the usage among diverse banks. The newly introduced positive credit information sharing has not been studied to determine on its impact on the loan recovery among commercial banks in Kenya. The study aims to fill these literature gaps.

3. Objectives

3.1 General Objective

To examine the use of credit reference bureaus on loan recovery among selected commercial banks in Kenya

3.2 Specific Objective

To analyze the role of CRB reports on credit scoring among selected commercial banks in Nakuru Sub-County

4. Research Question

What is the role of CRB reports on credit scoring among selected commercial banks in Nakuru Sub-County?

5. Conceptual Framework

The conceptual framework as shown in Figure 1illustrates the hypothesized relationship between the independent variable (credit scoring) and the dependent variable (loan recovery). The independent variable is relative advantage. On the other hand, the dependent variable is adoption and use of mobile banking. Further, the Central Bank of Kenya's (CBK"s) Act influences the aforestated relationship.

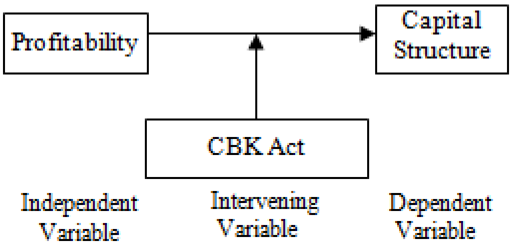

Figure 1: Conceptual Framework

6. Literature Review

The researcher reviewed theories and empirical studies touching on credit reference bureaus and loan recovery.

6.1 Theoretical Review

6.1.1 Adverse Selection Theory

Commercial banks through lending products are exposed to the adverse selection problems in their credit risk assessment of credit facilities application [6]. The adverse selection problem occurs due to the fact that commercial banks have access to information of their customers who need to access credit facilities but lack similar information on other lending institutions [12]. This results to information asymmetry that disadvantages the good borrowers and increases the cost of credit facilities (Otwori, 2013). The lending institutions in the context of asymmetrical information settings are forced to price their credit facilities in terms of the interest rates in a manner that is reflective of the borrowers' pooled [19].

The CRB are designed to reduce information asymmetry between various lending [19]. This is meant to assist the lenders differentiate between good and risky borrowers [10]. Since the lenders are better able to profile both the local and foreign credit facility applicants, then the good borrowers should be able to get attractive interest rates due to their low risk profile [15]. The commercial banks also benefits from having an improved pool of borrowers, decreases default rates and expansion of the credit market [5].

6.1.2 Moral Hazard Theory

The moral hazard theory is based on the notion that the borrower has an incentive to default unless there are consequences to his future credit facility applications [19]. It is argued [1] that, the moral hazard refers to the risk that a party to a transaction has not entered into contract in good faith, has provided misleading information about its assets, liabilities or credit capacity or has an incentive to take unusual risk in a desperate attempt to earn a profit before the contract settles. On the other hand, it was argued [15] that, the moral hazard is that the risk that the borrower may not utilize the funds prudently hence affecting his ability to repay the loan. The lender has no way of monitoring the usage of the loan to ensure that it is being used in manner that doesn't compromise the ability to repay the loan [1].

6.1.3 Bank Risk Management Theory

This theory developed by the David Pyle emphasis on the need for credit risk management for the survival of the financial institution. In this context, it was argued [16] that, the theory is based on the fact that credit risk management influences the bank's profitability because without effective and efficient credit risk management, banks profitability, liquidity and solvency are unthinkable [10]. .According to the bank risk management theory, the bank must minimize the credit risk using all means at its disposal including the use of CRB reports. The main sources of credit risk include inappropriate credit policies, poor management and poor credit assessment [16].

6.2 Empirical Review

In this section, empirical studies hitherto conducted in respect to credit scoring concept and loan recovery are reviewed.

6.2.1 The Role of Credit Scoring on Loan Performance

Banks face the credit risk due to the fact that they don't have comprehensive borrower's information from a historical perspective, the borrower's characteristics and the intention of the borrower thus creating a moral hazard [10]. The removal of the information asymmetry between commercial banks through the use of the Credit Reference Bureau (CRB) assists the bank to make better credit risk assessment of potential borrowers [16]. It was noted [1] that, information collected by the CRBs in a historical context had powerful default predictive power. The more information was included in the CRB report the better the default predictive models. It was indicated [12] that, studies done in Brazil and Argentina further collaborates the fact that of decreasing default rate based on comprehensive information in CRB.

