EFFECTS OF CREDIT RISK MANAGEMENT ON LOAN REPAYMENT PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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ABSTRACT

Banks operate in an environment of considerable risks and uncertainty. Credit risk has always been a vicinity of concern not only to bankers but to all in the business world because the risks of a trading partner not fulfilling his obligations in full on due date can seriously jeopardize the affairs of the other partner. Credit risk management in banks has become more important because of the series of financial crisis that the world has experienced in the recent past. The objective of study was to investigate the influence of credit policies, debt collection process, risk identification process and credit scoring on loan repayment performance of commercial banks. The target population was employees of the registered commercial banks in Kenya working at the head office with a sample size of 55 respondents drawn using purposive sampling. Primary data was collected by use of questionnaires. A reliability test was done by carrying out a pilot survey using Cronbach Alpha method. Analysis was done by both quantitative and qualitative techniques. Quantitative analysis included the use of tables. The data was then analyzed using descriptive statistics and inferential statistics; regression analysis was used to demonstrate effect of independent variables on dependent variable. The findings revealed positive significance relationships between the variables all set at p<.05.Organisational credit policies correlated at coefficient of 0.380,while risk identification processes correlated at coefficient of 0.692, debt collection processes at 0.417 and credit scoring correlated at 0.323. The findings of the study indicated credit risk management has an effect on the loan repayment performance. The findings noted commercial banks' effectiveness in implementing their organizational credit policies would result to an improvement in the loan repayment among its borrowers; Commercial banks' effectiveness in implementing their organizational credit policies would result to an improvement in the loan repayment among its borrower. An improvement in the debt collection among commercial banks and intense credit scoring of borrowers helps in only selecting the pool of borrowers who are credit trustworthy and thus this would have a positive implication on the loan repayment performance of loans. Based on the study findings the study concluded that credit policies, debt collection process, risk identification process and credit scoring have a significant positive effect on loan repayment performance. The study recommended that companies and/or firms should have stringent credit appraisal techniques and that it should also adopt credit monitoring practices. The study also recommended that banks and any other credit lending organization should have a stringent debt collection policy. Therefore the credit committees at all levels must work in co-ordination in order to ensure that credit is collected in a timely manner.

Key Words: *credit risk management, loan repayment, performance, commercial banks, Kenya*

INTRODUCTION

Commercial banks face various risks that can be categorized into three groups; financial (with credit risk being a component), operational and strategic (Cornett & Saunders, 2012). These risks have different impact on the performance of commercial banks. The magnitude and the level of loss caused by credit risk compared to others are severe to cause bank failures (Morris, 2013). Over the years, there have been an increased number of significant bank problems in both matured and emerging economies. Various researchers have studied reasons behind bank problems and identified several factors (Basel, 2006). Credit problems, especially weakness in credit risk management (CRM), have been identified to be a part of the major reasons behind banking difficulties.

Loans constitute a large proportion of credit risk as they normally account for 10-15 times the equity of a bank (Kitua, 2011). Thus, banking business is likely to face difficulties when there is a slight deterioration in the quality of loans. Poor loan quality has its roots in the information processing mechanism. Brown and Bridge (2011) observed that these problems are at their acute stage in developing countries. The problem often begins right at the loan application stage (Knight, 2013) and increases further at the loan approval, monitoring and controlling stages, especially when credit risk management guidelines in terms of policy and strategies/procedures for credit processing do not exist or weak or incomplete. The non-performing loans (NPLs) represent credits which the banks perceive as possible loss of funds due to loan defaults. They are further classified into substandard, doubtful or lost. Bank credit in lost category hinders bank from achieving their set target (Shaw et al., 2012). Credit risk management models include the systems, procedures and control which a company has in place to ensure the efficient collection of customer payments and minimize the risk of non-payment.

Globally, banks have adopted credit risk management practices. The Macaulay (2008) investigated the adoption of credit risk management Khan practices in the United States and reported that over 90% of the banks in that country have adopted the Khan practices. Effective credit risk management has gained an increased focus in recent years, largely due to the fact that inadequate credit risk policies are still the main source of serious problems within the banking industry. Moreover, banks need to manage credit risk in the entire portfolio as well as the risk in individual credits transactions. The bank of Jamaica conducted an empirical study on the implementation of credit risk management policies by commercial banks in that country. The study which involved all the 73 banks in that country found out that only 46% had implemented them in full. This was partly attributed to the poor way in which the regulations had been communicated. Credit policies establish the framework for lending and reflect an institution's credit culture and ethical standards. To be effective, policies must be communicated in a timely fashion, be implemented through all levels of the organization by appropriate procedures and revised periodically in light of changing circumstances. Measuring the risks attached to each credit activity permits the determination of aggregate exposures to counterparties for control and reporting purposes, concentration limits and risks/reward returns.

One bank failure may have a contagion effect on the other banks leading to a systematic failure of the whole banking industry in a country or even a whole region as witnessed during the Asian Bank crisis (2013-2009). Privately owned banks are more likely to implement credit risk management polices than state owned banks. Geithner (2013) investigated credit risk management policies for state banks in china using a survey research design. The study found out that with the increasing opening of the financial market, the state owned commercial banks in china are faced with the unprecedented challenges. As the core of national finance and vital of national economy, the state owned commercial banks could not rival with foreign banks unless they make profound changes. And the reform of credit risk management is a major step that determines whether the state owned commercial banks in china would survive the challenges or not.

Developing economies in the world, Kenya included, face more uncertainties that the developed counter parts. Banking business in developing worlds therefore faces more risks. Failure to manage risks effectively in the respective banks leads to bank failures. Here in Kenya, Korir (2012) found that credit risk was only second to poor management in contributing to bank failures. On perception, Idarus (2012) found that credit risk was the most important area of risk management in Kenya. Korir (2012) noted that in 1993 alone, 14 banks in Kenya collapsed.

In recognition of the high risks involved in banking, the Central Bank of Kenya published risk management guidelines for the purpose of providing guidance to all financial institutions on the minimum requirements for a risk management frame work and strategy. It has classified the risks facing financial institutions into nine classes namely: strategic risk, credit risk, liquidity risk, interest rate risk, price risk, foreign exchange rate risk, operational risk, reputation risk and regulatory risk. Banks can project the average level of credit losses it can reasonably expect to experience (Knight, 2013).

Risk management means, increasing the likelihood of success, reducing the possibility of failure and limiting the uncertainty of all the overall financial performance. Khan (2013) argued that the purpose of risk management is to prevent an institution from suffering unacceptable loss. He went on to explain that "unacceptable loss" is one which either causes an institution to fail or materially damages its corporate position. Banks must monitor the ever changing micro and macroeconomic environment to identify the risks therein and find ways of managing these risks. Credit risk management is very essential to optimizing the performance of financial institution. Recognizing this importance, this paper focuses on understanding the credit risk management system of commercial banks operating in Kenya and its effects on the loans repayment performance.

STATEMENT OF THE PROBLEM

The very nature of the banking business is so sensitive because more than 85% of their liability is deposits from depositors (Saunders & Cornett, 2012). Banks use these deposits to generate credit for their borrowers, which in fact is a revenue generating activity for most banks. This credit creation process exposes the banks to high default risk.

Loans constitute a large proportion of credit risk as they normally account for 10-15 times the equity of a bank (Kitua, 2011). The ratio for total loans to total assets for the year ended 31st December 2014 was 59.48% a slight increase from 58.2% reported in December 2013(CBK Credit Survey Report, 2014). Thus, banking business is likely to face difficulties when there is a slight deterioration in the quality of loans. Non-performing loans continues to be a problem with all commercial banks in Kenya (CBK, Monthly Economic review, January, 2009). Obiero (2013) found out that, out of the 39 banks which failed during the period of 1984 and 2013, 37.8 % collapsed mainly due to poor quality lending. The ratio of non-performing loans to gross loans increased from 5.2% in December 2013 to 5.6% in December 2014 (CBK bank supervision annual report, 2014). The increase in non-performing loans signaled an increase in credit risk.

Several studies have been done globally on the relationship between credit risk management practices and nonperforming loans. For instance, Greuning and Bratanovic (2012) studied the basis of a sound credit risk management system including guidelines that clearly outlines the scope and allocation of bank credit facilities and the manner in which the credit portfolio is managed. This study reviewed how loans are originated, appraised, supervised and collected. Mutangili (2011) did a study on nonperforming Loans and macro financial vulnerabilities in advanced economies and established that a sharp increase in NPL triggers long-lived tailwinds that cripple macroeconomic performance from several fronts. In Kenya, Bessis (2012) did a study on the risk management practices adopted by banking institutions in Kenya. The study reveals that risk management in Kenya is considered a vital factor for organizations to meet their desired goals and objectives. Other studies on credit risk management include Muasya (2013) who investigated the relationship between credit risk management practices and loans losses among commercial banks in Kenya, Korir (2012) did a study to establish the effects of credit risk management practices on financial performance of deposit taking microfinance institutions in Kenya, Mwangi (2012) reviewed the effect of credit risk management on the financial performance of commercial banks, Mutangili (2011) conducted a study to establish the relationship between credit risk management and the level of non-performing loans in banks, Gisemba (2010) carried out a study on impact of credit risk management practices on financial performance among the SACCOs while Ngare (2008) conducted a survey to investigate Credit Risk Management Practices by Commercial Banks in Kenya.

Based on these studies performed and risk of non-performing loans and competition faced by banks in Kenya, NPLs are a concern to commercial banks. Banks have adopted various risk management practices (Korir, 2012). It is however not clear which one is the most effective in reducing NPLs. Carrying out the research helped to empirically understand if the credit risk management in practice really matter to commercial banks then; it should significantly contribute to reduce the NPLs. This study aimed to establish the effects of credit risk management on loan repayment performance in commercial banks.

OBJECTIVE OF THE STUDY

The general objective of the study was to establish the effects of credit risk management on loan repayment performance of commercial banks in Kenya.

SPECIFIC OBJECTIVES OF THE STUDY

1. To determine the effects of organizations credit policies on loan repayment performance of commercial banks in Kenya.
2. To find out the effects of debt collection process on loan repayment performance of commercial banks in Kenya.
3. To investigate the effects of risk identification process on loan repayment performance of commercial banks in Kenya.
4. To establish the effects of credit scoring on loan repayment performance of commercial banks in Kenya.

THEORETICAL FOUNDATION

The study was based on portfolio theory, moral hazard theory, information theory and value at a risk (VAR) theory.

Portfolio Theory

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many banks are now using value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most banks, the practical of MPT to credit risk has lagged (Idarus, 2012).