The CRB prevent the cases of serial defaulters [16]. The serial defaulters move from different lenders due to the fact that they can't access credit facilities with their current lenders [10]. This has the effect of increasing the average risk of lending and the corresponding interest rates. This may also have the effect of providing the low risk customers with a higher interest rate that doesn't reflect the low risk situation [18]. One of the features that banks deliberate when deciding on a loan credit application is asserted to be the estimated chances of recovery [9]. To arrive at this, credit information is required on how well the applicant has honoured past loan obligations [15].

This credit information is important because there is usually a definite relationship between past and future performance in loan repayment. Very often, this history is not within the bank's reach because the potential borrower's repayment records are scattered in the various archives of the other financial institutions where the customer has previously borrowed [19]. Whenever a borrower has credit information that the lender cannot access, this is officially referred to as information asymmetry [12]. It is also pointed out [6] that, information exchange from multiple sources improves the precision of the signal about the quality of the credit seeker. As a result, the default rate reduces. In contrast, the effect on lending is vague, because when banks exchange credit information about borrowers' categories, the implied increase in lending to good borrowers may fail to compensate for the reduction in lending to risky borrowers [4]. The removal of the information asymmetry between lenders also reduces the moral hazard risks in which the borrower under declares his outstanding liabilities with different lending institutions. This may lead to an inability to pay in case the customer over-commits himself.

Banking competition for borrowers strengthens the positive effect of information sharing on lending: when credit markets are competitive, information sharing reduces informational interest charged and increases banking competition, which in turn leads to increased lending [5]. Information sharing can also create incentives for borrowers to perform in line with banks' interests. It is shown that, information sharing can motivate borrowers to pay their loans, when the legal atmosphere makes it difficult for banks to implement credit agreements. In this model borrowers repay their loans because they know that defaulters are blacklisted, reducing external finance in the near future [8].

The use of the CRB creates information collateral that can be used to borrow from commercial banks [9]. 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 [6]. 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 [4]. 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 [12].

6.2.1 Strategies of Loan Recovery among Commercial Banks

There are several strategies that have been used by the commercial banks and financial industry players in relations to loan recoveries among debtors [9]. Such strategies included sale of collaterals used to secure loan facilities such as title deeds and car log books. This kind of recovery is often used for relatively large loans that have been secured by such facilities [15]. However, there may be legal obstacles to this kind of recovery which may delay the bank from getting c\back its money within the required timeframe. Small loans especially to the Micro, Small and Medium Enterprises (MSMEs) and for individual users often less than 100,000 are often secured through the use of guarantors [19].

In the event of defaults, the banks recover their funds from the guarantor's accounts. This is one of the most effective recovery strategies by the banks as the banks are able to receive their funds immediately [16]. Commercial banks have also in certain instances auctioned the household items and other properties of the defaulting customers. This recovery method often involves the use of force and the auctioneer intimidates the defaulting customers to release their properties through the use of force [6]. At times there are actual physical injuries in the process of auctioning the properties. The process may also be subject to legal obstacles. Finally commercial banks can employ the use of professional debt collectors at a commission on the recovered amounts [9]. The time involved may be lengthy before the bank can recover their funds.

7. Research Methodology

Research methodology is a way to systematically solve the research problem [2]. The researcher used the descriptive survey research design. This research design involves posing a series of questions to willing participants, summarizing their responses and then drawing inferences about a particular population from the responses of the sample. In the context of this study, the researcher used the inferences drawn from the sample in selected commercial banks to generalize the usage of CRB for loan recovery among commercial banks in Nakuru Sub County. The target population constituted the commercial banks located within Nakuru Sub County. Nakuru Sub County has over 25 commercial banks [13]. A sample of 55 employees was drawn from the aforementioned commercial banks using stratified random sampling method.

Structured questionnaires were used to collect primary data. The questionnaire is asserted [7] to be advantageous in that it saves on time, are confidential, have increased access to populations and eliminate interviewer bias. The questionnaires were pretested prior to being administered in the main study. The pretest enabled the determination of both reliability and validity of the instrument. Cronbach alpha was employed to test reliability. On the other hand, content validity was determined by seeking expert opinion regarding the content of the questionnaires.