Banks recognize how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. This industry is also making significant progress toward developing tools that measure credit risk in a portfolio context (Altman, 2011). They are also using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years.

Traditionally, organizations have taken an asset-by-asset approach to credit risk management. While each company's method varies, in general this approach involves periodically evaluating the quality of credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio's expected losses. The foundation of the asset-by-asset approach is a sound credit review and internal credit risk rating system. This system enables management to identify changes in individual credits, or portfolio trends in a timely manner. Based on the changes identified, credit identification, credit review, and credit risk rating system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner. While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio

credit risk, where the term risk refers to the possibility that actual losses exceed expected losses. Therefore, to gain greater insight into credit risk, companies increasingly look to complement the asset-by-asset approach with a quantitative portfolio review using a credit model (Mason, 2009). Companies increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by-asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to credit extension, or to a group of correlated creditors (Altman, 2011).

Moral Hazard Theory

The moral hazard problem implies that a borrower has the incentive to default unless there are consequences for his future applications for credit. This result from the difficulty lenders have in assessing the level of wealth borrowers will have accumulated by the date on which the debt must be repaid, and not at the moment of application. If lenders cannot assess the borrower's wealth, the borrower will be tempted to default on the borrowing. Forestalling this, lenders will increase rates, leading eventually to the breakdown of the market. Alary and Goller (2013) and Knight (2013) developed a model in which the performance of a loan depends on the quality of the borrower and on her effort. Initially, each bank possesses private information on the quality of a borrower. As in after extending a loan to a borrower, a bank can exploit its private information on his quality and threaten to withhold credit to extract rents from him (hold up). Anticipating that the returns of his effort will be (partially) appropriated by the bank, the borrower has then a reduced incentive to exert effort ex ante. In turn, this worsens his repayment performance (Rajan, 1992).

Banks can tackle this incentive problem by committing ex ante to sharing one with another their proprietary information about borrowers' quality. Expecting that this information pooling will promote competition among lenders; borrowers will be reassured that no hold up will be possible and will step up their effort, lowering delinquency rates (Greuning & Bratanovic, 2012).

Borrowers' Moral Hazard -A channel through which a credit bureau can affect lending outcomes is by imposing discipline on borrowers. In Greuning and Bratanovic (2012) model, lenders' information sharing induces borrowers to exert effort because they "perform for a broader audience", that is, if they are delinquent on their contractual obligations, their misconduct will be disclosed to more lenders. Thus in this context information sharing mitigates borrowers' moral hazard. However, Greuning and Bratanovic (2012) also underscore that this effect weakens if lenders pool information on borrowers' characteristics in addition to information on delinquencies. In this case, a high quality borrower knows that anyway his high quality will be disclosed to lenders, regardless of whether his credit history is good or bad.

Information Theory

Derban, Binner and Mullineux (2012) recommended that borrowers should be screened especially by banking institutions in form of credit assessment. Collection of reliable information from prospective borrowers becomes critical in accomplishing effective screening as indicated by symmetric information theory. Qualitative and quantitative techniques can be used in assessing the borrowers although one major challenge of using qualitative models is their subjective nature. However according to Derban, Binner and Mullineux (2012), borrowers attributes assessed through qualitative model scan be assigned numbers with the sum of the values compared to a threshold. This technique minimizes processing costs, reduces subjective judgments and possible biases. The rating systems will be important if it indicates changes in expected level of credit loan loss. Brown and Bridge (2009) concluded that quantitative models make it possible to numerically establish which factors are important in explaining default risk, evaluating the relative degree of importance of the factors, improving the pricing of default risk, screening out bad loan applicants and calculating any reserve needed to meet expected future loan losses.

Value at a Risk (VAR) Theory

This is a technique used to estimate the probability of portfolio losses based on the statistical analysis of historical price trends and volatilities. Value at risk is commonly used by banks, security firms and companies that are involved in trading energy and other commodities. VAR is able to measure risk while it happens and is an important consideration when firms make trading or hedging decision (Kwan & Eisenbeis, 2012). Value at risk (VAR or sometimes VAR) has been called the "new science of risk management", but you do not need to be a scientist to use VAR. Here, we look at the idea behind VAR and the three basic methods of calculating it.

For financial institutions, risk is about the odds of losing money given out as loans, and VAR is based on that common-sense fact. By assuming financial institutions care about the odds of a really big loss on loans, VAR answers the question, "What is my worst case scenario?" According to Jorion (2013), VAR measure the worst expected loss over a given horizon under normal market conditions at a given level of confidence.

EMPIRICAL REVIEW

Credit risk management is a common vocabulary among the financial institutions, regulators and whole financial market players. Commercial banks are not in any way exception as they play a major role. Many studies both locally and internationally have been done on how credit risk can be managed. Credit risk management is not only a concern to commercial banks but also a concern to any institution granting credit. Viiru (2011) looked at credit management practices at Kenya power and lighting company ltd which is not commercial bank. Commercial banks are most affected by credit risk due to liquidity exposures. Muasya (2013) contacted a survey on risk based capital standards and the riskiness of bank portfolio in Kenya, this is a clear indication there must be a cost on credit portfolio management and if not well controlled at inception, and then a crisis must be anticipated. Training staff and

getting the certified in the credit risk management could be healthy in management of credit portfolio (Oretha, 2012).

Ngare (2008) conducted a survey to investigate Credit Risk Management Practices by Commercial Banks in Kenya. The specific areas of research were geared towards identifying the sources of credit risk exposures in banks and identifying the measures and strategies that the banks in Kenya have adopted to monitor and mitigate against the credit risk exposures inherent in the operations of their business. From the study, it was found that in most banks credit risk management was organized in units within the credit management department with persons responsible for credit risk management reporting to the credit manager. Most banks did not have an autonomous credit risk management department. Qualitative loan assessment methods were found to be the most prevalent methods in making credit granting decisions while liquidity run on the borrower, credit concentration and adverse trading by the borrower were the main sources of credit risk among the banks in Kenya. In addition, most banks were found to use loan diversification, bank guarantees and bank covenants to mitigate against credit risk.

Gisemba (2010) carried out a study on impact of credit risk management practices on financial performance among the SACCOs. He sampled 41 SACCOs and concluded that SACCOs needs management credit risk effective to prevent it from failing in its obligation and meeting its objective, minimize loan defaulters, cash loss and ensures the organization performs better increasing the return on assets and helps the organization in attaining maximum financial returns. The study further concluded that there was a positive relationship between credit risk management practices and the financial performance of SACCOs, depicting the relationship between credit risk management practices and financial performance in organizations. Therefore, it is necessary for SACCOs to have in place comprehensive risk management practices and reporting process to identify, measure, monitor, manage, report and control credit risks. Efficient credit risk management practices have been vital in allowing the phenomenal growth in credit unions. Effective management of credit risk is critical to enhance SACCOs` viability and sustained growth. Failure to control credit risk may lead to insolvency.

Mutangili (2011) in his study to establish the relationship between credit risk management and the level of non-performing loans revealed that commercial banks review their credit policy yearly and half yearly, and that employees are made aware of credit policies through credit manual, regular training, regular meeting and supervision. The study further revealed that methods mostly used in credit risk assessment among commercial banks in Kenya are; risk adjusted return on capital and linear probability model. The study established that there is a negative relationship between the level of non-performing loans and credit risk management practices in banks.

According to Bobáková (2011), Sidian bank implemented a credit risk program that brought employees Back to Basics," which reemphasized the fundamental principles of microfinance and its commitment to the micro entrepreneur. Sidian bank lowered the maximum initial loan

size from \$431 to \$238, reduced the rate of increase for subsequent loans, and shortened loan terms. In addition, Sidian bank enhanced management's supervision of credit officers, and increased the amount and frequency of loan portfolio monitoring. These changes returned the focus to the original target population and discouraged the participation of higher income clients. By the end of 2009, Sidian bank had delinquency under control and reduced its portfolio at risk ratio to 8.8 percent (Kim & Santomero, 2009).In this regards there is need to carry out the study to establish the relationship between credit risk management practices and the performance of the Deposit Taking Microfinance Institutions in Kenya. Sidian bank implemented a credit risk program that brought employees .Back to Basics," which reemphasized the fundamental principles of microfinance and its commitment to the micro entrepreneur after experiencing poor performance in loans portfolio quality had diminished from 5.0% to 18.3% (Bobáková, 2011).

Mwangi (2012) reviewed the effect of credit risk management on the financial performance of commercial banks. The research design used in this study was descriptive research design. Secondary data collected from the commercial banks annual reports (2007-2011) was used. Of the 43 commercial banks in Kenya, full data was attained from 26 banks and thus the study concentrated on the 26 banks. This study showed that there is a significant relationship between financial performance (in terms of profitability) and credit risk management (in terms of loan performance and capital adequacy). The results of the analysis states that both non-performing loans ratio (NPLR) and capital adequacy ratio (CAR) have negative and relatively significant effect on return on equity (ROE), with NPLR having higher significant effect on ROE in comparison to CAR. Hence, the regression as whole is significant; this means that NPLR and CAR reliably predict ROE.

Oretha (2012) conducted a study on the relationship between credit risk management practices and financial performance of commercial banks in Liberia and concluded that there is a positive relationship between the credit risk management practices and financial performance. Commercial banks during the pre-liberalization period were not effective in managing their credit risk in contrast to the post-liberalization period. Variations in the credit policies by seven of the nine commercial banks reflect monetary and fiscal policy actions, where expansionary fiscal policy partly increased inflationary pressure and the monetary authority. During the post-liberalization period, most banks used the services of consultants to formulate their credit risk management policies which reduced the risk posed by defaulting on loans.

Korir (2012) in his study to establish the effects of credit risk management practices on financial performance of deposit taking microfinance institutions in Kenya found that deposit taking microfinance institutions in Kenya adopted credit risk management practices to counter credit risks they are exposed to. The study also concluded that Deposit taking microfinance institutions adopt various approaches in screening and analyzing risk before awarding credit to clients to minimize on loan loss. This included establishing capacity/competition and conditions and use of collateral/security and character of borrower were used in screening and risk analysis in attempt to reduce manages credit risks.