7.1 Data Processing and Analysis

The data was analyzed using Statistical Package for Social Sciences (SPSS) version 21. Data analysis was both descriptive and inferential. The former was used to describe the characteristics of the sampled respondents while the latter was employed to draw conclusions in respect to study objectives.

7.2 Research Findings

A total of 75 structured questionnaires were issued to the sampled respondents. Out of these, 63 were sufficiently and appropriately filled, and returned to the researcher. This represented 84 per cent response rate.

7.2.1 The role of CRB in Credit Scoring

Several means and standard deviations were observed as illustrated in Table 1. The items that had their means closer to the maximum number had the respondents' opinions towards strongly disagree. Higher standard deviations showed greater variances in the responses.

Table 1: The role of CRB in Credit Scoring

	Min	*Max*	*Mean*	*S.D.*
CRB information is used to prevent borrowers' over-committing themselves in credit facilities application?	.00	2.00	.562	.712
Customers' with positive credit information are given favourable credit terms	2.00	4.00	2.96	.824
Customers' with positive credit information have their credit facilities application processed faster	1.00	4.00	2.50	.875
CRB listing from different institutions (e.g. HELB, Microfinance Institutions etc.) affect credit facilities applications differently	.00	2.00	1.04	.771
CRB listing on different products (e.g. Mswari) are treated different from others (e.g. listing due commercial banks loans) in credit applications.	.00	3.00	1.23	.994
CRB listing has been used as basis for refusal to grant credit facilities	.00	1.00	.42	.498

7.2.2 Loan Collection Strategies

Several means and standard deviations were observed as illustrated in Table 2. The items that had their means closer to the maximum number had the respondents' opinions towards strongly disagree. Higher standard deviations showed greater variances in the responses.

Table 2: Descriptive Statistics for Capital Structure

	Min	*Max*	*Mean*	*S.D.*
The bank has an in-house collection team to follow up on unpaid loans	.00	3.00	1.46	.849
The bank engages auctioneers to sell off lenders' household and business effects to recover on defaulted loans.	.00	4.00	2.90	1.04
The bank outsources bad debts to professional debt collectors	.00	4.00	2.48	1.32
The bank depends on the use of CRB to recover on non-performing loans	.00	2.00	1.21	.798
The bank recovers the borrowed money from the guarantors upon default	.00	3.00	1.83	1.173

7.2.3 CRB effect on Loan Performance

Several means and standard deviations were observed as illustrated in Table 3. The items that had their means closer to the maximum number had the respondents' opinions towards strongly disagree. Higher standard deviations showed greater variances in the responses.

Table 3: CRB effect on Loan Performance

	Min	*Max*	*Mean*	*S.D.*
Credit facilities customers exert more efforts in payment to avoid being listed	.00	4.00	1.90	1.21
Customers are worried on the reputational damage of being listed at the CRB	.00	3.00	1.06	1.02
Customers proactively seek ways to honour their commitments to avoid being listed at the CRB	.00	4.00	1.98	1.54
CRB has made loan recoveries easier for the defaulted loans	.00	3.00	1.06	1.02
CRB usage has led to lower defaults rates among borrowers	.00	3.00	.791	1.09
CRB usage has led to recovery of written off debts	.00	3.00	1.17	1.15

8. Summary, Conclusions and Recommendations

8.1 Summary

The CRB reports are used for credit scoring for all credit facilities such as credit cards, personal loans, and business loans across different commercial banks. However, not all banks offered salary advances and overdrafts hence relatively low usage of the CRB reports for this purposes at 35.4% and 39.6% respectively. The main reason for usage of the CRB information in credit scoring was the prevention from over borrowing (87.6%) or over-committing the customers' pay slip that would lead to credit risk. While the negative (black) information was used as a basis of credit facility denial, there was little gain made from positive (white) information in the context of favourable credit facilities or quicker processing time. This was hugely attributed to the current legal framework and bank policies that have not institutionalized the benefits of positive credit information. All the respondents agreed that black information led to credit denial and that the respondents were not accorded favourable credit facilities. However, customers with positive CRB report had their loans processed relatively faster as there was no time wastage in dealing with CRB related challenges.

The use of CRB in credit facility management is having a positive effect on the loan default rates. Up to 70.8% of the respondents agreed that customers are putting in more efforts in repaying their credit facility to avoid being listed. The banks are also able to recover bad debts or written off debts as the listed customers cannot access further credit facility. This was attested by 58.4% of the respondents.