Muasya (2013) investigated the relationship between credit risk management practices and loans losses among commercial banks in Kenya. The study employed descriptive research design to see if there is a relationship between credit risk management practices and loan portfolio losses in commercial banks in Kenya. Research findings indicated that a significant number of commercial banks in Kenya had not put in place credit risk management information systems to effectively measure, monitor, control and identify risk, and that majority of management of commercial banks in Kenya recognized the need for information sharing among players within the industry in order to mitigate the risk. It was concluded that credit risk management practices are common among most of the commercial banks in Kenya and that management of these commercial banks appreciated government legislation relating to credit risk management through the introduction of the credit sharing information Act, and that there is a significant negative relationship between credit risk management practices and loans losses in commercial banks in Kenya.

RESEARCH METHODOLOGY

The study used a descriptive research design as it helps in describing the state of affairs as it is at present. Descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events, through the collection of data and tabulation of the frequencies on research variables or their interaction as indicated by Cooper and Schindler (2012). In this study, the population consisted of the 43 registered commercial banks operating in Kenya. The study was conducted in their head offices based in Nairobi. The sample was drawn from the 43 commercial banks in Kenya using purposive sampling. The decision for a purposive sample to select the credit management staff is because they are involved in formulation of lending policies in the banks and therefore lending behavior of the banks is much dependent on this department.

In this study primary data was collected using a structured questionnaire, since it is easier to administer, analyze and economical in terms of time and money. The data was then analyzed using descriptive statistics and inferential statistics. Inferential statistics is mathematical methods that employ probability theory for deducing (inferring) the properties of a population from the analysis of the properties of a data sample drawn from it. It is concerned also with the precision and reliability of the inferences it helps to draw. This includes the t-test, model significance (F-statistics), correlation and regression analysis. Regression analysis was used to determine the relationship between the dependent variable and the independent variables. A stepwise multivariate regression model was used to link the independent variables to the dependent variable as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Where; Y = Loan Repayment Performance of Commercial Banks

X_1 = Organizational Credit Policies

X_2 = Risk Identification Practices

X_3 = Debt Collection Practices

X_4 = Credit Scoring

β_0 = the constant term

$\beta_i i$ = 1….4 measure of the sensitivity of the dependent variable (Y) to unit change in the predictor variables X_1, X_2, X_3 and X_4 while µ   is the error term which captures the unexplained variations in the model.

RESEARCH FINDINGS

Reliability and Validity

In this study, construct reliability was determined using Cronbach alpha coefficients that test internal consistency of items on a scale and were thus considered reliable if the as the results showed that the Cronbach Alpha associated with the variables of the study were above 0.70 threshold as recommended by Nunnally (1978) where it is asserted that Cronbach Alpha's should be in excess of 0.70 for the measurement intervals. The results of the reliability analysis are presented in the Table 1 below.

Table 1: Reliability of Measurement Scales

	Cronbach's Alpha	Decision
Organizations Credit Policies	.828	Reliable
Risk Identification Process	.892	Reliable
Debt Collection Practices	.882	Reliable
Credit Scoring	.765	Reliable
Loan Repayment Performance	.852	Reliable

Correlation Analysis between Credit Risk Management and Loan Repayment Performance

As expounded in the preceding section, the reason as to why correlation analysis was adopted was expounded. This section presents the relationship in existence between the results as are presented in the correlation matrix below.

Organizational Credit Policies and Loan Repayment Performance

The results presented in the Table 2 below are a correlation matrix showing the relationship between organizational credit policies and loan repayment performance.

Table 2: Correlation Analysis of the Effect of Organizational Credit Policies on Loan Repayment Performance

		Loan Repayment Performance	Organizations Credit Policies
Loan Repayment Performance Organizations Credit Policies	Correlation Coefficient	1.00 .380	1.00
	Sig. (2-tailed)	0.012**	

** This indicates that the value is significant at 5% level of significance

The results indicated that there exist a positive and significant (r=0.380, p<0.012) correlation between organizational credit policies and loan repayment performance. This therefore implies that commercial banks' effectiveness in implementing their organizational credit policies would result to an improvement in the loan repayment among its borrowers. This is in line with the assertion of Burns et al. (2006) who indicated that firms and individuals rely on short-term debt, in particular bank overdrafts from banks and that the organization credit policies plays a very instrumental role in the choice of individuals and firms whom bank's advance loans to, they also asserted that strict organizational credit policies thus ensured that commercial banks only lend to credit trustworthy customers.

Risk Identification Process and Loan Repayment Performance

The results in Table 3 below show the Pearson's correlation coefficient matrix on the relationship between risk identification process and loan repayment performance.

Table 3: Correlation Analysis of the Effect of Risk Identification Process on Loan Repayment Performance

		Loan Repayment Performance	Risk Identification Process
Loan Repayment Performance Risk Identification Process	Correlation Coefficient	1.00 .692	1.00
	Sig. (2-tailed)	0.00***	

*** This indicates that the value is significant at 1% level of significance

The results indicates that there exists a positive significant (r=0.692, p-value<0.05) correlation between risk identification process and loan repayment performance. This indicates that if the risk identification process by commercial banks is enhanced then this would be associated with an improvement in loan repayment performance. This is consistent with the view Fuser et al (2011) who asserted that risk identification process includes risk-ranking components and that they help in sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently and therefore improving their credit performance.

Debt Collection Processes and Loan Repayment Performance

The results presented in the Table 4 below indicate the Pearson's correlation coefficient between debt collection and loan repayment performance.

Table 4: Correlation Analysis of the Effect of Debt Collection Processes on Loan Repayment Performance

		Loan Repayment Performance	Debt Collection Practices
Loan Repayment Performance	Correlation Coefficient	1.00	
Debt Collection Practices		.417	1.00
	Sig. (2-tailed)	0.005***	

*** This indicates that the value is significant at 1% level of significance

The results indicated that there is a positive and significant (r=0.417, p-value<0.05) relationship between debt collection and loan repayment performance. This therefore implies that an improvement in the debt collection among commercial banks would therefore lead to an improvement in their loan repayment performance. This findings is consistent with that of Jansson (2011) who indicated that an effective debt collection strategy starts with a clearly thought out credit policy and credit management tools to enforce this policy. Jansson (2011) further asserted that by making use of opportunities to make the collections processes strategically effective, operationally efficient and customer orientated, an organization can expect the collection function to add significant value to the business.

Credit Scoring and Loan Repayment Performance

The results in Table 5 below show the Pearson's correlation coefficient matrix on the relationship between Credit Scoring and Loan Repayment Performance.

Table 5: Correlation Analysis of the Effect of Credit Scoring on Loan Repayment Performance

		Loan Repayment Performance	Credit Scoring
Loan Repayment Performance	Correlation Coefficient	1.00	
Credit Scoring		.323	1.00
	Sig. (2-tailed)	0.035**	

** This indicates that the value is significant at 5% level of significance

The results indicated that there exists a positive and significant (r=0.323, p-value<0.05) correlation between credit scoring and loan repayment performance. This indicate that an intense credit scoring of borrowers there helps in only selecting the pool of borrowers who are credit trustworthy and thus this would have a positive implication on the loan repayment performance of loans that take. This is in agreement with the findings of Mester (2013) who

argued that credit scores is used by lenders in monitoring loans. This reduces monitoring costs and allows banks to make loans outside their branch footprints, thereby reducing the cost of lending. Mester (2013) further argues that credit scoring is less costly in terms of time spent by applicants gathering the information needed to complete the application, because customers need only to provide the information used in the scoring system. This encourages applicants for smaller loan amounts and in the view of Derban et al. (2012) argued that Credit scoring helps in reducing the information asymmetries between borrowers and lenders and thus allows lenders to more accurately evaluate risks and improves portfolio quality by easing adverse selection problem and lowers the cost of credit for a good borrower while increasing credit volume and improving access to credit.

Regression Analysis between Credit Risk Management and Loan Repayment Performance

Organizational Credit Policies and Loan Repayment Performance

In order to establish the effect of organizational credit policies on commercial bank's loan repayment performance a regression model was estimated where loan repayment performance was considered to be a function of organizational credit policies.

Table 6: Regression Analysis of the Effect of Organizational Credit Policies and Loan Repayment Performance

	Coefficients		t-stat	Sig.
	Beta	Std. Error		
Constant	0.014	0.011	1.346	0.186
Organizations Credit Policies	0.007	0.003	2.63	0.012**
Coefficient of Determination	0.544			
F-Statistic	6.914			
Prob(F-Statistic)	0.012**			

** This indicates that the value is significant at 5% level of significance

The results in Table 6 shows that the organizational credit policies explains 54.4 percent of the variations in commercial bank's loan repayment performance as indicated by an R-Square of 0.544. The results further showed that the estimated model is significant, that is organizational credit policies explained loan repayment performance of commercial banks as supported by the F-statistic of 6.914 whose reported probability was 0.012, which is less than 5 percent significance level. The results in particular, further show that organizations credit policies has a positive effect (β=0.007) and that this positive relationship is significant (p=0.007).

This is in line with the assertion of Burns et al. (2006) who indicated that firms and individuals rely on short-term debt, in particular bank overdrafts from banks and that the organization credit policies plays a very instrumental role in the choice of individuals and firms whom bank's advance loans to, they also asserted that strict organizational credit policies thus ensured that commercial banks only lend to credit trustworthy customers.

Risk Identification Process and Loan Repayment Performance

The results also presented in the Table 7 below show that 47.8 percent of variance in loan repayment performance that is explained by the variance in risk identification process of the borrowers by commercial banks as indicated by an R-Square statistic of 0.478. the results further show that the estimated model is significant, that is, risk identification process is a good explanatory variables for loan repayment performance of commercial banks as indicated by an F-statistic of 37.613 which is further supported by a p-value of 5 percent (P-value =0.00)

Table 7: Regression Analysis of the Effect of Risk Identification Process and Loan Repayment Performance

	Unstandardized Coefficients		t-stat	Sig.
	Beta	**Std. Error**		
Constant	0.004	0.006	0.711	0.481
Risk Identification Process	0.009	0.001	6.133	0.00***
Coefficient of Determination	0.478			
F-Statistic	37.613			
Prob(F-Statistic)	0.00***			

*** This indicates that the value is significant at 1% level of significance

The results of regression analysis, shows that risk identification process by commercial banks has a positive significant effect ($\beta=0.009$, P-value<0.05) on the loan repayment performance of commercial banks. This is consistent with the view Fuser et al. (2011) who asserted that risk identification process includes risk-ranking components and that they help in sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently and therefore improving their credit performance.

Debt Collection Practices and Loan Repayment Performance

In order to establish the effect of debt collection practices on loan repayment performance of commercial banks a regression model was estimated where loan repayment performance and the results show that the debt collection practices explained 64.0 percent of the variations in loan repayment performance of commercial banks as indicated by an R-Square of 0.64.