8.2 Conclusions

It was concluded that, the commercial banks in Kenya are using the CRB reports in credit facility applications to prevent over borrowing and over committing the customers' pay slips. However, the collection of the white information (positive) is yet to benefit the customers through favourable lending conditions. It was inferred that, banks have are able to recover bad debts or written off debts through use of CRB listing.

8.3 Recommendations

The banks have been using the CRB information for credit scoring and, therefore, it is advised that, there is need to educate the customers on the role of the reports for credit scoring especially customers listed by non-bank institutions such as HELB and Mshwari.

References

[1] Alloyo, P. (2013). The Effect of Credit Reference Bureaus on Financial Performance of Commercial Banks in Kenya.

International Journal of Business and Management Invention, *2*(2), 30–31.

[2] Aucamp, J. (2010). A Comparative Study of Tax Relief Measures for Small, Medium and Micro Enterprises in South Africa and Australia. *International Journal for Management Science and Terchnology*, *3*(4), 36–474.

[3] Central Bank of Kenya, . (2014). *Central Bank of Kenya Bank Supervision Annual Report 2013*.

[4] Dankwah, E. (2012). The Relevance of Credit Reference Bureau and its Effect on the Financial Industry in Ghana. *International Journal of Business, Humanities and Technology*, *2*(2), 2.

[5] Gichimu, S. (2013). Credit Reference Bureaus, Loans Advancement and Recovery Performance by the Higher Education Loans Board of Kenya. *Journal of Modern Accounting and Auditing*, *4*(3), 35–42.

[6] Gitahi, R. (2013). The Effect of Credit Reference Bureaus on the Level of Non Performing Loans in the Commercial anks in Kenya. *International Journal of Research in Management Economics and Commerce*, *3*(4), 7–9.

[7] Koitaba, E. (2013). An Analysis of Factors Influencing Financial Control Practices in Community Based Organizations in Baringo County, Kenya. *International Journal of Financial Research*, *2*(1), 14–19.

[8] Madise, S. (2011). Developing an Independent Regulatory Framework for the Financial Sector in Malwai. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, *2*(3), 2010–2011.

[9] Migwi, J. (2013). Credit Monitoring and Recovery Strategies Adopted by Commercial Banks in Kenya. *Journal of Modern Accounting and Auditing*, *2*(2), 27–30.

[10] Mwiya, B. (2010). Credit Default in the Financial Sector: Need for Credit Reference and Rating Agencies. *Journal of Economics and International Business Research*, *2*(3), 41–43.

[11] Ngugi, J., Ndwiga, P., Waithaka, S., & Gakure, R. (2012). Effect of Credit Risk Management Techniques on the Performance of Unsecured Bank Loans Njuguna, 2012

[12] Njungiri, J. (2012). The Standard Credit Reference Bureau and the Performance of Multinational Banks Operating in the East African Community. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, *3*(3), 27–30.

[13] Njunji, A. (2013). A Survey of Adoption of Agency Banking by Commercial Banks in Nakuru CBD. *Interdisciplinary Journal of Contemporary Research in Business*, *2*(3), 34–36.

[14] Okwoma, D. (2012). The Effect of Corporate Social Responsibility on the Financial Performance of Commercial Banks in Kenya. *International Journal of Business and Public Management*, *2*(3), 37–40.

[15] Omari, M. (2012). Credit Reputation as Collateral : A Case for Improvement of the Legal Regime on Credit Referencing in Kenya. *Journal of Modern African Studies*, *2*(1), 45–49.

[16] Otwori, C. (2013). The Relationship Between Credit Referencing and the Level of Non Performing Loans of Commercial Banks in Kenya. *International Journal of Business, Humanities and Technology*, *2*(4), 39–43.

[17] Scott, B. (2008). *Increasing the South African Consumer ' s Access to Credit through the use of Non-traditional Sources* .

[18] Siwela, M. (2011). The Development of the Credit Reference System: A Case Study of Zambia. *Journal of Accounting and Finance*, *2*(2), 102–104.

[19] Wandera, M., & Kipyego, D. (2013). Effects of Credit Information Sharing on Non Performing Loans:The Case of Kenya Commercial Bank, Kenya. *European Scientific Journal*, *9*(13), 168–193.

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