Table 8: Regression Analysis of the Effect of Debt Collection Practices and Loan Repayment Performance

	Unstandardized Coefficients		t-stat	Sig.
	Beta	Std. Error		
(Constant)	0.012	0.01	1.148	0.258
Debt Collection Practices	0.008	0.003	2.937	0.005***
Coefficient of Determination	0.64			
F-Statistic	8.628			
Prob(F-Statistic)	0.005***			

*** This indicates that the value is significant at 1% level of significance

Further, the results in the Table 8 above showed that the estimated model is significant as indicated by the reported F-statistic of 8.628 whose reported statistical significance is less than 5 percent level of significance. The regression estimates also established that debt collection practices has a positive (β=0.008) and significant relationship with the loan performance as indicated by the results in the table above.

This findings is consistent with that of Jansson (2011) who indicated that an effective debt collection strategy starts with a clearly thought out credit policy and credit management tools to enforce this policy. Jansson (2011) further asserted that by making use of opportunities to make the collections processes strategically effective, operationally efficient and customer orientated, an organization can expect the collection function to add significant value to the business.

Credit Scoring and Loan Repayment Performance

The effect of credit scoring on the loan repayment performance of commercial banks was further establish using regression analysis where the results are as presented in Table 9 below. The results in indicate that the amount of variance in loan repayment performance that is explained by the variance in credit scoring by commercial banks and in particular, 50.4 percent of the variance is accounted by differences in credit scoring.

Table 9: Regression Analysis of the Effect of Credit Scoring and Loan Repayment Performance

	Unstandardized Coefficients		t-stat	Sig.
	Beta	Std. Error		
Constant	0.023	0.009	2.516	0.016
Credit Scoring	0.005	0.002	2.183	0.035**
Coefficient of Determination	0.504			
F-Statistic	4.765			
Prob(F-Statistic)	0.035**			

** This indicates that the value is significant at 5% level of significance

The results further indicate that the estimated regression model is significant as indicated by an F-statistic of 4.765 and whose significance is also established to be below 5 percent and thus being concluded that the model itself is significant as show in the Table 9 above. The results also further indicated that credit scoring has a positive (β=0.005) and is significantly (p=0.035) related to loan repayment performance.

This is in agreement with the findings of Mester (2013) who argued that credit scores is used by lenders in monitoring loans and that the credit scores limits the amount of loans that applicants seek and in the view of Derban et al. (2012) argued that Credit scoring helps in reducing the information asymmetries between borrowers and lenders and thus allows lenders to more accurately evaluate risks and improves portfolio quality by easing adverse selection problem and lowers the cost of credit for a good borrower while increasing credit volume and improving access to credit.

Effect of Credit Risk Management Practices on Loan Repayment Performance

After carrying out correlation and univariate regression analysis it was established that organizations credit policies, risk identification process, debt collection practices and credit scoring had a positive and significant effect on Loan Repayment Performance. The results however are for the univariate analysis and thus there an optimal multivariate analysis comprising of a multiple regression model was adopted. Multivariate analysis is meant to validate the results of the observed relationship from the univariate analysis. This section therefore presents the results of the multivariate analysis.

Table 10: Effect of Credit Risk Management on Loan Repayment Performance

	Unstandardized Coefficients		t	Sig.
	β	Std. Error		
(Constant)	-0.037	0.008	-4.625	0
Organizations Credit Policies	0.001	0.0003	3.333	0.0011
Risk Identification Process	0.01	0.004	2.5	0.0135
Debt Collection Practices	0.006	0.002	3	0.0032
Credit Scoring	0.004	0.002	2	0.0474
Correlation Coefficient (R)	0.8626			
Coefficient of Determination (R^2)	0.744			
F-Statistic	27.661			
Prob(F-Statistic)	0.000			

The results presented in the Table 10 above show that the 74.4 percent in the variance of loan repayment performance of commercial banks was jointly explained by Organizations Credit Policies, Risk Identification Process, Debt Collection Practices and Credit Scoring as indicated by a coefficient of determination of 0.744. The results also indicate that the estimated model is significant as indicated by an F-Statistic of 27.661 whose associated probability value is 0.00 which is less than 5 percent significance level.

According to CBK (2012) in its risk management guidelines to commercial banks, an effective credit policy is the one that defines the credit concentration, limits and exposures the organization is willing to assume. These policies should be well documented to enable banks to take adequate measures to ensure concentration risk is mitigated. About policies on credit assessment, there must be a clear understanding of the borrower or counter-party and adequate information must be obtained to enable a comprehensive assessment of the risk profile of the customer. Lack of adequate data and information in respect of a borrower would normally lead to poor lending decisions. The results regression results indicated that organizations credit policies has a positive ($\beta=0.001$) and significant ($p=0.0011$) effect on loan repayment performance of commercial banks. This is in line with the assertion of Burns et al. (2006) who indicated that firms and individuals rely on short-term debt, in particular bank overdrafts from banks and that the organization credit policies plays a very instrumental role in the choice of individuals and firms whom bank's advance loans to, they also asserted that strict organizational credit policies thus ensured that commercial banks only lend to credit trustworthy customers.

The first step in organizing the implementation of the risk management function is to establish the crucial observation areas inside and outside the corporation (Kromschroder & Luck, 2012). Then, the departments and the employees must be assigned with responsibilities to identify specific risks. An organization can identify the frequency and severity of the risks through risk mapping which could assist the organization to stay away from high frequency and low severity risks and instead focus more on the low frequency and high severity risk. Risk identification process includes risk-ranking components where these ranking are usually based on impact, severity or dollar effects (Fuser et al., 2011). The results also show that risk identification process by commercial banks has a positive ($\beta=0.01$) and significant ($p=0.0135$) effect on loan repayment performance. This is consistent with the view Fuser et al. (2011) who asserted that risk identification process includes risk-ranking components and that they help in sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently and therefore improving their credit performance. Risk identification is vital for effective risk management. In order to manage credit bank risks effectively, management of bank have to know what risks face the bank (Kromschroder & Luck, 2009).

The collection function within financial organizations can make the difference between a good performance for the business and an excellent performance. By making use of opportunities to make the collections processes strategically effective, operationally efficient and customer orientated, an organization can expect the collection function to add significant value to the business (Jansson, 2011). In line with this, the study established that debt collection practices also had a positive ($\beta=0.006$) and significant ($p=0.0032$) effect on loan repayment performance of commercial banks. This findings is consistent with that of Jansson (2011) who indicated that an effective debt collection strategy starts with a clearly thought out credit policy and credit management tools to enforce this policy. Jansson (2011) further asserted that by making use of opportunities to make the collections processes strategically

effective, operationally efficient and customer orientated, an organization can expect the collection function to add significant value to the business.

Finally, the results above indicate that credit scoring has positive (β=0.004) and significant (p=0.0474) effect on loan repayment performance of commercial banks. The objective of quantitative credit scoring is to develop models that accurately distinguish good applicants (likely to repay), from bad applicants (likely to default) (Derban et al, 2012). This is in line with Mester (2013) who opined that credit scoring is less costly in terms of time spent by applicants gathering the information needed to complete the application, because customers need only to provide the information used in the scoring system. This encourages applicants for smaller loan amounts and in the view of Derban et al. (2012) argued that Credit scoring helps in reducing the information asymmetries between borrowers and lenders and thus allows lenders to more accurately evaluate risks and improves portfolio quality by easing adverse selection problem and lowers the cost of credit for a good borrower while increasing credit volume and improving access to credit.

CONCLUSIONS

Based on the above findings the study therefore makes the following four conclusions which are based on the objectives of the study. Organizational credit policies has a significant positive effect on loan repayment performance and thus the implication of this is that a more stringent oorganizational credit policies would lead to ensuring that only credit worthy customers get loans and thus the loan repayment performance is maintained in a good position. The findings are in line with assertion of Burns et al. (2006) who indicated that organization credit policies plays a very instrumental role in the choice of individuals and firms whom bank's advance loans to

Risk identification process has a positive and significant effect on loan repayment performance. The implication on this is that risk identification process ensures that before even credit is extended to the borrowers the banks first evaluate the borrower's riskiness and therefore the risky customers are minimized. The findings concur with Fuser et al (2011) who asserted that risk identification process includes risk-ranking components and that they help in sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently and therefore improving their credit performance.

Further, the debt collection has a significant positive effect on loan repayment performance of commercial banks. This implies that an a stringent debt collection policies pursued by banks ensures that credit advanced to customers are repaid on time and thus ensuring that loan repayment is not adversely affected as a result of debt accumulating due to non-repayments. This is consistent with Jansson (2011) who indicated that an effective debt collection strategy starts with a clearly thought out credit policy and credit management tools to enforce this policy.

Finally, credit scoring has a positive significant effect on loan repayment. This therefore implies that credit scoring is an essential element that commercial banks and other organizations should pursue as it is linked to loan repayment performance. This is in agreement with the findings of Mester (2013) who argued that credit scores is used by lenders in monitoring loans. This reduces monitoring costs and allows banks to make loans outside their branch footprints, thereby reducing the cost of lending.

RECOMMENDATIONS

From the above findings and conclusions the study makes the following recommendations. First, the study recommends that companies and/or firms should have stringent credit appraisal techniques if it is to ensure that their profitability or loan repayment performance is not adversely affected resulting from poor screening of debtors. The firms should therefore adopt credit policies that would help improve prudential oversight of asset quality and to establish a set of minimum standards that should be applied before credit is advanced to customers. Further, as borrower selection is the key to successful lending, banks should focus on the selection of true borrower. But at the same time it must be taken into account that right borrower selection does not mean that banks have to adopt conservative lending policy but rather ensure that the seek to adopt knowing the customers so as to ascertain the true purpose of the loan as this would ensure that care is taken so that good borrowers are not discarded due to strict adherence to the lending policy.

The study also recommends that companies and/or firms should also adopt credit monitoring and scoring. For instance, at the branch level credit department must be adequately capable of collecting the correct and relevant information and analyzing the financial statements quickly and precisely. It is also important that credit officers be skilled enough to understand the manipulated and distorted financial statements. To ensure effective monitoring, monitoring of credit should be conducted at regular interval to ensure that the borrower is properly maintaining the credit and utilizing the borrowed money effectively.

It is also recommended that banks and any other credit lending organization should have a stringent debt collection policy as the findings indicate that debt collection practices have a significant impact on the loan repayment performance of commercial banks. Therefore the credit committees at all levels must work in co-ordination in order to ensure that credit is collected in a timely manner.

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